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This Report is dedicated
to the memory of
Gerasimos (Gery) Arsenis,
1931–2016, lead author
of the first TDR in 1981

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Explanatory notes

Classification by country or commodity group

The classification of countries in this *Report* has been adopted solely for the purposes of statistical or analytical convenience and does not imply any judgement concerning the stage of development of a particular country or area.

There is no established convention for the designation of "developing", "transition" and "developed" countries or areas in the United Nations system. This *Report* follows the classification as defined in the *UNCTAD Handbook of Statistics 2015* (United Nations publication, sales no. B.15.II.D.8) for these three major country groupings (see http://unctad.org/en/PublicationsLibrary/tdstat40_en.pdf).

For statistical purposes, regional groupings and classifications by commodity group used in this *Report* follow generally those employed in the *UNCTAD Handbook of Statistics 2015* unless otherwise stated. The data for China do not include those for Hong Kong Special Administrative Region (Hong Kong SAR), Macao Special Administrative Region (Macao SAR) and Taiwan Province of China.

The terms "country" / "economy" refer, as appropriate, also to territories or areas.

References to "Latin America" in the text or tables include the Caribbean countries unless otherwise indicated.

References to "sub-Saharan Africa" in the text or tables include South Africa unless otherwise indicated.

Other notes

References in the text to *TDR* are to the *Trade and Development Report* (of a particular year). For example, *TDR 2015* refers to *Trade and Development Report, 2015* (United Nations publication, sales no. E.15.II.D.4).

References in the text to the United States are to the United States of America and those to the United Kingdom are to the United Kingdom of Great Britain and Northern Ireland.

The term "dollar" ($) refers to United States dollars, unless otherwise stated.

The term "billion" signifies 1,000 million.

The term "tons" refers to metric tons.

Annual rates of growth and change refer to compound rates.

Exports are valued FOB and imports CIF, unless otherwise specified.

Use of a dash (–) between dates representing years, e.g. 1988–1990, signifies the full period involved, including the initial and final years.

An oblique stroke (/) between two years, e.g. 2000/01, signifies a fiscal or crop year.

A dot (.) in a table indicates that the item is not applicable.

Two dots (..) in a table indicate that the data are not available, or are not separately reported.

A dash (-) or a zero (0) in a table indicates that the amount is nil or negligible.

Decimals and percentages do not necessarily add up to totals because of rounding.

Abbreviations

BEPS	base erosion and profit shifting
CIF	cost insurance and freight
CIS	Commonwealth of Independent States
ECB	European Central Bank
ECLAC	Economic Commission for Latin America and the Caribbean
EU	European Union
FOB	free on board
FDI	foreign direct investment
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
GVC	global value chain
HNWI	high-net-worth individual
ICT	information and communication technology
IEA	International Energy Agency
IMF	International Monetary Fund
IPO	initial public offering
ISIC	International Standard Industrial Classification
LDC	least developed country
mbd	million barrels per day
MFN	most favoured nation
MIT	middle-income trap
MNE	multinational enterprise
NBTT	net barter terms of trade
NIE	newly industrializing economy
NPL	non-performing loan
NTM	non-tariff measure
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
PIAC	Presidential Investors' Advisory Council
PPP	purchasing power parity
QE	quantitative easing
R&D	research and development
RER	real exchange rate
SDG	Sustainable Development Goal
SITC	Standard International Trade Classification
SOE	State-owned enterprise
TDR	Trade and Development Report
TTRI	tariff trade restrictiveness index
UNCTAD	United Nations Conference on Trade and Development
UN DESA	United Nations Department of Economic and Social Affairs
UNECA	United Nations Economic Commission for Africa
UNIDO	United Nations Industrial Development Organization
UNSD	United Nations Statistics Division
UNWTO	United Nations World Tourism Organization
VAT	value-added tax
WTO	World Trade Organization

OVERVIEW

In 1997, the Trade and Development Report *argued that a return to faster growth and full employment in developed economies was a prerequisite for tackling the problem of rising inequality, and warned that failure to achieve this could provoke a "backlash against globalization, which might put the gains of global economic integration at risk".*

What happened next in the developed economies was a short boom-bust cycle linked to the dot-com bubble, followed by a period of steady growth and slowly falling unemployment. This was backed by an easy monetary policy in the United States that shored up investor confidence, triggered a surge of international capital flows and boosted global trade. Economists suggested that the world had entered a period of "great moderation". Some proceeded to explain how hyperefficient, self-regulating markets, under the watchful eye of astute central bankers, had finally overcome the challenge of what then Federal Reserve Chairman Alan Greenspan called "risk transfer and financial stability".

It was a comforting narrative, but one which ignored how growth was being fed by a massive explosion of debt and an unhealthy addiction to high-risk bets amongst financial market players. In this "great gambling", inequality, rather than falling, continued to rise, in some countries to levels not seen since the 1920s.

The luck of the financiers finally ran out, beginning with the subprime crisis in early 2007 and ending with the collapse of the investment bank, Lehman Brothers, in September 2008. Sentiment transformed swiftly from euphoria to panic, not only sending financial sectors across the globe into a tailspin, but also triggering the biggest global contraction since the Great Depression.

Governments intervened rapidly to save their financial systems, turning on the money tap as well as initiating more targeted actions tailored to local circumstances; and the G20 stepped in to coordinate a Keynesian-style fiscal expansion. Greenspan apologized, acknowledging that "I made a mistake in presuming that the self-interests of organizations, specifically banks and others, were such that they were best capable of protecting their own shareholders and their equity in the firms".

Thirty quarters after the crisis hit, developed countries are still struggling to return to a solid growth path, and policymakers were predicting tougher times ahead even before Brexit gave another jolt to financial markets. Growth forecasts have been regularly scaled back, and a new vocabulary has emerged to describe an underperforming economy faced with the choice between episodic growth spurts and financial stability. Developing economies, having for a while believed they had decoupled from events in the developed economies, are increasingly worried that policy actions in the latter could trigger a deflationary spiral and a new round of debt crises.

While the current situation seems less ominous than in 2008, it is proving more difficult to manage. With the financial system on a firmer footing, politicians and policymakers have recovered their sense of impotence in the face of supposedly insurmountable global forces, and have made "business as usual" their default policy option. Financial markets are chastened but unreformed, debt levels are higher than ever and inequality continues to rise. Most of the upside gains have resulted from asset price rises and increased corporate profits. Meanwhile, most of the downside adjustment has fallen on debtor countries and working families, with wages, employment and welfare provision under constant pressure from a return to austerity measures.

This conjuncture might appropriately be described as a "Polanyi period", in which the regulatory and normative framework on which healthy markets depend, having already warped, is beginning to buckle as the weight of Greenspan's mistake is felt in an ever-widening swathe of economic and social life – from precarious employment conditions to corporate tax inversions to undrinkable tap water. Trust in political leadership is at an all-time low, just when the need for decisive political action is at an all-time high. This is particularly true for a series of interconnected global challenges, codified in the Sustainable Development Goals, which can only be met through effective international cooperation and action.

Reflecting on a similar period between the two world wars, Karl Polanyi insisted that a "great transformation" would be needed if markets were to work for a stable and prosperous future for all. Trust would have to be rebuilt, regulations strengthened, and rights and representation expanded. Western governments after the Second World War were able to strike a balance between market-driven efficiency and the demands for shared prosperity and greater economic security. Managing such a transformation in our highly interconnected global economy is today's big political challenge, for countries and communities at all levels of development.

The global economy: A year of living dangerously

The world economy in 2016 is in a fragile state, with growth likely to dip below the 2.5 per cent registered in 2014 and 2015. The mediocre performance of developed countries since the 2008–2009 economic and financial crisis is set to endure, with the added threat that the loss of momentum in developing countries over the past few years will be greater than was previously anticipated. Without a change of course in the former, the external environment facing the latter looks set to worsen, with potentially damaging consequences for both their prosperity and stability in the short to medium term. More widespread contagion from unforeseen shocks cannot be ruled out, knocking global growth back more sharply. The decision by voters in the United Kingdom to leave the European Union (EU) is one such shock.

Growth in the United States this year is likely to slow down, as the momentum that was built through the quick detoxification of its banking system and a more aggressive use of monetary policy loses traction. Moreover, given its weak underlying employment rate, the number of distressed households with high levels of debt and exporters already struggling with a strong dollar, there are no guarantees that the economy will enjoy a robust period of growth any time soon.

Recovery in the euro zone has lagged behind that of the United States, in part because of the more timid use of monetary policy in the years immediately following the crisis and a greater proclivity for severe austerity measures in some members of the zone. The tentative pick-up of growth from 2015 seems likely to stall this year, and could even be reversed due to the uncertainty triggered by the announced departure of the United Kingdom from the EU. Economic growth continues to be held back by weak domestic demand and only sporadic signs of an improvement in real wages. Efforts to tackle the sharply diverging economic performances of the countries in the euro zone are complicated by political uncertainties, such as the ongoing migration crisis, and doubts about the future pace and direction of European integration.

European economies outside the euro zone have performed better in recent years, mainly because the monetary authorities in many of those countries have been willing, and able, to orchestrate financial bubbles. The economy of the United Kingdom, even without the threat of Brexit, was destined for a difficult period owing to its high level of indebtedness and a persistently large trade deficit. The longer term consequences of the Brexit vote are still unclear, given the unprecedented nature of the decision and the political uncertainty it has created, though growth will undoubtedly slow down in the short term. Just how steep the drop could be, given the highly financialized and flexible markets in the United Kingdom, is difficult to predict.

Japan continues to exhibit a distinct set of economic characteristics stemming from decades of underperformance, with persistently low and erratic growth accompanied by a low unemployment rate and a declining active population, a high domestic debt and a strong payments position. Consumption has remained slack due to stagnant wages, leaving exports as the preferred source of expanding demand. In recent years, with the weakening of global markets and an appreciating yen, efforts have turned to stimulating the economy through government spending, but with only a modest response so far.

The upshot is that continuing weak demand in developed economies is stifling growth in the global economy. The expected positive impacts of lower commodity prices, particularly oil, have not materialized. Higher levels of public debt are failing to stimulate demand and boost growth, largely because these are a consequence of balance sheet adjustments in other parts of the economy. The persistent drag on growth in most developed countries is due to a falling wage share and insufficient household demand that have not been offset by higher investment spending.

Neither financial bubbles nor export surges offer a sustainable solution to the tepid growth and weak labour market conditions. Financial bubbles can provide a temporary boost, at best, but they tend to aggravate the deflationary gap by increasing inequality, and create supply-side distortions that impede productivity growth. Export surpluses can certainly benefit countries that achieve them, but are ultimately a beggar-thy-neighbour response in a world of insufficient global demand.

In the absence of concerted recoveries in the developed economies, international trade is in the doldrums for the fifth straight year. To date, protectionist tendencies have been kept in check, but risk surfacing if the real causes of this slowdown are not tackled effectively. The major problem is weak global demand due largely to stagnant real wages.

The slowdown of trade has stalled growth in many developing countries, particularly commodity exporters, and recent growth spurts have relied largely on capital inflows. As capital begins to flow out, there is now a real danger of entering a third phase of the financial crisis which began in the United States housing market in late 2007 before spreading to the European sovereign bond market.

Developing economies will likely register an average growth rate of slightly less than 4 per cent – as in 2015 – but with considerable variation across countries and regions, along with mounting downside risks. Damaging deflationary spirals cannot be ruled out. Indeed, these are already occurring in some countries, including large emerging economies such as Brazil, the Russian Federation and South Africa, where recession has returned, or is imminent, with likely negative spillover effects on neighbouring economies.

Other economies are also set for hard times ahead, smaller commodity producers being particularly vulnerable. The commodity cycle is in its second year of a sharp downturn, and the commodity price index is well below the level it was at when the financial crisis hit. With investors still exiting developing and transition economies, net capital flows turned negative in the second quarter of 2014, and amounted to -$656 billion in 2015 and -$185 billion in the first quarter of 2016. Even though there was a respite in the second quarter of 2016, there remains a risk of deflationary spirals in which capital flight, currency devaluations and collapsing asset prices would stymie growth and shrink government revenues, and cause heightened anxiety about the vulnerability of debt positions.

Size can provide somewhat of a buffer against strong headwinds from the global economy. The two largest developing economies, China and India, may escape the worst of the adverse external environment due to their expanding domestic markets and a combination of sufficient foreign reserves and an effective use of their policy space.

China's economy has slowed down sharply over the past few years, although it is still maintaining a relatively high growth rate of 6.5–7 per cent. While this partly reflects its ongoing shift away from an excessive reliance on external markets to boost growth, the surge of domestic credit in response to the crisis has created a debt bubble which, along with excess capacity in several sectors of the economy, will not be easy to manage if it bursts. Financial volatility in early 2016, which saw capital outflows from China of around $160 billion in the first quarter of the year and a further drop in foreign reserves, is a warning sign of the possible turbulence ahead.

India has so far managed the downside risks of the post-crisis period better than other emerging economies, and is now growing faster than China. Private investment, which began rising strongly from the start of the millennium, continued to grow even as the crisis hit. However, it is now showing signs of weakening, along with emerging debt servicing difficulties. Meanwhile public investment has yet to take off, exposing infrastructure gaps that could hinder future growth.

Working out the debt problem

In recent years, developing countries have steadily opened their domestic financial markets to non-resident investors, foreign banks and other financial institutions, and have eased restrictions on their own residents investing abroad to allow portfolio diversification. In addition, their financial institutions have diversified into cross-border activities unrelated to international trade and investment. These developments have deepened their financial integration and amplified boom conditions across all developing regions. But they have also created new sources of vulnerability.

There have been growing concerns about financial fragility in emerging economies due to a deluge of financial flows and cheap credit since 2009, fueled to a considerable extent by extensive quantitative easing programmes in developed economies. Alarm bells have been ringing for a while over the exploding corporate debt incurred by emerging market economies. According to the Bank for International Settlements, the debt of non-financial corporations in these economies increased from around $9 trillion at the end of 2008 to just over $25 trillion by the end of 2015, and doubled as a percentage of gross domestic product (GDP) – from 57 per cent to 104 per cent – over the same period. Past experience shows that if much of the non-performing private sector debt is large and denominated in foreign currency, as in Latin America, for example, it tends to end up on public balance sheets, thus risking a sovereign external debt crisis. The exception is China, where corporate debt is about 170 per cent of GDP, up from 100 per cent in 2008, but it mainly consists of domestic bonds and claims by domestic banks. While there is no danger of an external debt crisis, the high debt level is exerting considerable pressure on the domestic banking and financial sector.

In poorer developing economies, the benefits reaped from the debt relief initiatives of the 1990s and early 2000s and a rushed integration into international financial markets post-2008, are fast evaporating. Only a couple of years ago, the amount of debt that low-income developing economies could have sold to eager investors seemed almost limitless. International sovereign bond issuance in these economies rose from a mere $2 billion in 2009 to almost $18 billion by 2014. But a prolonged commodity price shock, steep currency depreciations and worsening growth prospects in a deteriorating global economic environment have quickly driven up borrowing costs and debt-to-GDP ratios.

If the global economy were to slow down more sharply, a significant share of developing-country debt incurred since 2008 – not only debt issued and held within the borders of individual economies, but also

cross-border debt, including debt accumulated by private residents and governments – could become unpayable and exert considerable pressure on the financial system. Thus, the international community will need to prepare itself for managing debt work-outs in a faster, fairer and more orderly manner than it has done so far.

Changing policy direction

A world economy populated by consumers with insufficient purchasing power and too much debt and producers with large profits and a weak propensity to invest is unlikely to provide the stable economic foundation on which a sustainable and inclusive future can be built. At the same time, global productivity growth appears to be stuck, adding to the unbalanced state of the world economy. This is due not least to the protracted nature of the recovery from the 2008 crisis. However, the weight of financial markets on economic decision-making and the related rise of inequality, both of which have increased unchecked over several decades, is of particular concern. In addition there is growing recognition that excessive concentration in some markets, along with excessive competition in others, is compounding economic imbalances and adding to the difficulties for policymaking everywhere.

Separately, a slowdown of productivity growth, rising inequality, insufficient global demand and mounting levels of debt represent enormous challenges for policymakers at the national and international levels. Together they pose a serious threat to shared prosperity and stability. The worry that an unforeseen event, such as Brexit, could trigger widespread economic disruption is now being put to the test. The International Monetary Fund (IMF) has warned policymakers to be alert; perhaps it is also time for them to become a little more alarmed.

While there is agreement that these challenges are closely interconnected, there is no sign of a concerted move towards policy coordination among systemically important economies. The United States has begun to recognize that its economic policy decisions have impacts beyond its own borders, with the Federal Reserve responding with a more cautious stance on interest rate rises. But a more ambitious policy package is needed to address existing imbalances and ease the constraints on faster growth, whether in large or small countries, surplus or deficit economies, commodity or manufacturing exporters, creditors or debtors. A global new deal will need to move beyond business as usual.

As argued in past *Trade and Development Reports*, the policy package in developed economies will need to combine a proactive fiscal stance, both on spending and taxation, with supportive monetary and credit policies, stronger financial regulations and redistributive measures through an incomes policy, minimum wage legislation, progressive taxation measures and welfare-enhancing social programmes. The specific policy mix will, of course, vary across countries, although large public infrastructure spending would need to be a common thread. Developing countries also will need to adopt proactive policies – including fiscal, financial and regulatory policies – to restore growth rates to their pre-crisis levels and ensure that such growth is more inclusive and sustainable. For this, they will require sufficient policy space both to manage unforeseen economic shocks and to pursue the kind of structural transformation strategies previously undertaken by today's developed economies. Such policy space should be guaranteed through more flexible international rules. Other initiatives that need to be taken at the multilateral level include measures aimed at stemming tax evasion and avoidance, and financing infrastructure development with a low-carbon footprint.

There are signs that international bodies, such as the IMF, are rethinking their approach to macroeconomic adjustment along these lines. The necessary next step is for them to move away from a narrow discussion of structural reform that promotes a familiar package of liberalization and deregulation measures, and instead consider the wide range of actions needed to diversify the structure and level of sophistication of economic activity. Such actions should aim to increase productivity, create more and better jobs, boost household incomes, increase fiscal revenues and investment, and foster technological progress, and all this in the context of a world that is rapidly moving towards a low-carbon future.

The antinomies of globalization

Beginning in the early 2000s, all developing regions saw growth accelerate significantly more than in developed countries, and at a pace which helped bring about a dramatic reduction in levels of extreme poverty. In some countries it also helped reduce income gaps with the North. This convergence trend continued in the aftermath of the financial crisis, but is now losing steam as growth decelerates across the developing world. Lessons need to be drawn from this recent experience if convergence is to resume and be guided along more transformative growth paths.

Looking at the period since the early 1980s, it is possible to discern three major trends that have helped reshape the global economic landscape: the persistent slowdown of developed economies, the consistently strong performance of East Asia, and the uneven performance of other developing countries, both over time and across regions.

East Asia's economic take-off began in the 1960s with the newly industrializing economies in the North-East, and spread South-East in the 1980s, albeit with a weaker momentum. It was reinvigorated in the new millennium as China's post-reform transformation took hold. Of the 11 fastest growing non-island developing economies since 1980, 9 are from East Asia.

Elsewhere in the developing world catch-up growth has been more intermittent. Indeed, many developing countries are further behind the developed economies today than they were in 1980, despite recent growth spurts.

One possible explanation for this variation relates to the reconfiguring of the global environment over the past three decades, which has benefited some countries (and communities) but held back others. Certainly a confluence of favourable economic factors – greater trade and capital flows, increased remittances and aid flows, and higher commodity prices – explains the general acceleration of growth across the South at the start of the millennium, but such growth occurred along development paths that had been set in the previous two decades. As the global economic tide begins to ebb, those paths are being exposed to the elements of a less favourable environment.

The big investment push that was expected to drive structural transformation in developing regions remains one of the unfulfilled promises of a more open global economy. Financial openness has certainly improved access to capital and made it cheaper, while foreign direct investment has reconfigured segments of the international division of labour. However, capital flows in most developing countries have become more volatile, and have not always triggered new investments in productive capacity or changed productive structures. Shocks and crises were frequent threats to forward planning until the early 2000s, when a short-lived period of calm was established and investment increased, albeit gingerly. Taking the period since the early 1980s in its entirety, there appears to have been a weak, and possibly inverse, relationship between capital formation and financial openness.

Another feature of the contemporary globalization process which might offer some clues to these varied growth experiences is the reconfiguring of markets. Free competitive markets are a favourite textbook prescription for enhancing economic prosperity, and it is assumed that the larger those markets the greater will be the prosperity. In reality, some markets have become subject to increasing concentration as a handful of firms have emerged with the resources to gain control, while other markets have experienced an intensification of competition. The danger with such a combination is rent extraction in some areas and a race to the bottom in others. As a result, different countries are facing very different opportunities and pressures.

Global markets can be good servants but bad masters; and ceding more authority to those markets is a matter of political choice, not economic or technological destiny. The economic slowdown in developed economies rules out any simple explanation that those choices are the product of a rigged North-South

game. Indeed, the combination of slower growth and rising inequality in these economies has left its own trail of depressed communities. The big political challenge facing the international community is therefore to move beyond a mapping of the winners and losers from globalization to a more constructive narrative of building shared prosperity.

Missing linkages

Development is, at its core, a transformational process, combining a series of interactive and cumulative linkages to create a virtuous circle of greater resource mobilization, increasing employment, higher incomes, expanding markets and more investment, leading to better jobs. Strong aggregate productivity growth is the fuel that keeps this circle going, providing policymakers with the room to better manage trade-offs and conflicting interests, and offering the potential to narrow gaps with the developed economies.

Productivity growth in most developing regions kept pace with developed countries until the late 1970s. The tendency since then has been one of divergence, both on average and across sectors, and, with the exception of countries in Asia, it has continued even as economic growth has picked up in some countries since the start of the new millennium.

These trends have generated renewed interest in the role of structural transformation in fostering sustained economic growth and development, reflected in the new 2030 Agenda for Sustainable Development, one of the goals of which is inclusive and sustainable industrialization.

However, the striking difference between East Asia and other developing regions over the past three decades or so lies not so much in the relative weight of industry in total output, but of manufacturing activity. These regions stand out in that the share of manufacturing in GDP rose steadily to cross a threshold of 25 per cent (South-East Asia) or 30 per cent (North-East Asia) and was maintained for a sustained period of time. The rapid growth of manufacturing was accompanied by strong employment creation and rising productivity, allowing these countries to successfully enter global markets and drive up the rising share of developing countries in global trade in manufactures over the past few decades. In other regions, manufacturing growth has fallen below overall output growth, and employment growth has been associated with little productivity growth, or vice versa.

In successful catch-up experiences, support for the manufacturing sector was not at the expense of other sectors; rather various intra- and cross-sectoral linkages and complementarities further enhanced productivity and employment growth. As the manufacturing sector expanded primary production also tended to become more efficient as a result of declining input prices as well as technology and knowledge spillovers. Similarly, the services sector typically developed in conjunction with manufacturing, with certain service activities being spun off from continued progress in manufacturing. These activities also offered scope for productivity increases, which helped enhance the potential for further productivity growth in the industrial sector by providing more and better quality inputs to manufacturing processes.

Over the past five decades, productivity has grown the fastest in developing regions where the investment-to-GDP ratio and investment per capita were the highest, or where investment growth was the fastest. In addition to investment in productive capacity and technological upgrading, improvements and adaptation of workers' skills, management know-how and entrepreneurial competence have been key to successful structural transformation. The composition of manufacturing activities, in terms of low, medium and high technology, has major implications for how knowledge and skill acquisition occurs. When learning takes place in design and engineering activities that can be applied in a broader spectrum of sectors, industrial production is characterized by steep learning curves that favour the emergence of intersectoral linkages and improved efficiency overall.

The distribution of the gains from productivity increases in manufacturing activities also affects the pace and sustainability of the transformation process. If productivity gains are used predominantly for increasing profits, those profits may be reinvested in additional productive capacity and technological upgrading, but such reinvestment is not guaranteed and needs incentives, including a supportive macroeconomic framework and prospects of expanding demand. To the extent that productivity gains also translate into higher employment and wages, they lead to stronger domestic demand, which can induce entrepreneurs to further invest, and to the emergence of economies of scale for domestically produced goods and services of mass consumption. Strong productivity gains also boost government revenues through higher corporate and income taxes without an absolute reduction in private sector incomes. Those revenues can be channelled into productivity-enhancing infrastructure investments, including the provision of public utilities and services. Finally, productivity gains may translate into lower prices for exported goods, thereby helping to gain or maintain global market shares.

Public spending has played a crucial role in the process of structural transformation. Transport, logistics and telecommunication infrastructures, power and water utilities, the provision of education, professional training and research and development (R&D) support, and information and coordination services strongly influence productivity growth in all sectors, as well as the pace and pattern of structural transformation.

Investment, both public and private, is not, however, sufficient to sustain the process of structural transformation over a prolonged period; building linkages between leading subsectors and the rest of the economy is also critical. Linkages take a variety of forms. "Backward" *production linkages* arise as producers procure inputs from others, and "forward" linkages stem from supplying inputs to others, both within the manufacturing sector and in the primary and services sectors. *Investment linkages* occur as the viability of an investment in productive capacity, new entrepreneurial ventures and the related extension of manufacturing activities in one enterprise or subsector typically depends on prior or simultaneous investment in other firms or sectors, or specific infrastructures. *Knowledge linkages* are created from spillovers of skill acquisition and technological learning among firms through formal and informal channels and from education, professional formation and R&D conducted outside firms being put to effective use by various firms. *Income linkages* lead to changing consumption patterns when growing incomes linked to improved employment conditions translate into higher demand for domestically produced goods, and when higher productivity gains or rents from natural-resource exploitation lead to an increase in public revenues, enabling greater public investment and service provision.

Although market incentives can contribute to the emergence and strengthening of these linkages, this rarely happens spontaneously. Indeed, differences across countries in actively building linkages go a long way towards explaining the varying structural transformation patterns across the developing world.

Using a broad brush approach, it is possible to identify three different trajectories of structural transformation over the past few decades. Such stylized trajectories offer a framework for learning from successes and failures, and for designing appropriate policy responses. The first category is that of *catch-up industrialization* with robust production, investment, knowledge and income linkages built over several decades based on a growing and increasingly diversified manufacturing sector. Other than in today's developed economies, this path can be observed only in a small number of East Asian newly industrialized economies, although its potential has been exhibited in some other countries for shorter periods of time. China also appears to be on this path, though at a much lower level of development.

These experiences of catch-up industrialization confirm steadily rising per capita investment as a key factor for reaching a critical mass in certain manufacturing activities. They also demonstrate the crucial role played by the various linkages, which were fostered through strong government support for selected industries, including targeted credit allocation, public and publicly-sponsored R&D, and promotion of access

to export markets. The public sector facilitated long-term investment in plant and equipment, including through considerable public investment in both physical and relevant knowledge infrastructure. In addition, the creation or strengthening of income linkages was supported by policies to influence more equitable distribution of incomes, which in turn boosted domestic demand.

Much more common among developing countries have been cases of *stalled industrialization*, in which shares of industrial income and employment begin to stagnate after prolonged periods of growth of manufacturing output, but at lower levels of per capita income and overall productivity. This has been the case in India and Mexico, for example, and, more recently, in several countries in South-East Asia. In other countries, the expansion of manufacturing slowed even before a solid base for sustained industrialization could be established, such as in many sub-Saharan African countries. In countries experiencing stalled industrialization, productivity growth has tended to fluctuate, and has rarely matched even the weakest periods in East Asia. Moreover, it has not been accompanied by a sustained expansion of employment in manufacturing.

In many of these countries, there have been pockets of excellence, where there has been simultaneous growth of productivity and employment in subsectors of the economy, such as in some services in India, and in enclaves of manufacturing dynamism in Mexico that have a heavy FDI presence and have benefited from preferential access to the North American market. However, spillovers have been limited. A hybrid path has been followed in some countries in South-East Asia, such as Indonesia, Malaysia and Thailand. They experienced positive structural transformation until the late 1990s, with continuous increases in employment and productivity across a broad range of industrial activities, including manufacturing, based on rising rates of investment. However, the 1997–1998 Asian financial crisis led to a significant reduction of investment rates and the stalling of earlier progress in employment and productivity in manufacturing.

In sub-Saharan Africa (excluding South Africa), the manufacturing sector has never managed to reach the scale needed to drive a cumulative process of linkage-building. In many countries, structural adjustment policies in the 1980s and 1990s had a negative impact on the expansion of manufacturing. The subsequent recovery of growth in manufacturing output was based on higher employment rather than improved productivity, and has remained insufficient to create strong production and income-related demand linkages. Investment levels, even though increasing, have remained too low relative to requirements to drive broad-based productivity growth and knowledge generation and diffusion.

The third trajectory of structural transformation is one of *premature deindustrialization,* in which the shares of manufacturing value added and employment started to decline at levels of per capita income much lower than those at which developed economies and successful catch-up industrializers started to deindustrialize. This is accompanied by a sharp fall in relative productivity levels. This trajectory has been observed in a number of countries in South America since the debt crisis of the 1980s. These economies have seen periods of productivity stagnation or decline, in some cases quite prolonged, and in most cases coinciding with sharp falls in investment growth. Indeed, the rate of capital accumulation in Latin America has been the lowest among developing regions in the post-1970 period. A similar trajectory is evident for countries in North Africa, as well as several transition economies that experienced the collapse of a centrally planned system.

Premature deindustrialization has been closely linked to drastic policy changes in the direction of more restrictive macroeconomic policies, lower public investment in infrastructure and knowledge, and, more generally, reduced State intervention to support structural transformation. Large, and sometimes unilateral, trade opening, coupled with periods of currency appreciation, strongly affected the profitability and viability of important segments of the manufacturing sector, while a trend towards more regressive income distribution weakened domestic demand.

Reconnecting trade to structural transformation

Developing countries have greatly increased their share in global exports of manufactures, which grew from around 10 per cent in 1980 to nearly 45 per cent by 2014. About one quarter of that trade is South-South, reflecting in part how global value chains (GVCs) have extended the reach of international production networks in some key tradable sectors of the global economy. These developments, and the trade liberalization that facilitated them, are widely viewed as a promising indicator of the potential for globalization and trade to support industrialization and speed up development.

Part of the reason why export-led industrialization is such a favoured strategy is because of the successes of the first-tier East Asian economies, where the expansion of exports of manufactures was supported by industrial policy and macroeconomic management resulting in the fastest and most sustained record of catch-up development in the modern era. Variants of this approach have spread to other countries in the region, though they have not been able to fully emulate the success of the region's first-movers. To a large extent, aggregate statistics on the rise of the South in manufacturing trade belie the singularity of Asia's achievements. In 2014, Asia alone accounted for nearly 90 per cent of developing-country exports of manufactures to the world, and for 94 per cent of South-South trade in manufactures. Nevertheless, a number of developing countries outside the Asia region engage in significant trade in manufactures, with many more pursuing such trade in the hope of realizing the promise of export-led industrialization.

Although deeper participation in international trade – both exporting and importing – can increase the pace and extent of industrialization, and raise productivity both within and across industries, these relationships are neither simple nor assured. Trade liberalization, if reciprocal, opens export markets and eases access to the import of capital goods and intermediate products, but it also introduces a number of potential challenges for the industrialization process. Perhaps most formidable is the prospect of increasing competition from industrial imports, which has been linked to premature deindustrialization and informalization across a number of countries. Another challenge is that export markets have become much more crowded and competitive, increasing the globally accessible supply of less-skilled labour at a time of general wage compression and weak aggregate demand.

Whether and to what extent the export of manufactures induces industrialization and productivity growth depends on both the composition of exports of manufactures (the more technologically-intensive the better), and their share of domestic value added. Moreover, scale probably matters as much as the share of domestic value added and technological intensity, not least because of the need to absorb labour into manufacturing activities in order to achieve aggregate productivity growth. Enclaves of manufacturing excellence are encouraging, but they are insufficient to generate the linkages and the economy-wide productive transformation required to achieve significant industrialization.

Even where scale may be large enough to substantively shape domestic production, the problem of price is still a constraining factor. The fallacy of composition – as an ever more crowded field of exporters pursue the same export-led strategy – compresses price (and ultimately wage) growth, even for the most successful manufacturing exporters in Asia. The terms of trade for developing-country exporters of manufactures declined at an average annual rate of 1.1 per cent between 1980 and 2014, and by 1.5 per cent for exporters of manufactures in Asia. Moving to more technology-intensive exports seems a promising alternative, but the leap has to be large and sustained to outpace the many competitors vying for the same higher priced export markets. The flip side of the fallacy of composition is the concentration of market and pricing power. The rise of GVCs is both a cause and a consequence of this phenomenon. On the one hand, GVCs facilitate a wider participation of developing countries in global trade of manufactures, thereby opening new avenues for industrialization. On the other hand, this wider participation generates more competition, which further strengthens the bargaining and pricing power of lead multinational enterprises (MNEs) based predominantly in developed economies. This makes it difficult for developing-country producers – even the large emerging market suppliers – to raise and capture value added in economically consequential ways.

A big part of the problem is that export-led industrialization in the current era has been a generally disappointing generator of broadly shared, high-wage employment – an often overlooked but essential aspect of successfully linking exporting and industrialization. Even where productivity gains offer the potential for social upgrading, they may mostly increase profits, or be used to lower prices to solidify an existing competitive advantage, rather than raise wages. If most of the productivity gains are transferred abroad via lower prices, the virtuous circle of productivity supporting domestic demand and investment may be weakened. These competitive dynamics have been particularly problematic for countries in Africa and Latin America, where globalization has been associated with the movement of labour from high- to low-productivity production, but also to the informal economy. Conversely, a number of Asian countries have been better able to exploit the opportunities created by exports of manufactures with a simultaneous increase in productivity and employment.

These employment patterns are particularly pronounced when disaggregated by gender. In Africa and in Latin America and the Caribbean, growth in exports of manufactures has been more strongly associated with an increase in women's employment in low productivity service sector jobs rather than in the high productivity modern manufacturing jobs that export-led industrialization strategies were expected to create. In Africa between 1991 and 2014, a 1 per cent increase in exports of manufactures was associated with a 0.34 per cent increase in women's employment in services, but only a 0.12 per cent increase in their employment in industry. The comparable figures for women in Latin America and the Caribbean are 0.29 per cent in services and 0.14 per cent in industry. The causal mechanism here is twofold. On the one hand, increased competitive pressures in export and domestic markets have induced more outsourcing and the proliferation of informal work. On the other hand, combining domestic labour with more capital-intensive production technologies has both lowered the employment intensity of manufacturing and raised the relative demand for skilled labour. Ultimately, it must be recognized that part of managing structural change involves designing an employment policy that ensures inclusive and self-sustaining processes of industrialization.

Many of the weak links between trade in manufactures and industrialization can be traced to the problem of deficient global aggregate demand. Growth strategies, in both North and South, based on wage compression and fiscal austerity mean there is not enough demand in the traditional developed-country destinations for export-led industrializers. Turning towards more regional, South-based markets offers a promising alternative – particularly for exports of manufactures – as is already partly reflected in the changing geography of international trade. But a successful shift requires that developing countries, especially large emerging economies, change their focus from export-oriented industrialization to domestic-demand driven industrialization. Developed-country markets still serve as important destinations for selling more sophisticated goods, and provide critical opportunities for enhancing production, design and marketing capabilities. However, none of these strategies are capable of sustaining industrialization unless they are supported by growing global aggregate demand.

An unhealthy investment climate

Structural transformation needs a strong investment push. The broad sweep of history suggests that such a push is becoming more demanding the later countries begin to industrialize. But even for middle-income economies that have built some initial capacity, moving ahead often requires a renewed push to break through specific constraints. Financing investment pushes can, at all income levels, be a major constraint on the development process.

Conventional wisdom puts its faith in financial markets to channel available household savings to those best able to use them productively. But in the more successful experiences, governments have played a lead role in using the available economic and institutional space to create conditions within which a mixture of public and private finance can be mobilized for long-term investment projects. Access to credit was often critical for kick-starting an investment drive, and it is no accident that, among the developing regions, East

Asia has the most advanced credit system with the highest investment-to-GDP ratios. However, in these and other successful countries, mobilizing the requisite domestic resources has involved increases in corporate profits and in the profit share in a growing GDP, suggesting that profits have been both a cause of and conditional on increases in productive investment. This dynamic profit-investment nexus has been key to sustained structural transformation.

However growing financial openness and persistent instability in the international financial system have not only weakened the profit-investment nexus in developed economies, but also show signs of corroding that nexus in developing countries, with potentially damaging consequences for sustainable structural transformation.

In developed economies, substantial increases in corporate profitability over the past 30 or so years have not been the result of rising levels of real investment. In leading developed economies (France, Germany, Japan, the United Kingdom and the United States), while average investment (excluding construction) fell steadily from around 20 per cent of GDP in 1980 to historically low levels of below 16 per cent of GDP in 2015, profit shares followed the exact opposite trajectory, rising from an average 14.6 per cent in 1980 to just below 18 per cent in 2013 (notwithstanding temporary slumps during the dot-com bubbles and the global financial crisis). In these economies, corporate profitability has been driven increasingly by the financialization of corporate strategies, linked to the rise of so-called "shareholder primacy" and a focus on short-term decision-making, cost management and financial engineering under the watchful eyes of institutional investors. While the pace has varied across countries, corporate "refocusing" through managerial practices such as increased dividend distribution, stock buybacks, mergers and acquisitions has meant that conventional "retain and invest" strategies have been progressively replaced by the mantra to "downsize and distribute".

The repercussions at the macroeconomic level have been felt clearly in developed economies in the form of rising income inequalities (due in part to executive remuneration schemes), progressive tax erosion and, ultimately, weakening aggregate demand, jobless growth, financial bubbles and further rises in income inequality. As a result, the profit-investment nexus is steadily unravelling.

Meanwhile, in developing countries, the adverse effects of financial globalization have been apparent for some time, particularly in the form of macroeconomic shocks, but more recently these impacts can be clearly discerned at the corporate level. Balance sheet data of non-financial firms in large developing economies showed a decline in investment-to-profit ratios between 1995 and 2014, with a sharp fall in some countries, such as in Brazil, Malaysia, the Republic of Korea and Turkey. While in most developing economies large shareholding corporations are still the exception rather than the rule, there are clear signs that their strategies, too, are becoming more financialized. For those firms that regularly distribute dividends in developing economies, the share of payouts is on the increase despite roughly stable profits. Firms in this category are also accumulating financial assets, in some cases faster than corporate debt, indicating both a lack of profitable long-term investment opportunities as well as greater portfolio investment choices in liberalized financial markets. Rapid increases in the indebtedness of non-financial corporations are fast becoming a serious concern in many emerging economies.

There was a 40 per cent increase in the dollar-denominated debt of non-financial corporations in 13 selected developing countries between 2010 and 2014, a period during which their debt-to-service ratios also soared – a solid warning indicator of systemic banking crises in the making. By this measure, the indebtedness of these corporations skyrocketed by no less than 40 percentage points between end 2007 and end 2015. By way of comparison, levels of indebtedness of non-financial corporations in some major developed economies (Germany, Japan, the United Kingdom and the United States) fell by almost 20 percentage points over the same period.

While it would be premature to suggest a generalized breakdown of the profit-investment nexus in the developing world, it is evident that, whereas corporate profitability has been on the increase almost everywhere, investment trajectories have varied considerably among countries. Moreover, the adverse

macroeconomic impacts of global as well as corporate financialization are clearly increasing. This has been the case not only where recent surges in corporate indebtedness in emerging economies have been fuelled, at least in part, by quantitative easing programmes in developed countries, and the enormous excess liquidity to which this has led. In addition sector-level data reveal how debt-fuelled investment has been concentrated in highly cyclical and natural-resources-based sectors that do not contribute to structural transformation and fast productivity growth. Indeed, only seven sectors – oil and gas, electricity, construction, industrial commodities, real estate, telecommunications and mining – explain more than two thirds of the total increase in both debt and investment.

Reining in corporate financialization, in developed and developing economies alike, will require changes in corporate governance and in the incentive structures of non-financial corporations, for example by strengthening regulatory links between corporate taxation and profit reinvestment for productive purposes.

For many developing countries in the early stages of structural transformation, what is of critical importance is not addressing the weakening of a previously strong profit-investment nexus, but *establishing* such a nexus in the first place. This requires large-scale economic and institutional efforts to build effective banking and financial systems capable of providing adequate credit and liquidity for rapid productive expansion. It also requires proactive policy measures to overcome early hurdles to viable and profitable private sector initiatives, and to channel them to projects that play a major role in structural transformation. At the same time, vital public investment, in particular at the early stages of catching up, needs to be protected by concerted international actions to tackle tax avoidance, evasion and capital flight that erode States' revenue base.

This said, long-term and sustainable (external and domestic) financing requires, first and foremost, that systemic shortcomings in the international financial system be tackled in substantial and lasting ways. It also requires responsible macroeconomic policy coordination among countries. Without reliable macroeconomic stability and a full recovery in developed economies, long-term corporate real investment will continue to suffer in developed and developing economies alike.

Industrial policy redux

No country has made the arduous journey from widespread rural poverty to post-industrial prosperity without employing targeted and selective government policies that seek to shift the production structure towards new types of activities and sectors with higher productivity, better paid jobs and greater technological potential. Such policies are conventionally called "industrial policies" though they might be more accurately described as "production transformation policies".

A great deal has been written about industrial policy tools and experiences in recent decades, with much of the discussion revolving around a sterile debate about whether or not governments can "pick winners". In reality all policy decisions involve priority-setting, trade-offs and bargaining; and policymakers are doomed to target. The focus of discussion needs, instead, to be on the challenge of linkage-building in support of virtuous development circles, the integrated policy approach this implies, and the institutional geometry that is needed to implement that approach.

Given that a much larger level of investment is required for economic transformation, and the fact that there has been a weakening of the export-investment-profit nexus – a nexus that proved crucial to the success of the East Asian late developers – catch-up growth strategies face enormous challenges. This necessitates a serious rethinking of economic policy approaches and options.

In light of the changes in the global economy, governments in developing countries need to be ambitious but not unrealistic. They should strive for a high development road by creating new sources of growth and dynamism, rather than simply trying to do the best with what they currently have by taking advantage of

existing comparative advantages. Small and incremental steps can be useful, but more radical "comparative-advantage-defying" measures will be needed to shift towards higher value-added and employment-generating activities with high income elasticities and more capacities for creating synergies through knowledge creation. The downside of aiming high is to run the risk of failure. This risk should also be managed, with mechanisms for monitoring performance, observing underperformance, and either rectifying or removing State assistance. Accordingly, the emphasis becomes not on whether to have an industrial policy at all, but on how to design and implement it properly.

The role and effectiveness of industrial policy is not only a concern in developing economies. While the share of industrial activity in developed economies' GDP has been declining for some decades as part of their evolution towards a post-industrial society, the pace and extent of this shift, which accelerated in the early 2000s, has begun to worry policymakers in several developed economies. Such worries, and attendant concerns about the hollowing out of the middle class in these economies, have intensified since the 2008 global crisis, reinforcing the argument that policymakers should now use industrial policies as part of a rebalancing of the economy away from the lopsided domination of the financial sector. It is an argument supported by the slow recovery of these economies since the Great Recession.

In this context, a distinction can be usefully drawn between "passive" and "active" industrial policies. "Passive" policies essentially accept the existing endowments and institutional structures and aim to reduce the costs of doing business, including coordination and transaction costs. By contrast, "active" policies target deeper changes in corporate structure and behaviour, such as investment, exporting and upgrading. The institutional prerequisites for active and passive policies are likely to be different. In particular, the effective targeting of active measures requires substantial State capacity and a degree of discipline that is often neglected in discussions of industrial policy. In practice, while an active policy is almost always accompanied by a passive policy, the reverse is not the case.

Active industrial policies require a supportive institutional geometry of developmental States, government-business dialogue, and "reciprocal control mechanisms" that ensure government support translates into desired actions by the private sector. Arguably, the critical step – and often a misstep – in the application of industrial policies is the provision, monitoring and managing of rents in support of structural transformation and upgrading. From a policy perspective, potentially growth-enhancing rents can become growth-reducing if the rent management capacities of the State are missing. If the State does not have the credibility to withdraw or withhold financial support in cases of underperformance, there will not only be short-term costs, but also long-term adverse consequences.

The key lies in the State's efforts to help build the linkages that can sustain a process of structural transformation, guiding resources towards activities that have the potential to increase productivity and higher paying jobs. In many countries, this will involve examining all the domestic supply chains across sectors, from the stage of primary production to final output logistics of manufacturing firms. In others, it will involve linking up with global supply chains that already exist. In either case it will involve facilitating access to long-term investment finance at reasonable cost for manufacturing firms, especially in targeted sectors, as well as in those activities that can benefit from linkages with firms in those sectors. As such, the tools and levers of industrial policy should also be part of an integrated and interconnected package of policies that align trade, competition, labour and macroeconomic policies with industrialization imperatives. The package needs also to be adaptable, changing when constraints and capacities change.

Today's policymakers can no longer rely on export-led manufacturing alone to generate the kind of growth achieved by the East Asian late industrializers. This is not to say that countries should stop seeking export markets; rather, they should recognize that a much more nuanced and strategic approach is needed. They need to be more pragmatic in their choices of products and overseas markets, while also paying closer attention to building domestic and regional markets and to fostering the variety of production, technology and income linkages that an expansion of these markets will require.

In order to promote a structural shift towards manufacturing and industrialization or towards more sophisticated services, governments need to adopt policies with the following objectives:

- Ensure high levels of aggregate demand, high levels of investment, and a stable exchange rate (which may on occasion allow undervaluation but not overvaluation). Supportive fiscal policies are important to create stable but expansionary economic conditions in which economic diversification can flourish.

- Cultivate the capabilities needed to change the composition and sophistication of production activities, and promote a strong learning environment. Public R&D is likely to be critical, along with investment in both formal educational institutions and in shop-floor training.

- Pursue intermediate input substitution industrialization, particularly in middle-income countries that have entered GVCs but are struggling to upgrade their industrial capacities. This will also likely mean transforming export processing zones into more integrated industrial development parks with much stronger backward and forward linkages to the rest of the economy.

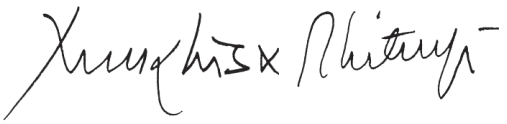
- Avoid adopting export strategies that rely on compressing wages; labour is not just a cost of production, but an important source of demand and tax revenue.

- Promote development-oriented competition rules, that can offset the global dominance of MNEs. The combination of increasing *concentration* at the top of GVCs and increasing *competition* at the bottom may require a new institution, such as a Global Competition Observatory, to monitor trends along different segments of the value chains and across sectors, and to ensure that firms outside GVCs are not unfairly affected.

- Bolster access to finance for structural transformation, not only in terms of supporting particular lines of investment, but also as a useful vehicle for monitoring and influencing corporate behaviour in support of long-term decision-making. Financial regulation can promote industrialization by making purely financial transactions less attractive than other, more productive investments.

- Close tax loopholes through fiscal and regulatory measures at the national, regional and international levels, and require greater transparency in corporate decision-making. Effective regulation of distortionary monopolistic practices is essential to ensure that profits are directed towards productive investment.

More ambitious and comprehensive policy action in these areas will be essential for meeting the new Sustainable Development Goals. As discussed in previous *Reports*, and despite the curtailment of policy space under "finance-led globalization", there is still sufficient space to pursue the kind of economic programmes that can trigger transformational change but also more inclusive and sustainable outcomes. However, that space needs to be buttressed against the ideological and institutional pressures that have placed market efficiency above shared prosperity.



Mukhisa Kituyi
Secretary-General of UNCTAD

Chapter I

CURRENT TRENDS AND CHALLENGES IN THE WORLD ECONOMY

A. A year of living dangerously

The world economy in 2016 is in a fragile state, with growth likely to dip below that registered in both 2014 and 2015. The mediocre performance of developed countries since the 2008–2009 economic and financial crisis is set to continue, with the added threat that the loss of momentum in developing countries over the past few years will be greater than previously anticipated. Without a change of course in the former, the external environment facing the latter looks set to worsen with potentially damaging consequences for their prosperity and stability in the short to medium run. More widespread contagion from unforeseen shocks cannot be ruled out, knocking global growth back even more sharply. The decision by the United Kingdom electorate to leave the European Union (EU) is such a shock.

Growth in the United States this year is likely to slow down, as the momentum that was built through the quick detoxification of its banking system and a more aggressive use of monetary policy loses traction. Unemployment has dropped steadily to the level registered before the crisis hit and real earnings have begun to pick up. However, given its weak underlying employment rate, the number of distressed households with high levels of debt and exporters struggling with a strong dollar, there are no guarantees that the economy will enjoy a robust period of growth any time soon.

Recovery in the euro zone has lagged behind that of the United States, in part because of the more timid use of monetary policy but also very tight fiscal stances in some countries. The tentative pick-up of growth from 2015 seems likely to stall this year, and could even be reversed due to the uncertainty triggered by the announced departure of the United Kingdom from the EU ("Brexit"). Economic growth continues to be held back by weak domestic demand and only sporadic signs of an improvement in real wages. Efforts to tackle the sharply diverging economic performances of the countries in the euro zone are complicated by political uncertainties, such as the ongoing migration crisis, and doubts about the future pace and direction of European integration.

European economies outside the euro zone have performed better in recent years, mainly because the monetary authorities in many of those countries have been willing, and able, to orchestrate financial bubbles. The economy of the United Kingdom, even without the threat of Brexit, is set for a difficult period ahead given its levels of indebtedness and a persistently high trade deficit. The longer term consequences of the leave vote are still unclear, given the unprecedented nature of the decision and the political uncertainty it has created, though growth will undoubtedly slow in the short term. Just how steep the drop could be, given the highly financialized

and flexible markets in the United Kingdom, is difficult to predict.

Japan continues to exhibit a distinct set of economic characteristics that have emerged from decades of underperformance, with persistently low and erratic growth accompanied by a low unemployment rate (currently around 3 per cent), a huge level of domestic debt and a strong payments position. However, like other developed economies, Japan has seen the share of wages in income drop significantly over the past few decades (registering amongst the largest declines in developed economies, albeit in part for demographic reasons) without seeing a recovery in investment. Consumption has remained weak, leaving exports as the preferred source of expanding demand. More recently, with the weakening of global markets and an appreciating yen, efforts have turned to stimulating government spending; so far with only a modest response.

The continuation of weak demand conditions in the developed economies is stifling growth in the global economy. In this context, neither financial bubbles nor export surpluses offer a sustainable solution to tepid growth and weak labour market conditions. Financial bubbles can, at best, provide a temporary boost but tend to aggravate the deflationary gap by increasing inequality and create supply-side distortions that impede productivity growth. Export surpluses can certainly benefit those that achieve them but they are ultimately a beggar-thy-neighbour response in a world of insufficient global demand.

As argued in past *Reports*, a more balanced policy response is called for in the developed economies, combining an expansionary fiscal stance resulting from both spending and taxation decisions, supportive monetary and credit policies along with strengthened financial regulations, and redistributive measures through minimum wage legislation, direct taxation and welfare enhancing social programmes. The appropriate policy mix will vary across countries, though large public infrastructure spending would seem to be a common thread. Moreover, part of the required policy measures need to be taken at the multilateral level, including initiatives to stem tax evasion and avoidance and to implement a low-carbon growth pattern.

In the absence of concerted recoveries across the developed economies, international trade is registering a fifth straight year in the doldrums, becalmed by a lack of global aggregate demand. This has taken the wind out of the growth sails of many developing countries, particularly commodity exporters, and recent growth spurts have relied largely on capital inflows. Whilst greater inflows can, in part, be explained by improved macroeconomic management in recipient countries, the bigger factors have been moves to open the capital account that picked up speed in many developing countries in the new millennium and the post-crisis policy mix in developed economies which has pushed investors to seek high-return (and higher risk) opportunities abroad.

Domestic financial markets in developing countries have become much more open to non-resident investors, foreign banks and other financial institutions while restrictions on their own residents investing abroad have been reduced and financial institutions have diversified into cross-border activities unrelated to international trade and investment. These developments have deepened their financial integration and amplified boom conditions across all developing regions. But they have also created new sources of vulnerability.

Developing economies will likely register much the same average growth rate as 2015, 3.8 per cent, but with considerable variation across countries and regions, and with downside risks increasing. There have been sharp slowdowns, and even a return to recession, in some countries including big emerging economies, notably Argentina, Brazil, the Russian Federation and South Africa. Other economies are also set for chilly times ahead with smaller commodity producers particularly vulnerable. The commodity cycle is in its second year of a sharp downward trend. The drop in mining, fuel and agricultural raw material prices has been particularly sharp; that of other commodities, including food and tropical beverages, less so. A moderate recovery has taken place in recent months, but there is little anticipation of this continuing in the coming years.

With investors exiting developing and transition economies, net capital flows turned negative in the second quarter of 2014, and amounted to -$656 billion in 2015 and -$185 billion in the first quarter of 2016. Even though there was a respite in the second quarter of 2016, there remains a risk of deflationary spirals in which capital flight, currency devaluations and collapsing asset prices would stymie growth and shrink

government revenues, and cause heightened anxiety about the vulnerability of debt positions.

Size can still provide a buffer against unfavourable headwinds blowing in from the global economy. The two largest developing economies, China and India, may escape the worst of these threats thanks to expanding domestic markets and a combination of sufficient foreign reserves and an effective use of policy space.

China's economy has slowed sharply over the past few years, although it is still maintaining a relatively high growth rate of 6.5–7 per cent. While this, in part, reflects its ongoing evolution away from an excessive reliance on external markets to boost growth, the surge in domestic credit in response to the crisis has created a debt bubble which, along with excess capacity in several sectors of the economy, will not be easy to manage if it bursts. India has so far managed the downside risks of the post-crisis period and is now growing faster than China. Private investment, which began rising strongly from the start of the millennium, continued even as the crisis hit. However, it has weakened in the past few years, while public investment has yet to take off in a context of serious infrastructure gaps that could constrain future growth.

The reluctance of developed economies to deal effectively with their own high levels of indebtedness (or rather the tendency to do so through bailouts for creditors and austerity for debtors) and their insistence in relying almost entirely on monetary policy to orchestrate recovery highlight the potential dangers facing policymakers in developing countries. Alarm bells have begun to ring over exploding corporate debt across emerging economies, and it appears that much of the surge of financial inflows into emerging and developing economies has found its way into real estate and financial asset bubbles rather than long-term productive investment projects.

If the global economy slows down more sharply, an important part of developing country debt incurred since 2008 – not only debt issued and held within the borders of individual economies but also cross-border debt, including debt accumulated by private residents and governments – could become stressful or even unpayable. Thus, the international community will need to prepare itself for managing debt work-outs in a faster, fairer and more orderly manner than is currently the case.[1]

Separately, a slowdown in productivity growth, rising inequality, insufficient global demand and mounting levels of debt would pose serious challenges to policymakers at national and international levels; together they pose a massive threat to shared prosperity and stability. The International Monetary Fund (IMF) has warned policymakers to be alert; perhaps it is also time for them to become a little more alarmed.

While there is agreement that these weaknesses are closely interconnected, there is no sign of a concerted move towards policy coordination across systemically important economies. The United States has begun to recognize that its economic policy decisions can carry a sizeable impact beyond its own borders, with the Federal Reserve responding with an even more cautious stance on interest rate rises. But a more ambitious policy package is needed to address existing imbalances and to ease the constraints on faster growth, whether in large or small countries, surplus or deficit economies, commodity or manufacturing exporters, creditors or debtors. A global new deal will need to move beyond business as usual.

There are signs that international bodies such as the IMF and the Organisation for Economic Co-operation and Development (OECD) are rethinking their approach to macroeconomic adjustment (although this has not yet been sufficiently translated into their policy recommendations or conditionality). The necessary next step is for them to move away from a narrow discussion of structural reform that promotes a familiar package of liberalization and deregulation measures, and instead consider the wide range of actions needed to diversify the structure and level of sophistication of economic activity. Such actions should aim to increase productivity, create more and better jobs, boost household incomes, increase fiscal revenues and investment, and foster technological progress; and all these need to be implemented in the context of a world that is rapidly moving towards a low-carbon future. This is a subject taken up in subsequent chapters of this *Report*.

B. Recent trends in the world economy

1. Growth performance

In 2016, global output is likely to decelerate moderately to a growth rate around 2.3 per cent, compared with 2.5 per cent 2015. This is the sixth year in a row that the global economy repeats a modest expansion, well below that of pre-crisis levels. This year's performance reflects an expected slowdown in developed countries growth, from 2 to 1.6 per cent; economic stagnation in transition economies, an improvement over their contraction in 2015; and the continuing growth in developing countries of about 4 per cent, resulting from sustained growth in most Asian countries, a deceleration in Africa and economic recession in Latin America and the Caribbean (table 1.1).

Among the developed countries, the United States is expected to continue growing in 2016, albeit with a significant deceleration to less than 2 per cent, and probably closer to 1.5 per cent. Growth is almost exclusively led by private consumption, as unemployment drops to a level close to that registered before the crisis hit and as workers' real earnings have begun to pick up. In a longer term perspective, however, these improvements remain modest, considering that low unemployment is partly due to a fall in the employment participation rate,[2] and that real median earnings have been essentially flat since the 1970s, despite persistent productivity growth.[3] On the other hand, the contribution of investment spending has been weak (and has actually declined since mid-2015) despite low interest rates. There has been no additional government stimulus, with the drag from lower federal government spending offset by positive contributions to growth by state and local government spending. Finally, after their strongly negative impact in 2014 and 2015 owing to the appreciation of the dollar, net exports have made a slight positive contribution to growth in the first months of 2016, including through a decrease in imports.

After several years lagging well behind the United States, owing to the more timid use of monetary policy and an even greater proclivity for austerity measures in some countries, growth in the euro zone accelerated from 0.9 per cent in 2014 to 1.7 per cent in 2015. Although no further acceleration is expected in 2016. This improvement did not result from an expansion of net exports, despite the depreciation of the euro in 2014–2015, but rather from higher domestic consumption and investment levels, with some increase in real wages as a result of rises in the minimum wage and falling energy prices. Faster growth was also backed by an expansionary monetary policy and a less stringent fiscal stance. These improvements, however, remained below expectations, as monetary expansion by the European Central Bank (ECB) has not translated into a proportionate increase of credit to the real sectors. This reflects the still limited credit demand of the private sector and persistent difficulties in several national banking systems that are still burdened by high levels of non-performing loans (NPLs), which may require further capitalization, as seems to be the case for a number of banks, most notably in Italy, but also in Germany, Ireland and the United Kingdom (EBA, 2016). In addition, fiscal policies are not providing the needed support to economic growth, despite being slightly more accommodative in Germany – to handle the migration crisis.

European economies outside the euro zone have performed better in recent years, partly because they faced lower fiscal constraints, but mostly because they had more expansionary monetary stances, which led to asset appreciation. Such policies were applied in particular in the United Kingdom, where high trade deficits and high debt levels could be financed with

Table 1.1

WORLD OUTPUT GROWTH, 2008–2016

(Annual percentage change)

Region/country	2008	2009	2010	2011	2012	2013	2014	2015	2016[a]
World	**1.5**	**-2.1**	**4.1**	**2.8**	**2.2**	**2.2**	**2.5**	**2.5**	**2.3**
Developed countries	**0.1**	**-3.6**	**2.6**	**1.5**	**1.1**	**1.1**	**1.7**	**2.0**	**1.6**
of which:									
Japan	-1.0	-5.5	4.7	-0.5	1.7	1.4	0.0	0.5	0.7
United States	-0.3	-2.8	2.5	1.6	2.2	1.7	2.4	2.6	1.6
European Union (EU-28)	0.4	-4.4	2.1	1.8	-0.4	0.3	1.4	2.0	1.8
of which:									
Euro zone	0.5	-4.5	2.1	1.6	-0.9	-0.3	0.9	1.7	1.6
France	0.2	-2.9	2.0	2.1	0.2	0.7	0.2	1.2	1.5
Germany	1.1	-5.6	4.1	3.7	0.4	0.3	1.6	1.7	1.7
Italy	-1.1	-5.5	1.7	0.6	-2.8	-1.8	-0.3	0.8	0.8
United Kingdom	-0.5	-4.2	1.5	2.0	1.2	2.2	2.9	2.3	1.8
EU member States after 2004	3.6	-3.6	2.0	3.1	0.5	1.1	2.7	3.4	2.6
South-East Europe and CIS	**5.4**	**-6.6**	**4.7**	**4.6**	**3.3**	**2.0**	**0.9**	**-2.8**	**0.0**
South-East Europe[b]	5.8	-1.9	1.5	1.7	-0.6	2.4	0.3	2.0	2.8
CIS, incl. Georgia	5.3	-6.8	4.9	4.8	3.5	2.0	0.9	-3.0	-0.2
of which:									
Russian Federation	5.2	-7.8	4.5	4.3	3.5	1.3	0.7	-3.7	-0.3
Developing countries	**5.2**	**2.4**	**7.8**	**5.9**	**4.8**	**4.6**	**4.4**	**3.9**	**3.8**
Africa	5.5	3.2	5.2	1.1	5.6	2.0	3.7	2.9	2.0
North Africa, excl. Sudan	6.3	2.8	4.1	-6.6	10.1	-3.7	1.5	2.9	1.7
Sub-Saharan Africa, excl. South Africa	6.1	5.8	6.7	4.7	4.6	5.2	5.8	3.5	2.8
South Africa	3.2	-1.5	3.0	3.2	2.2	2.2	1.5	1.3	0.3
Latin America and the Caribbean	3.7	-2.1	5.9	4.5	3.0	2.7	1.1	0.2	-0.2
Caribbean	2.6	-0.9	3.1	2.2	2.1	2.9	2.8	3.6	2.5
Central America, excl. Mexico	3.8	-0.7	3.7	5.4	4.8	3.6	3.9	4.1	4.0
Mexico	1.4	-4.7	5.2	3.9	4.0	1.4	2.2	2.5	2.2
South America	5.0	-1.0	6.6	4.8	2.6	3.3	0.3	-1.4	-1.8
of which:									
Brazil	5.1	-0.1	7.5	3.9	1.9	3.0	0.1	-3.8	-3.2
Asia	5.7	3.8	8.8	7.0	5.2	5.5	5.5	5.1	5.1
East Asia	6.9	5.9	9.7	7.8	6.0	6.3	6.2	5.4	5.5
of which:									
China	9.6	9.2	10.6	9.5	7.7	7.7	7.3	6.9	6.7
South-East Asia	4.2	1.6	8.0	4.8	5.8	4.9	4.4	4.4	4.3
South Asia	4.8	4.4	9.1	5.5	3.1	5.0	6.3	6.1	6.8
of which:									
India	6.2	5.0	11.0	6.1	4.9	6.3	7.0	7.2	7.6
West Asia	4.0	-2.0	6.2	7.7	4.1	3.4	3.0	2.9	2.1
Oceania	2.0	0.8	4.1	3.7	2.7	2.2	3.6	4.7	2.9

Source: UNCTAD secretariat calculations, based on United Nations, Department of Economic and Social Affairs (UN DESA), *National Accounts Main Aggregates* database, and *World Economic Situation and Prospects (WESP): Update as of mid-2016;* ECLAC, 2016; Organisation for Economic Co-operation and Development (OECD), 2016a; International Monetary Fund (IMF), *World Economic Outlook*, April 2016; Economist Intelligence Unit, *EIU CountryData* database; JP Morgan, *Global Data Watch*; and national sources.

Note: Calculations for country aggregates are based on GDP at constant 2005 dollars.

a Forecasts.

b Albania, Bosnia and Herzegovina, Montenegro, Serbia and the former Yugoslav Republic of Macedonia.

capital inflows. The recent vote to exit the European Union could compromise these policy stances by reducing the attractiveness of the United Kingdom economy to foreign investors, leading to asset and currency depreciations, lower domestic consumption and investment, and a deterioration of balance sheets in all sectors, including lending institutions with higher levels of NPLs.

Japan continues to struggle against economic stagnation and the risk of price deflation, owing largely to weak private consumption. With little dynamism from global demand and an appreciating yen, exports provide little economic stimulus. Furthermore, despite a combination of negative interest rates and a programme of quantitative easing, the Bank of Japan could not avoid consumer price deflation in the first half of 2016, which was far from the goal of 2 per cent inflation. Lower yields in government bonds provided some extra room for expanding public expenditure, which remains an important factor to stimulate the economy. Fiscal policy faces competing goals, between aiming at fiscal consolidation targets through a new increase in consumption taxes and supporting economic activity. Recent decisions (postponing the announced tax increase and launching a new public spending package) indicate that the second goal will prevail, at least in the short term. In addition, sustained growth would require a reorientation of income policies that would reverse the long-term drop in the wage share of GDP.

GDP in the transition economies of the Commonwealth of Independent States (CIS) is expected to stagnate in 2016, after the sizeable contraction of 2015. The factors that adversely affected many of these economies in 2015 (in particular low commodity prices, net capital outflows, falling real wages, conflicts and unilateral coercive measures) still weigh on growth, but have softened, and in some cases have started to reverse. The mild recovery of oil prices, stabilization of exchange rates and moderation of domestic price inflation have restored some room for manoeuvre in the Russian Federation to start recovering domestic demand and industrial production. Still, its GDP growth, as that of other major oil producers such as Azerbaijan and Kazakhstan, is likely to contract moderately in 2016. Most oil-importing countries (Armenia, Belarus, Georgia, Kyrgyzstan, Republic of Moldova and Tajikistan) face a mixed outlook, as they continue to benefit from low fuel prices, but their exports, investment and remittances remain hampered by the ongoing recession in the Russian Federation. Ukraine's economy is expected to return to growth, albeit at a slow pace, as political tensions diminish and inflation decelerates. Finally, growth in South-East Europe is expected to pick up slightly in 2016, mostly as a result of increased exports and heightened foreign investment.

Latin America is heading towards a second consecutive year of economic stagnation and a risk of negative growth in 2016 (ECLAC, 2016). This is due mainly to weak economic performance in South America, where several countries have experienced falling levels of consumption and fixed capital formation. Tighter external conditions (including losses from the terms of trade) in 2015 led to fiscal retrenchment and exchange rate depreciation. To check the resulting threat of inflation, some countries, such as Brazil and Colombia, responded by raising interest rates, causing further growth deceleration. Furthermore, economic contraction in Brazil is likely to continue, given the tight monetary conditions, the Government's intention to further tighten fiscal policy and political uncertainty that is affecting investment. Similarly, growth in Argentina is forecast to be negative as a result of high interest rates, lower real wages due to inflation acceleration and cuts in public investment, all of which are affecting private consumption and fixed capital formation; while the downward spiral in the Bolivarian Republic of Venezuela continues. Other primary exporters (e.g. the Plurinational State of Bolivia, Chile and Peru) that managed the windfall revenues during the bonanza years with a longer term approach have been able to maintain positive growth rates. The prospects might improve marginally in the near future if the partial recovery in commodity prices since the second quarter of 2016 does not reverse (see subsection B.3 below) and some positive shifts in capital flows are confirmed.

Mexico and the economies of Central America and the Caribbean are more closely linked to the United States' economic cycle through manufacturing production networks, remittances and tourism. For most of these economies, growth in 2016 is expected to be slightly slower than in 2015, partly reflecting growth deceleration in the United States. In Mexico, the weaker currency (with the peso losing nearly 25 per cent against the dollar during 2015 and the first half of 2016) could provide some stimulus to growth by boosting manufacturing exports but the emphasis on fiscal consolidation will continue to dampen public investment.

Slower growth is forecast for Africa in 2016, due to weaker performance in North Africa and southern Africa. In the former, political instability and insecurity will continue to hinder economic recovery. In southern Africa, activity is expected to decelerate further because of depressed commodity prices, severe droughts and electricity shortages as well as lower dynamism in South Africa, which is an important export destination for neighbouring countries.

East Africa is projected to continue its growth momentum in 2016, boosted by strong domestic investment including large public investment programmes, and lower oil prices. Similarly, most West African countries (Benin, Côte d'Ivoire, Mali, Senegal and Togo) are expected to record high growth rates generally, supported by increases in public investment, improving agricultural productivity and a dynamic private sector. Besides, as the Ebola epidemic abates, growth is forecast to recover gradually in Guinea, Liberia and Sierra Leone. By contrast, prospects remain challenging in Nigeria where authorities continue to enforce tight monetary and fiscal policies in order to contain rising inflation and the currency crisis stemming from the slump in global oil prices. Falling oil and copper revenues, which in the past have led governments to cut infrastructure investment, as well as political tensions, are expected to continue to put strains on the economies of most countries in Central Africa. The fall in commodity prices has also led to deteriorating external debt situations in a number of countries, including Angola, Ghana, Mozambique and Zambia.

Developing Asia remains the fastest growing region, with an expected growth rate similar to that of 2015, around 5 per cent. China grew 6.7 per cent year-on-year in the first half of 2016, a marginal slowdown in relation to 2015 (6.9 per cent) that nevertheless corroborates the shift towards more moderated growth. This is the result of several factors, including weakness in external demand, efforts to reduce overcapacity in some sectors and a strategic reorientation towards consumption-led growth, with a larger place for services. Gradually, these goals seem to be progressing, as services outpaced the secondary sector as the main engine of growth, and the real contribution of private consumption to GDP growth currently exceeds that of investment. However, while recent expansionary fiscal and monetary policies have led to the recovery of the property market and a surge in State-led investment spending, this may be postponing the needed resizing of some industrial sectors and the deleveraging process. Hence, the aspiration of averting financial risks and consolidating a more balanced growth contrasts with the more immediate motivation of the Government to keep the economy growing by an average of 6.5 per cent, as defined in the 13th five-year plan (2016–2020).

India's growth rate is projected to remain strong, at 7.5 per cent in 2016, further cementing the rather large terms-of-trade gains of 2015 (over 2 per cent of GDP). Growth is primarily driven by rapidly expanding domestic consumption, supported by the low prices of commodities (particularly fuel), a rise in real incomes (including public sector wages) and lower inflation (OECD, 2016b). Export demand declined in 2015, and gross fixed capital formation weakened in late 2015 and early 2016; however, investment (private and public) is expected to expand, which would support a solid growth performance through to 2017. Despite these trends, high public debt and current rates of inflation may limit the room for supportive fiscal policies. The stalled manufacturing share in GDP, as also reflected in the limited capacity of the sector to create jobs with higher wages, will need to be addressed to ensure India's growth in the longer term.

South-East Asia is likely to maintain a growth rate above 4 per cent in 2016, largely based on domestic consumption and investment demand. International trade has been sluggish, although the negative impact of falling exports was partially compensated in some countries by the positive contribution to growth of declining imports. Lower oil prices (and related energy subsidies) and low inflation rates have given room for more supportive fiscal and monetary policies in several countries of the region; domestic demand should remain the main driver for growth (ESCAP, 2016).

Finally, West Asia is expected to grow at around 2 per cent in 2016, down from 2.9 per cent in 2015. Downward adjustment will hit the major oil exporters of the region including Kuwait, Qatar, Saudi Arabia and the United Arab Emirates, whose export revenues fell on average by 6.1 per cent in 2014 and by 34.1 per cent in 2015. Even though these countries have benefited from the modest recovery of oil prices in the first half of 2016, they need to adjust their expenditure given the significant deterioration in current account and fiscal balances (fiscal deficit amounted to 15 per

cent of GDP in Saudi Arabia, 13.6 per cent in Kuwait and 3.7 per cent in the United Arab Emirates in 2015). Policies aimed at fiscal consolidation will severely constrain government consumption and public investment, which contributed significantly to GDP growth in recent years, while the introduction of value-added tax (VAT) and privatization projects aim at improving fiscal revenues (Sommer et al., 2016). Such measures of fiscal austerity may hinder recent attempts in these countries to diversify away from oil.

GDP growth in the non-oil exporting countries in the region (Jordan, Lebanon, Turkey) is likely to decelerate in 2016; it relies mostly on domestic consumption growth, as exports contracted already in 2015 and investment ratios either remained constant (in Turkey) or declined. In Turkey, it will be difficult to sustain domestic consumption demand at 2015 levels, which was stimulated by credit availability and the additional demand created by Syrian refugees. In 2016, the country faces additional economic instability due to recent political frictions; the depreciation pressures on the lira in July 2016 demanded a strong intervention by the central bank. Falling revenues from tourism exports, the challenges posed by a large refugee population and increased financial market volatility necessitate continuous vigilance by policymakers.

2. International trade

(a) Goods

International trade slowed down further in 2015. This poor performance was primarily due to the lacklustre development of merchandise trade, which increased by only around 1.5 per cent in real terms (table 1.2). After the roller-coaster episode of 2009–2011, in the aftermath of the global financial and economic crisis, the growth of international merchandise trade was more or less in line with global output growth for about three years. In 2015, merchandise trade grew at a rate below that of global output, a situation that may worsen in 2016, as the first quarter of the year showed a further deceleration vis-à-vis 2015.[4]

When measured in current dollars, which matters more for revenues, expenditures and ultimately balance sheets, merchandise trade dropped by an estimated 12.7 per cent in 2015. This resulted from the continuing primary commodity price declines (particularly for oil) as well as the depreciation of several key currencies against the dollar. In fact, as several major economies – like most of those of the European Union, Japan and to a lesser extent China – trade in their own currencies, their depreciation reduces the value of exports denominated in dollars, even if they may register positive values when denominated in the domestic currencies.

The slowdown in volumes of merchandise trade in 2015 (table 1.2) reflects the contraction of import demand in some large economies, especially in Asia, Latin America and the transition economies. In Japan, imports fell in volume by 2.8 per cent, and by 1.6 per cent in the rest of East Asia – which includes China, the largest trading economy. In Latin America and the Caribbean, imports contracted by 1.8 per cent, while in the transition economies, imports plunged by 19.4 per cent after contracting already the previous two years.

The 2014–2015 period also marked a shift in the driving forces of international trade. After the global financial crisis, it had been supported primarily by developing economies and the economies in transition, whose trade flows – particularly imports – had grown much faster than those of developed countries, so that they contributed about three quarters of the increase in global imports over 2011–2013. However, since 2014, developing countries' aggregate import growth has slowed down considerably, from about 6 per cent per year in 2012–2013 to only 0.4 per cent in 2015. As a result, developed countries' imports contributed 91 per cent to the growth of global imports over 2014–2015, compared with 28 per cent for developing economies and -19 per cent for the economies in transition. However, in early 2016 developed countries' imports (in volume) were only 3 per cent higher than their pre-crisis peak, compared with 20 per cent for developing economies (chart 1.1).

In developed economies, exports of the United States were held back in 2015 by slow foreign growth and the appreciation of the dollar. Meanwhile, imports increased owing to rising household consumption. In Europe, exports increased with the acceleration of trade within the continent, which accounts for roughly two thirds of European total trade. European exports to the United States were also robust. By contrast, exports to China and other

Table 1.2

EXPORT AND IMPORT VOLUMES OF GOODS, SELECTED REGIONS AND COUNTRIES, 2012–2015

(Annual percentage change)

	Volume of exports				Volume of imports			
Region/country	*2012*	*2013*	*2014*	*2015*	*2012*	*2013*	*2014*	*2015*
World	**3.2**	**3.3**	**2.3**	**1.4**	**3.0**	**2.7**	**2.4**	**1.6**
Developed countries	**1.6**	**2.2**	**1.9**	**2.2**	**1.0**	**0.0**	**2.8**	**3.3**
of which:								
Japan	-4.8	-1.5	0.6	-1.0	2.4	0.3	0.6	-2.8
United States	3.6	2.8	4.4	-0.2	2.1	1.0	4.3	4.8
European Union	-0.1	1.8	1.7	3.2	-2.3	-0.9	3.3	3.6
Transition economies	**0.9**	**2.3**	**0.5**	**0.9**	**6.4**	**-0.5**	**-7.6**	**-19.4**
Developing countries	**5.2**	**4.6**	**3.1**	**0.4**	**5.6**	**6.3**	**2.5**	**0.4**
Africa	19.5	-0.7	0.0	2.1	17.8	6.5	5.7	1.5
Sub-Saharan Africa	2.0	2.7	1.5	0.6	9.2	8.4	4.6	1.6
Latin America and the Caribbean	4.1	1.9	3.3	2.9	2.4	3.6	0.2	-1.8
East Asia	5.0	6.7	4.9	-0.5	3.2	8.9	2.8	-1.6
of which:								
China	6.2	7.7	6.8	-0.9	3.6	9.9	3.9	-2.2
South-East Asia	1.8	4.7	3.5	-0.3	5.4	4.3	1.7	2.8
South Asia	-6.1	4.1	5.2	-0.2	4.1	-0.4	4.6	7.2
of which:								
India	-1.8	8.5	3.5	-2.1	5.7	-0.3	3.2	10.1
West Asia	6.8	3.8	-2.3	2.0	11.4	7.4	1.8	2.0

Source: UNCTAD secretariat calculations, based on *UNCTADstat* and national sources.

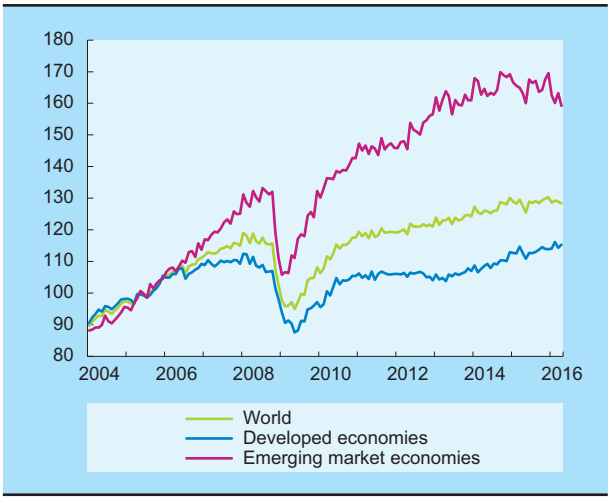
large developing countries and economies in transition appeared to be subdued. In Japan, by contrast, both imports and exports declined in real terms, with imports showing the effects of domestic factors while exports faced headwinds from the weak demand emanating from developing Asia.

Likewise, in developing Asia, all the subregions except West Asia, registered declines in real exports. The contraction in both exports and imports in East Asia had adverse effects on the trade dynamics of many manufacturing export-dependent economies of the region. In particular, China's declining trade weighed on regional trade flows. Real imports by China declined by 2.2 per cent in 2015 – the first negative figure in decades – due to slower growth in manufacturing (affected by weak external demand) and private investment, as well as internal rebalancing. In addition to depressed demand from developed economies, increasing competition from other lower cost producers further affected China's exports, leading to a decline of 0.9 per cent in 2015. This decline in Chinese international trade affected the entire region: China is the largest export market for some of the key manufacturing economies of developing Asia, such as

Chart 1.1

IMPORT VOLUME, SELECTED COUNTRY GROUPS, JANUARY 2004–APRIL 2016

(Index numbers, 2005 = 100)



Source: UNCTAD secretariat calculations, based on the CPB Netherlands Bureau of Economic Policy Analysis, *World Trade* database.

Note: Emerging market economies excludes Central and Eastern Europe.

the Republic of Korea, Singapore, Taiwan Province of China and Thailand, and the second largest market for Japan and Viet Nam. Some smaller economies in the region are very dependent on exporting to China, such as Mongolia (with 90 per cent of exports going to China), Lao People's Democratic Republic, Turkmenistan and Viet Nam (ESCAP, 2016).

In South-East Asia, while exports declined, imports remained subdued owing to domestic factors such as slower job creation in Indonesia and high household debt levels in Malaysia and Thailand. In South Asia, by contrast, import growth accelerated as lower energy and other commodity prices improved economic prospects in India and other economies of the subregion. International trade in several transition economies in North and Central Asia registered a marked deterioration in 2015, as the deep plunge in the global prices of oil, gas and minerals slashed export earnings and led to steep currency depreciations, inflation and recession. All these factors greatly affected the volume of imports (almost -20 per cent in 2015) without improving that of exports (ESCAP, 2016).

In Africa, many countries have been hard hit by the decline in commodity prices and negative spillovers from developing Asia. Major oil exporters like Angola and Nigeria have been severely affected. Meanwhile, for oil-importing African countries which rely on exporting other commodities, the benefits of cheaper energy imports were offset by the general decline in other commodity prices in a context of depressed foreign demand. In South Africa, the largest trading partner for most other African countries, slower growth in export volumes despite the depreciation of the currency, along with the decline in commodity prices, have meant only marginal growth in the nominal value of merchandise exports.

In Latin America and the Caribbean, plunging commodity prices have also had major impacts on the region's average export revenues in 2015, after the region registered its worst terms-of-trade deterioration since 1986 (ECLAC, 2016). Countries whose exports are concentrated mainly in hydrocarbons, such as the Plurinational State of Bolivia, Colombia, Ecuador, Trinidad and Tobago, and the Bolivarian Republic of Venezuela, were among the hardest hit, followed by countries whose main exports are minerals and metals and agro-industrial products, since these countries benefited to some extent from the lower oil prices. By contrast, many Central American and Caribbean countries enjoyed improved terms of trade. In the region as a whole, the drop in the value of exports (-15 per cent) was the result of falling prices. In real terms, export volumes increased 2.9 per cent, with, for instance, Mexico's manufacturing exports improving markedly owing to currency depreciation and robust demand from the United States. On the import side, many countries registered a decline in real imports. In Brazil, for instance, imports declined in all major trade categories, including fuel, durable consumer goods, capital goods, intermediate goods and non-durable consumer goods. Meanwhile, imports fell sharply in the Bolivarian Republic of Venezuela owing to the shortage of foreign currency. Also, in Ecuador, balance-of-payment safeguard policies and the economic slowdown reduced imports (ECLAC, 2016).

(b) Services

Trade in services declined by 6.1 per cent in 2015 in terms of current dollars. Developing economies were less affected by the trade slowdown (-2.7 per cent) than developed ones (-7.3 per cent) or transition countries (-15.4 per cent), while least developed countries (LDCs) showed an increase in services exports of 1.3 per cent in 2015. However, just as for goods trade, this decline was partly due to the dollar appreciation: at constant prices, trade in services performed significantly better. Indeed, quantity indicators for two of its main subcomponents, travel and transport – which account for 25 per cent and 20 per cent of services trade, respectively – continued to expand in 2015.

International tourism receipts grew by 4.4 per cent in 2015 in real terms (taking into account exchange rate fluctuations and inflation). This was in line with a 4.6 per cent increase in international arrivals in 2015, reaching a total of almost 1.2 billion. These receipts grew in all main regions, led by the Americas (7.8 per cent), Middle East (4.3 per cent) and Asia and the Pacific (4 per cent); they are followed by Europe (3 per cent) and Africa (2 per cent). At the country level, Japan and Thailand reaffirmed their place as major international destinations, with tourist arrivals up by 47 and 20 per cent compared with 2014, while Nepal and Tunisia registered sharp declines in arrivals (UNWTO, 2016a).

A few leading economies, in particular China, the United Kingdom and the United States, led outbound tourism last year. The number of outbound travellers from China rose 10 per cent to 128 million, benefiting Asian destinations such as Japan and Thailand as well as the United States and various European destinations. China's outbound tourism expenditure has been expanding at double-digit rates every year since 2004; it further increased by 25 per cent in 2015 to reach $292 billion. The number of residents travelling abroad from the United States and the United Kingdom (the world's second and fourth largest source countries) increased by 8 per cent and 9 per cent respectively in 2015 (UNWTO, 2016b).

The second largest category of commercial services relates to international transport. World seaborne trade volumes expanded by 2.1 per cent in 2015, surpassing 10 billion tons for the first time in history. But growth was notably slower than the expansion of the last decade: international seaborne trade volumes expanded at an even slower rate of 1.7 per cent, down from 5.6 per cent recorded in 2014. A key reason for this slowdown was weaker Chinese merchandise trade (UNCTAD, 2016).

3. Recent developments in commodity markets

(a) General evolution of commodity prices

Commodity prices continued to plunge in 2015. All commodity groups experienced even larger price declines than in 2014, with crude oil prices falling the most (table 1.3). Plummeting oil prices explain the contraction of almost 37 per cent in the commodity prices index, which was even larger than the 29 per cent decline seen in 2009 after the global financial crisis erupted (non-oil commodities prices contracted by 17 per cent, as in 2009). Since March 2016, the downward trend in commodity prices appears to have been arrested, and in some cases reversed (see chart 1.2).

The main factors behind the relatively low levels for most commodity prices throughout 2015 were persistent oversupply, and associated levels of inventories. Since 2011 and continuing to 2015, supply increases have been larger than demand growth for most commodities, with weak demand in the context of slow global growth. This may change as a result of supply adjustments following low price levels. But on the demand side, slower growth in emerging economies is likely to continue to have a significant negative impact on prices. China's rebalancing towards domestic consumption and services could alter its commodity demand patterns and have a large impact on global markets, although such concerns may be overstated. In general, Chinese demand for commodities has remained robust in recent years (see table 1.4). Thus, in 2015 Chinese copper imports increased by 8.7 per cent, by volume, while those of crude oil increased by 8.8 per cent.[5]

Despite some recent changes, the financialization of commodity markets remains a major factor in determining prices (see *TDR 2015*, annex to chapter I). Since 2011, major transnational banks that were earlier active in commodities retreated from this market in response to regulatory changes in the United States and the European Union, as well as the declining profitability of financial investment in commodities because of lower prices. However, this gap was to some extent filled by banks from other countries and other agents like major trading companies (Jégourel, 2015a and 2015b), as well as the growing importance of commodity exchanges in Asia, and particularly in China. Recent increases in commodity prices in the first half of 2016 have been associated with a revival of financial market interest in commodities, as reflected in the 29 per cent increase (since December 2015) in commodity assets under management to reach $220 billion by the end of April 2016, a level similar to that of 2008.[6] Commodity prices also rallied in early 2016 due to the surge in Chinese speculative commodities trading, which was especially evident for iron ore, steel, coal and cotton until regulatory measures in China led to some correction.[7]

(b) Specific market developments by major commodity group

In the energy commodities group, crude oil prices declined by 47.2 per cent in 2015. The price of Brent crude oil reached a low of $30.8 a barrel for its monthly average of January 2016. It recovered in the subsequent months to levels of around $50 per barrel in May–June 2016 (*UNCTADstat*).

Table 1.3

WORLD PRIMARY COMMODITY PRICES, 2010–2016

(Percentage change over previous year, unless otherwise indicated)

Commodity groups	2010	2011	2012	2013	2014	2015	2016[a]	2015-2016 versus 2003-2008[b]
All commodities[c]	**24.6**	**26.4**	**-2.0**	**-3.2**	**-7.1**	**-36.7**	**-14.5**	**-4.9**
Non-fuel commodities[d]	**20.4**	**17.9**	**-8.3**	**-6.7**	**-6.1**	**-16.9**	**-4.2**	**17.3**
Non-fuel commodities (in SDRs)[d]	**21.7**	**14.1**	**-5.5**	**-6.0**	**-6.1**	**-9.7**	**-4.2**	**26.2**
All food	**7.4**	**17.8**	**-1.4**	**-7.4**	**-4.1**	**-14.8**	**-0.7**	**33.8**
Food and tropical beverages	**5.6**	**16.5**	**-0.4**	**-6.7**	**-3.8**	**-14.2**	**-1.6**	**37.0**
Tropical beverages	17.5	26.8	-21.5	-18.3	23.5	-8.1	-7.3	47.8
Coffee	27.3	42.9	-25.7	-23.6	29.9	-19.7	-5.7	38.1
Cocoa	8.5	-4.9	-19.7	2.0	25.6	2.3	-3.0	69.8
Tea	-1.0	11.4	0.8	-23.9	-10.4	43.1	-20.4	42.9
Food	4.4	15.4	2.0	-5.7	-5.9	-14.8	-1.0	35.9
Sugar	17.3	22.2	-17.1	-17.9	-3.9	-21.0	17.2	37.9
Beef	27.5	20.0	2.6	-2.3	22.1	-10.5	-13.2	68.0
Maize	13.2	50.1	2.6	-12.1	-22.2	-14.7	-2.7	24.3
Wheat	3.3	35.1	-0.1	-1.9	-6.1	-23.1	-12.8	4.1
Rice	-11.5	5.9	5.1	-10.6	-17.8	-10.9	1.1	10.6
Bananas	3.7	10.8	0.9	-5.9	0.6	2.9	5.9	59.4
Vegetable oilseeds and oils	**22.7**	**27.2**	**-7.6**	**-12.6**	**-5.8**	**-19.8**	**6.8**	**12.8**
Soybeans	3.1	20.2	9.4	-7.9	-9.7	-20.6	1.7	16.6
Agricultural raw materials	**38.3**	**28.1**	**-23.0**	**-7.4**	**-9.9**	**-13.6**	**-4.7**	**8.5**
Hides and skins	60.5	14.0	1.4	13.9	16.5	-20.6	-20.1	20.7
Cotton	65.3	47.5	-41.8	1.5	-8.8	-14.7	-1.9	13.1
Tobacco	1.8	3.8	-3.9	6.3	9.1	-1.7	-4.8	60.4
Rubber	90.3	32.0	-30.5	-16.7	-30.0	-20.3	-4.9	-14.0
Tropical logs	1.8	13.4	-7.1	2.6	0.4	-16.5	0.5	7.3
Minerals, ores and metals	**41.3**	**14.7**	**-14.1**	**-5.1**	**-8.5**	**-22.0**	**-11.4**	**-5.4**
Aluminium	30.5	10.4	-15.8	-8.6	1.1	-10.9	-7.2	-24.1
Phosphate rock	1.1	50.3	0.5	-20.3	-25.6	6.5	-1.7	20.5
Iron ore	82.4	15.0	-23.4	5.3	-28.4	-42.4	-6.6	-32.2
Tin	50.4	28.0	-19.2	5.7	-1.8	-26.6	0.8	54.5
Copper	47.0	17.1	-9.9	-7.8	-6.4	-19.8	-14.6	7.9
Nickel	48.9	5.0	-23.4	-14.3	12.3	-29.8	-26.8	-46.5
Lead	25.0	11.8	-14.2	3.9	-2.2	-14.8	-3.1	27.3
Zinc	30.5	1.5	-11.2	-1.9	13.2	-10.6	-7.1	-2.8
Gold	26.1	27.8	6.4	-15.4	-10.3	-8.4	5.2	108.9
Crude petroleum[e]	**28.0**	**31.4**	**1.0**	**-0.9**	**-7.5**	**-47.2**	**-23.6**	**-20.3**
Memo item:								
Manufactures[f]	**3.0**	**8.9**	**-1.7**	**3.6**	**-1.3**	**-9.8**	**..**	**..**

Source: UNCTAD secretariat calculations, based on *UNCTADstat*; and United Nations Statistics Division (UNSD), *Monthly Bulletin of Statistics*, various issues.

Note: In current dollars unless otherwise specified.

a Percentage change between the average for the period January to June 2016 and the average for 2015.

b Percentage change between the 2003–2008 average and the 2015–2016 average.

c Including crude oil and gold.

d Excluding crude oil and gold. SDRs = special drawing rights.

e Average of Brent, Dubai and West Texas Intermediate, equally weighted.

f Unit value of exports of manufactured goods of developed countries.

The world oil market moved from a balanced situation in 2012–2013 to excess supply in 2014 and 2015 (*TDR 2015*). World oil demand expanded from 90.7 million barrels per day (mbd) in 2012 to 94.7 mbd in 2015. Non-OECD countries accounted for 96 per cent of this increase, with 68 per cent coming from China, India and other Asian countries.[8] Meanwhile, world oil supply increased from 90.9 mbd in 2012 to 96.4 mbd in 2015. A number of OPEC countries have continued to pump oil at high levels in 2016;[9] in particular, the Islamic Republic of Iran has been significantly increasing its oil production after its return to world markets, at an even faster rate than expected, in order to reach its pre-sanction levels.

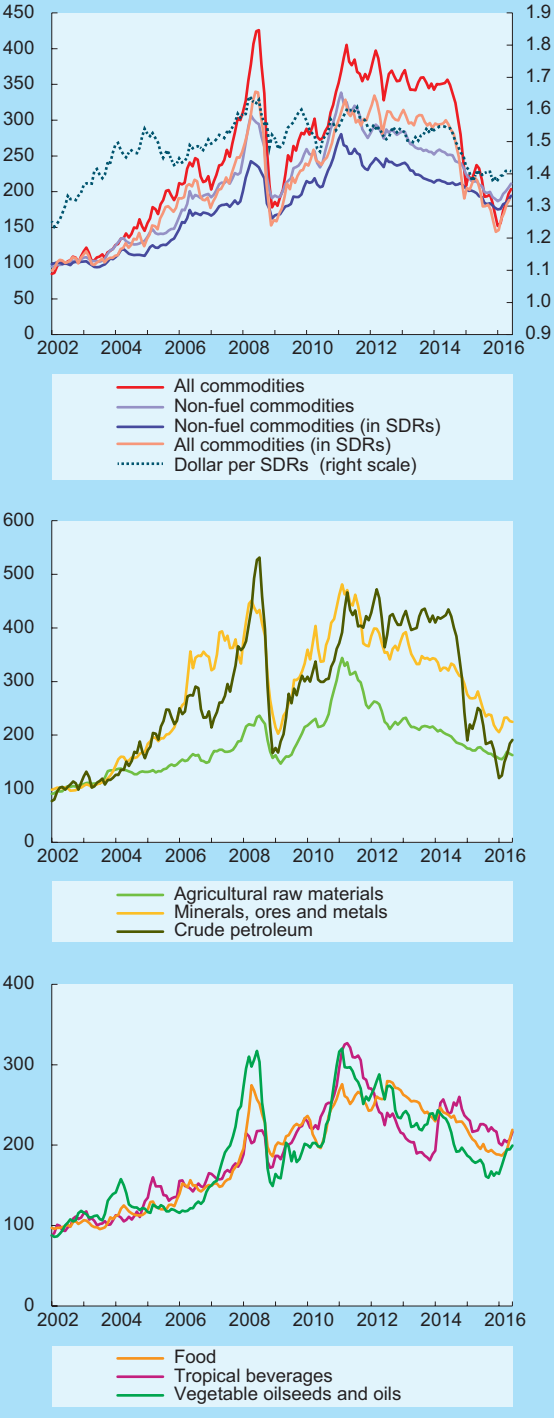
By contrast, in the United States, oil supply has been falling in response to lower oil prices: crude oil production fell from an average of 9.4 mbd in 2015 to 8.7 mbd in May 2016, and is forecast to decline further to 8.2 mbd in 2017 (EIA, 2016).[10] The capacity of oil production to rapidly recover if oil prices rise again is uncertain, due to financial reasons. Many oil producers in the United States had increased their production based on substantial borrowing, and so low prices have led to financial difficulties and increased bankruptcies in this sector. In addition to reduced oil production in the United States, unplanned supply disruptions in Canada, Ghana and Nigeria meant that world oil supply declined slightly in the first quarter of 2016.

Modest growth in the global economy and slower demand growth in emerging markets negatively affected prices of the minerals, ores and metals group, which tend to be highly correlated with global industrial activity. In 2015, many metal markets continued to register production overcapacity, with iron ore and nickel being the worst performing. In some cases, oversupply was exacerbated by big mining companies increasing their production despite lower prices, in order to drive less profitable producers out of the market; in general, mining companies initially responded to lower prices by trying to curb costs but maintain volumes, so inventories remained high. Nevertheless, the market seems finally to be reacting to the price drop, with cuts in production or announcements to do so for some minerals, ores and metals such as lead and zinc, and to a lesser extent aluminium and copper.[11] Actual and planned production cuts in oil production, as well as in the minerals and metals sectors, suggest that supply adjustment

Chart 1.2

MONTHLY COMMODITY PRICE INDICES BY COMMODITY GROUP, JANUARY 2002–JUNE 2016

(Index numbers, 2002 = 100)



Source: UNCTAD secretariat calculations, based on *UNCTADstat*.
Note: Crude oil price is the average of Brent, Dubai and West Texas Intermediate, equally weighted. Index numbers are based on prices in current dollars, unless otherwise specified.

Table 1.4

COMMODITY CONSUMPTION IN CHINA, SELECTED COMMODITIES, 2002–2015

	Consumption volume		*Share in world consumption (Per cent)*		*Annual growth rate (Per cent)*					
	2002	*2015*	*2002*	*2015*	*2003–2008*	*2009–2011*	*2012*	*2013*	*2014*	*2015*
Aluminium (refined)	4 115	31 068	16.2	54.4	21.3	12.4	14.4	8.4	23.9	14.2
Copper (refined)	2 737	11 353	18.2	50.2	10.8	14.1	12.9	10.5	15.0	0.4
Nickel (refined)	84	964	7.1	50.3	26.0	22.7	4.4	3.6	-6.2	13.8
Coffee	0	2 463	0.0	1.7	128.2	109.9	-1.3	55.1	35.4	12.2
Cotton	28 950	32 500	29.6	29.9	8.6	-4.3	-5.3	-4.2	-4.3	-1.5
Corn	125 900	217 500	20.1	22.2	3.6	7.3	6.4	4.0	-2.9	7.7
Rice	135 700	146 000	33.4	30.6	-0.6	1.5	1.0	1.4	1.0	1.0
Wheat	105 200	112 000	17.5	15.9	0.1	4.9	2.0	-6.8	0.0	-3.9
Soybeans	35 290	95 250	18.5	30.0	7.3	11.9	5.7	5.8	8.2	9.2
Oil	248	560	6.8	12.9	7.1	7.8	4.8	4.3	3.9	6.3

Source: UNCTAD secretariat calculations, based on *World Metal Statistics Yearbook*, various issues; *BP Statistical Review of World Energy 2016*; and United States Department of Agriculture, *Production, Supply and Distribution* online database.

Note: Data for the volume of consumption are in thousand tons for metals, cereals and soybeans, in million tons for oil, in thousand 48 lb. bales for cotton and in thousand 60 kilogram bags for coffee.

has already begun. This is likely to continue over the next few years as oil and mining companies cut their exploration and investment expenditures.

Gold prices tend to be delinked from those of other minerals, ores and metals because of its role as a store of value. Gold prices experienced the lowest average decline in 2015 and have risen in the first half of 2016, in response to increasing investor demand. This suggests continued concerns about the prospects of the global economy and the effects of the delayed decision by the United States Federal Reserve to increase interest rates.

Price changes in the agricultural commodities group have been more diverse in 2015 and the first half of 2016. Prices in this group have been mostly determined by weather conditions but producers have also benefited from the lower price of oil. In the subgroup of food commodities, cereal prices remained subdued as a result of abundant crops in major producing countries for several years and high inventory levels. The El Niño meteorological phenomenon has affected crop conditions in some food commodities, particularly in Africa and Asia, and raised concerns about food prices and food insecurity in affected regions, but the comfortable level of inventories has prevented much of an impact on international prices in 2015.

Like minerals, oils and metals, price movements of agricultural raw materials follow the industrial production cycle. After several years of decline, cotton prices remained relatively stable at low levels as production was lower than consumption, but levels of stocks remained high. Natural rubber prices continued to decline in 2015, but have rebounded in the first half of 2016, pointing to the success of the export quota scheme agreed by the International Tripartite Rubber Council (World Bank, 2016), which includes the three major producing countries, Indonesia, Malaysia and Thailand.

4. International capital flows to developing economies

In the past half century, developing economies received three main waves of net capital flows, in 1975–1981, 1991–1997 and 2004–2011; in each case these were followed by periods of steep reductions or reversals. Net capital flows are the difference between net capital inflows (increases minus reductions of liabilities towards non-residents) and net capital outflows (changes in net foreign assets earned by residents). During the 1970s and 1980s, capital outflows from developing economies were modest, and overall net capital flows to these economies resulted almost exclusively from foreign investor decisions, as reflected in net inflows. By the mid-1990s, emerging economies also started to be a source of capital outflows, and some of them gained relevance as international financial centres. This explains the simultaneous increase or decrease of net inflows to and outflows from emerging economies at moments of great expansion (as in 2007) or retraction (as in 2009) of capital flows.

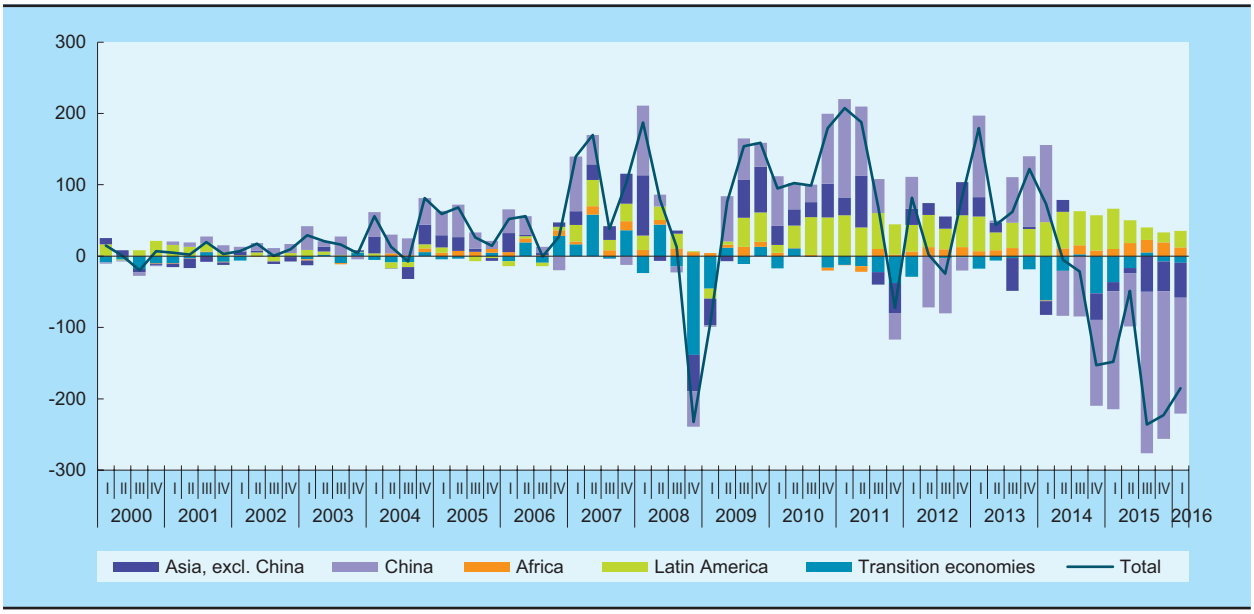
Since the onset of the global financial crisis, and in the wider context of their fast integration into international financial markets, developing countries, and in particular emerging market economies, have been exposed to highly volatile capital flows. Strong surges in capital flows have alternated with repeated dips in rapid succession.

The surge in capital flows to developing and emerging economies between 2010 and the first quarter of 2014 (see chart 1.3) took place in the context of monetary expansion in some major economies, led by the asset purchasing programmes (or quantitative easing policy) of the United States Federal Reserve. These dramatically lowered the yields of financial

Chart 1.3

NET CAPITAL FLOWS FOR SELECTED COUNTRY GROUPS, 2000–2016

(Billions of dollars)



Source: UNCTAD, *Financial Statistics Database*, based on IMF, *Balance of Payments Database*; and national central banks.

Note: The samples of economies by country group are as follows: *Transition economies*: Kazakhstan, Kyrgyzstan, the Russian Federation and Ukraine. *Africa*: Botswana, Republic of Cabo Verde, Egypt, Ghana, Mauritius, Morocco, Mozambique, Namibia, Nigeria, South Africa, the Sudan and Uganda. *Latin America*: Argentina, the Plurinational State of Bolivia, Brazil, Chile, Colombia, Ecuador, El Salvador, Mexico, Nicaragua, Paraguay, Uruguay and the Bolivarian Republic of Venezuela. *Asia excluding China*: Hong Kong (China), India, Indonesia, Jordan, Lebanon, Malaysia, Mongolia, Pakistan, Philippines, the Republic of Korea, Saudi Arabia, Singapore, Sri Lanka, Thailand, Turkey and Viet Nam.

assets in major financial centres, prompting a change in investors' portfolio allocation decisions in favour of the (riskier) emerging market "asset class". The perception that these economies had "decoupled" from the developed world to deliver self-sustaining high growth rates further strengthened this direction of flows. The end of the Federal Reserve's asset purchasing programme in 2014 clearly had an impact on the reversal of flows, but the most relevant factors were the protracted slowdown in developed-country growth, combined with steep falls in commodity prices, both of which adversely affected developing country exports and growth prospects. Changing prospects reinforced capital outflows, as the "carry trade" positions began to make losses and were rapidly unwound. This said, capital flow movements had proved highly volatile throughout this period, with the eventual turning point of 2014 having been preceded by a series of shorter dips in capital flows to developing economies since 2008.[12]

The pronounced decline in net inflows since mid-2014 and in particular throughout 2015 drove aggregate net capital flows into negative territory, for the first time since the Latin American debt crisis in the second half of the 1980s. Foreign investors exited large developing and transition economies, especially in the fourth quarter of 2015 when withdrawals of capital of non-residents became larger than inflows. In the aggregate, overall capital net flows were negative by about $656 billion in 2015;[13] about 2.7 per cent of the total GDP of these countries. The turnaround of 4.4 percentage points of GDP from a surplus of 1.7 per cent in 2013 is much larger than the "sudden stops" of 1981–1983 (a decline in net flows from 2.8 per cent of GDP to 0.6 per cent), 1996–1998 (from 2.8 to 0) and 2007–2008 (from 3.1 to 0.2 per cent of GDP). The recent drop in net capital inflows into emerging economies was due to a reversal in "other investment liabilities" (from 1.4 in 2014 to -1.2 per cent of GDP in 2015) and a decline in portfolio flows (from 1.4 to 0.1 per cent of GDP), which more than offset the marginal rise in foreign direct investment (FDI), from 3 to 3.3 per cent of GDP.[14]

The reversal in net capital flows was most pronounced in Asia, especially in China (in fact, the bulk of the negative net capital flows since 2014 is explained by China alone), but also hit emerging economies in Eastern Europe and the Russian Federation. By contrast, Latin America and countries such as India and South Africa continued to receive positive net capital flows. China's net capital flow deficit in 2015 amounted to around 4.5 per cent of GDP, driven by external debt repayments by non-financial corporates, the unwinding of carry trade operations, a decline in offshore convertible renminbi deposits,[15] and outward FDI that increased to 1.8 per cent of GDP, approaching the level of inward FDI flows (2.4 per cent of GDP). The gradual recovery in net inflows to developing economies observed in the first quarter of 2016 continued to be offset by outflows from residents, which maintained net capital flows in negative territory.

Recently there has been a revival of risk appetite in global financial markets that once again attracted investors to emerging economies. In the first half of 2016, the currencies of large emerging market economies strengthened against the dollar, and the prices of both financial assets and commodities rose. As in previous financial cycles, there is a significant correlation in the direction and the intensity of capital flows across large developing economies, which suggests that common factors like developed country policies and risk perceptions largely determine capital movements (*TDR 2013; TDR 2014*).[16] With financial globalization, economists have stressed the importance of "push factors" – mainly changes to global liquidity and risk – as the main determinants of surges and reversals in capital flows, giving "pull factors", i.e. country-specific factors and demand, only a secondary role. Global factors act as "gatekeepers", whereas "pull factors" – in particular the foreign exchange regime – explain different degrees of exposure to changes in global conditions and the final magnitude of the surge in particular countries (Fernández-Arias, 1996; Cerutti et al., 2015).

The cyclical nature of these cross-border capital flow movements, as opposed to their mere volatility, is worth emphasizing, not least because these financial cycles are at the heart of growing challenges to developing country debt sustainability and the increased likelihood of substantial sovereign debt crises. Easy access to cheap credit in boom times has led to growing debt levels across the developing world. Developing country external debt stocks alone rose from $2.1 trillion in 2000 to $6.8 trillion in 2015, while overall debt levels (foreign and domestic, excluding financial sector debt) rose by over $31 trillion between 2000 and 2014, with total debt-to-GDP ratios in many developing countries reaching over 120 per cent, and in some emerging economies

over 200 per cent.[17] Only a couple of years ago, the amount of debt low-income developing countries could have sold to keen investors seemed almost limitless. International sovereign bond issuances in these economies rose from a mere $2 billion in 2009 to almost $18 billion by 2014.

But with the tide turning and access to cheap credit beginning to dry up, the risks of fast integration into international financial markets have become apparent. Developing countries have expanded and opened up their domestic financial markets to non-resident investors, foreign commercial banks and financial institutions; they have allowed their citizens to invest abroad and, as mentioned, many developing country governments engaged in raising finance in developed country financial markets. Against the backdrop of falling commodity prices and weakening growth in developed economies, borrowing costs have been driven up very quickly, turning what seemed reasonable debt burdens under favourable conditions into largely unsustainable debt. But the procyclical nature of capital flows – cheap during a boom and expensive during downturns – is not the only drawback. Once a crisis looms, currency devaluations to improve export prospects simultaneously increase the value of foreign-currency denominated debt. For commodity exporters, the need to meet rising debt servicing requirements also generates pressures to continue to produce, potentially worsening excess supply constraints and downward pressures on commodity prices (Akyüz, 2016).

More generally, additional factors add to the market risks, such as high maturity risks in particular in domestic bond markets and interest rate risks. Finally, growing contingent liabilities – whether stemming from public-private partnership contracts or from the need to transfer high and systemically important corporate debt onto public balance sheets – tend to become more visible once things go wrong. Thus, in the current circumstances, the many downsides of excessive financial and capital account liberalization may well mean that the international community should prepare for managing debt workouts in a faster, fairer and more orderly manner than is currently the case. Already, several countries have turned to multilateral lending institutions, such as the IMF and the World Bank, in order to obtain financial assistance: Angola, Azerbaijan, Ghana, Kenya, Mozambique, Nigeria, Zambia and Zimbabwe have already asked for bailouts or are in talks to do so.

C. The slowdown of global trade

The growth of global merchandise trade volume slowed to around 1.5 per cent in 2015, from 2.3 per cent in 2014, and the slow pace has continued through the first half of 2016. This trend, which began in 2012, has been more pronounced than for world output.

To many observers this prolonged period of sluggish trade – the longest since the early 1980s – is a principal reason for the weakness in global growth since the financial crisis, just as its revival is seen as the best hope for recovery, overcoming other aggregate demand constraints. Accordingly, measures to increase external competitiveness and facilitate trade have become a policy priority, especially in developed economies. Despite their adoption, the fact that trade has continued to slow down suggests limits to such measures and raises the possibility that they may even be self-defeating.

First, domestic demand, on which trade depends, is not an exogenous outcome for policymakers; many of the measures adopted to boost export market shares tend to weaken aggregate demand (*TDR 2012; TDR 2013*). Second, by limiting the role of the public sector and accelerating the pace of financial liberalization, the policy space to manage a sustained recovery is significantly narrowed (*TDR 2014; TDR 2015*). Third, what may appear sensible from the perspective of a single country or group of countries, like aiming at net export gains, runs into a "fallacy of

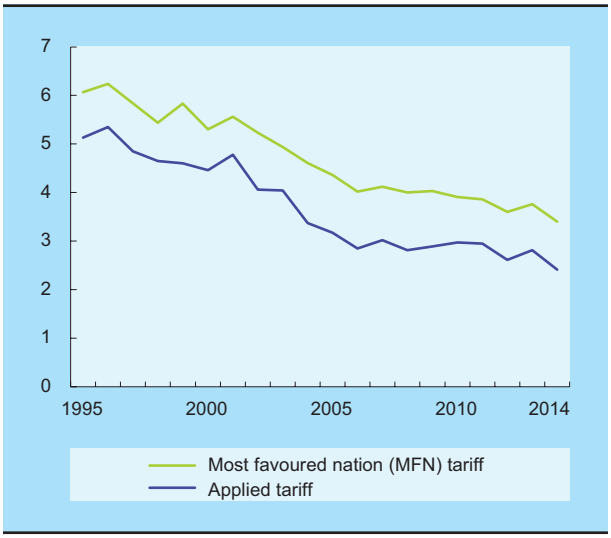
composition" at the global level (not all countries can be net exporters) and can exacerbate a "race to the bottom" that worsens the sustainability of global demand (*TDR 2014*).

Yet, despite the fact that the measures to increase competitiveness have contributed to, or at least preceded, the global trade slowdown, policy-makers in many countries continue to see them as the only route to the recovery of trade, and, by implication, economic growth. Indeed, governments in both developed and developing countries have been pursuing mega regional trade and investment agreements, as a more comprehensive and workable approach to boosting trade and advancing economic integration than through discussions at the multilateral level. The prominent place that such agreements have taken in official policy discussions, and even electoral campaigns, calls for full and careful scrutiny. This is not the aim of this section. Rather, the focus is more narrow on whether the current deceleration of global trade can be attributed to obstacles that would be lifted by enacting such trade and investment agreements.

Chart 1.4

AVERAGE GLOBAL TARIFFS, 1995–2014

(Per cent)



Source: UNCTAD secretariat calculations, based on UNCTAD, *TRAINS*; and WTO, *I-TIP* databases.

1. *Preliminary observations on the causes of the trade slowdown*

It has been argued that trade has slowed because of rising protectionism since the global crisis (Evenett, 2014). However, apart from isolated cases concerning a few products (such as some metal products), there is little evidence that tariff changes explain the prolonged sluggishness of global trade. Average tariff figures have been declining steadily since the establishment of the World Trade Organization (WTO), and are currently at historic lows (chart 1.4). Moreover, any partial tariff increases were certainly not on a scale that could explain the sharp slowdown in trade.

Global averages could, of course, be misleading given the uneven geographical distribution of trade. For a detailed analysis of import tariffs by region over the period 2008–2012, the period of trade slowdown, see UNCTAD (2015a). It shows trade restrictiveness measures from the perspective of importers as well as exporters, confirming that while the group of developed countries has broadly maintained the same level of tariff restrictions over these years, most developing regions have reduced such restrictions (with the partial exception of South Asia, showing a negligible increase of less than half a percentage point). In terms of market access defined by the levels of import tariffs faced by exports from different regions, a similar conclusion can be reached: developed countries faced lower tariff restrictions in 2014 than in 2011 or 2008, as did countries in South Asia, West Asia and Africa. Meanwhile, East Asia, Latin America and economies in transition faced similar or higher tariffs for their exports to developed countries than in 2008. In sum, while the aggregate picture confirms small changes in tariffs since the financial crisis, developing countries overall have made more concessions than developed countries in recent years.

On a bilateral basis, the same indices of restrictiveness suggest that even though many developing countries still have higher levels of applied tariffs than developed countries, these have declined since 2008 in most regions, especially within regions (see table 1.5).

This empirical evidence suggests that neither the current level of average tariffs nor their trend in

Table 1.5

AVERAGE LEVELS OF TARIFFS BETWEEN COUNTRY GROUPS IN 2014 AND CHANGES BETWEEN 2008 AND 2014

(Per cent and percentage points)

		Exporting group						
		East Asia	Latin America	South Asia	Sub-Saharan Africa	Transition economies	West Asia and North Africa	Developed countries
Importing group	East Asia	2.6 [-0.7]	4.5 [-0.2]	3.2 [-0.9]	1.9 [0.1]	2.6 [0.0]	1.6 [-0.2]	5.2 [-0.6]
	Latin America	9.2 [-0.4]	1.1 [-0.6]	9.7 [-0.5]	1.5 [-0.3]	2.1 [0.5]	2.9 [-0.2]	3.8 [-0.3]
	South Asia	13.2 [0.8]	10.2 [-3.7]	7.1 [-0.7]	4.5 [-2.0]	7.4 [0.4]	5.2 [-2.9]	10.6 [0.8]
	Sub-Saharan Africa	11.4 [-0.2]	9.1 [0.0]	8.1 [0.3]	3.9 [-0.7]	6.9 [-0.4]	5.1 [-0.3]	7.5 [-0.7]
	Transition economies	6.7 [-2.4]	9.0 [-2.7]	6.7 [-2.5]	1.7 [-1.2]	0.4 [0.3]	6.2 [-1.4]	4.6 [-2.0]
	West Asia and North Africa	5.6 [-0.3]	5.4 [-1.3]	4.0 [0.1]	3.5 [-0.4]	6.9 [3.0]	1.6 [-0.3]	3.7 [-0.7]
	Developed countries	2.7 [0.3]	1.1 [0.3]	2.9 [0.0]	0.3 [-0.2]	1.1 [0.2]	0.4 [-0.1]	1.8 [-0.3]

Source: UNCTAD, 2015a.

Note: The cells in the matrix show the tariff trade restrictiveness index (TTRI) calculated for the imports of the regions in the rows which are experienced by the exporting regions of the columns. Numbers in brackets show the percentage change of the TTRI from 2008 to 2014.

recent years can be seen as an explanation for the slow growth of global trade or an obstacle to future recovery. Moreover, given that the level of "applied tariffs" by countries, aggregated at the global level, has remained considerably and consistently below the corresponding level of most favoured nation tariffs (chart 1.4), the claims of increased tariff protectionism would appear to be at least exaggerated.

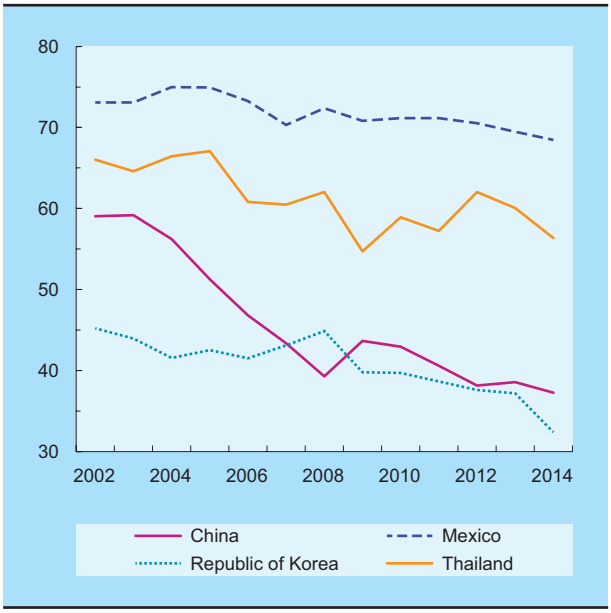
Concerns have also been raised about a possible surge of hidden or "murky" protectionism since the global financial crisis, to the extent that the trade slowdown has been attributed to rising "non-tariff measures" (NTMs) applied, in particular, to specific product lines. This is a more nuanced (and more difficult to measure) aspect of trade policy, since NTMs cover a wide array of regulatory issues, standards, technical requirements, environmental and health conditions, etc. As noted in *TDR 2014*: 91, the association of these measures with a "murky" form of protectionism "is problematic, since it also includes several measures that have an important public policy purpose, not only for promoting financial stability and preventing drastic declines in employment, but also for building domestic productive capacity and protecting consumers". Moreover, "the assessments of the impact of these measures rely entirely on subjective judgement".

UNCTAD has made progress in generating indices of NTMs but the indicators are still quite fragmentary. They measure the number of NTMs and because of their qualitative nature they are not comparable across countries. A proper assessment of these measures requires in most instances a case-by-case analysis and may even involve following up litigation processes in some depth (UNCTAD, 2015b). Aside from the difficulty of measuring NTMs, what

Chart 1.5

DEGREE OF IMPORT DEPENDENCY OF EXPORTING INDUSTRIES IN SELECTED COUNTRIES, 2002–2014

(Per cent)



Source: UNCTAD secretariat calculations, based on *UN Comtrade*; and *UNCTADstat*.

is even more difficult is to quantify their impact on global trade volumes (Raza et al., 2014). Needless to say, a number of NTMs, particularly in relation to standards (quality of products, production processes) and also in relation to compliance with patents and other regulations, have historically contributed to constrain market access of developing countries to developed countries. Yet, this is not an emergent problem explaining the slowdown in recent years.[18]

Beyond issues of trade policy, another possible factor explaining the observed trade deceleration is the changing structure of demand, particularly in systemically important economies. A shift in the composition of demand towards services or away from investment goods might offer an explanation, but neither the timing of the trade surge or its subsequent decline would seem consistent with such shifts in the structure of global demand. A more compelling explanation is based on the evolution of international production networks (Constantinescu et al., 2015). The rise of global value chains, given their heavy reliance on imported parts and components for processing and re-export, and the very high elasticity of trade between the mid-1980s and the early 2000s, can be explained by the establishment of the first stages of these chains. As developing countries participating in such chains diversify their economies and develop additional skills and technologies, it is possible that a greater proportion of the inputs used in their tradeable sectors could be produced domestically, leading to a reduction of global trade elasticity.

If a sufficiently large trade partner, or a large group, evolves rapidly from one stage to the other (a phenomenon characterized as "shrinking chains") then there is likely to be an immediate impact on the volume of global trade. Chart 1.5 shows that this was apparently the case for China, which managed to reduce the import dependence indicator of its manufacturing exports from about 60 per cent in 2002 to 40 per cent in 2008.[19] The ratios for other countries have remained flat over the same period.[20] However, the dramatic reduction of import content of the exporting industries of China should have translated into a decline or slowdown of global trade during 2002 to 2008, which was the period of very fast growth of trade, and not during 2012 to the present, when the production structure of China's exporting industries, as well as those of most other economies with heavy value chain participation, declined marginally or remained flat.[21] Other aspects of global production networks seem more relevant than the import-export structure per se; they are examined in more detail below.

2. Global trade in the context of international production networks

(a) Diffusion of activities and the global decline in wage shares

The rapid pace of global trade since the mid-1980s has been closely linked to the internationalization of manufacturing through cross-border production networks. "Lead" corporations, which outsource selected activities to specific locations and manage the assembly, branding and marketing of the final product, play the central role. In the production of standardized goods, a mix of vertical specialization and economies of scale has enabled these corporations to increase profits by choosing

locations with desirable combinations of relatively high labour productivity, low wage and infrastructure costs and favourable tax conditions. However, much of this discussion has been delinked from the global macroeconomic context in which these chains have emerged.

From a global perspective, outsourcing and the diffusion of activities can lead to ambiguous employment outcomes, with a mixture of both job creation and destruction.[22] The internationalization of production and trade competition may, as discussed further in chapter IV, enhance or erode the scope for industrialization via export-led strategies. There are, however, potentially more unequivocal distributional consequences at the global level associated with this relocation of activities.

The growth of wages in most developed economies has been weak or stagnant for a considerable time, with the result that the share of wages in national income has been on a downward trend since the 1980s (*TDR 2012; TDR 2014*). A number of factors explain this trend: the general shift in bargaining power away from labour, partly due to the greater mobility of capital (Stockhammer, 2013); outsourcing and de-industrialization (Jaumotte and Osorio Buitron, 2015); the lower costs of the consumer basket resulting from the ability of MNEs to import back cheaper goods outsourced elsewhere (Seguino, 2014); and the compensating ability of households to borrow on the back of the holding gains derived from the ownership of equity in a context of asset bubbles (Turner, 2008; UN DESA, 2013, chap. 3).

The pressures on wage shares in developed countries have not been offset by a trend in the opposite direction in developing countries. As discussed in previous *TDRs*, competition on world markets for labour-intensive manufactures among firms located in developing countries tends to become competition among labour located in different countries (*TDR 2002*). Wage growth is likely to be constrained even as employment increases, not only because reserve labour pools remain large, but also because the potential of MNEs to shift production to *other* developing countries can act as a constraint on wage demands (Burke and Epstein, 2003).

Chart 1.6 provides evidence of how such patterns of production and labour income have played out in a selected group of industrializing developing countries since the mid-1980s.[23] The usual comparison is between the growth of exports ("trading more") and the significantly slower growth of value added ("earning less").[24] To highlight the impact of the diffusion of activities on income distribution, the charts show the evolution of relative wage incomes of these "industrializing" countries as they gain export market share. They also include a measure of the country's share in global product.

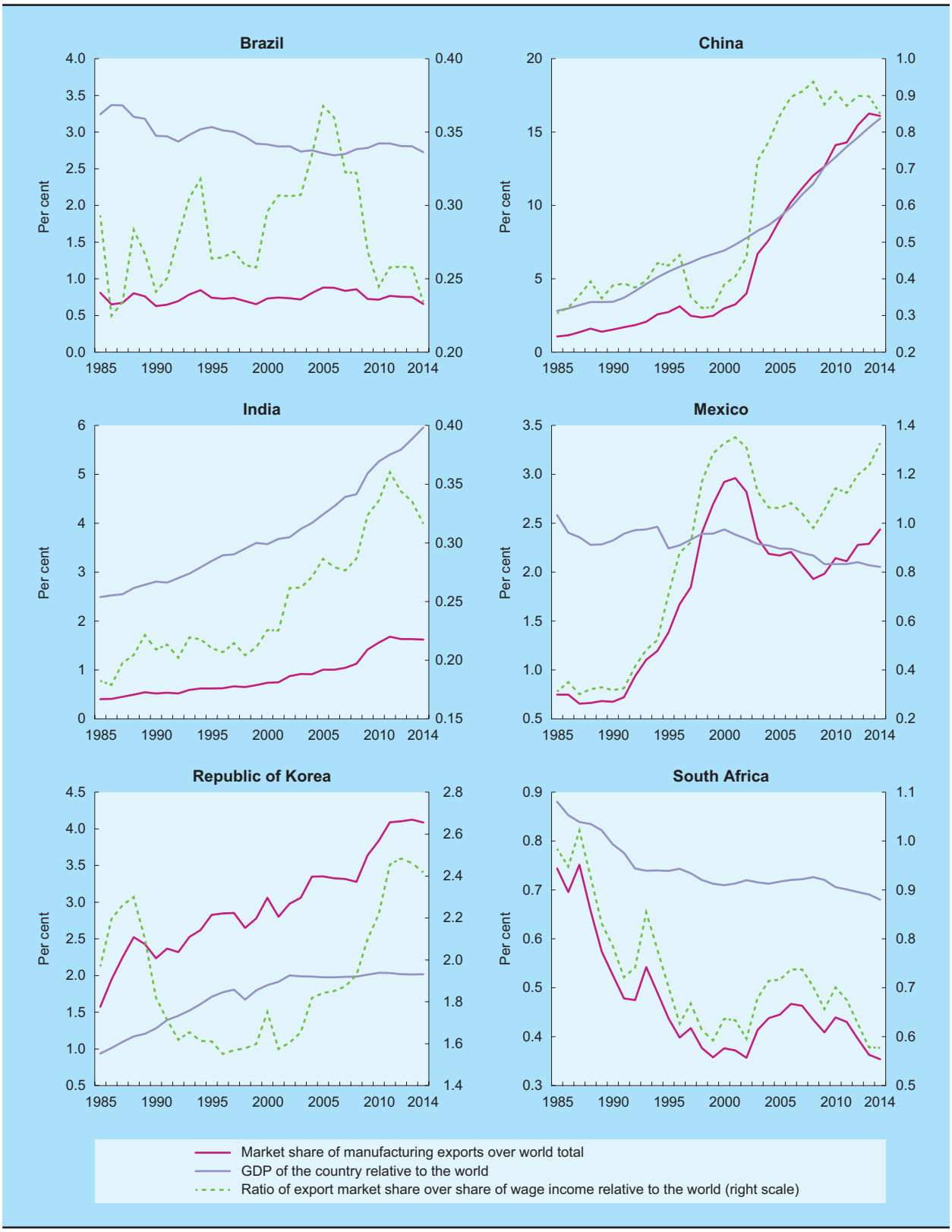
This indicates that those countries that did exhibit increases in their global share of manufacturing exports did not show similar increases in wage shares of national income relative to the global average. In periods of export success, shares of global manufacturing exports rose faster than relative shares of wage income, such that the ratio also increased. This suggests that increased access to global markets has typically been associated with a relative deterioration of national wage income compared with the world level.

Exceptions to this general pattern are few. The Republic of Korea succeeded in supporting wage compensation, particularly during the early 1990s, without significantly affecting competition for export market shares. Although it took up to 1993 to regain the market shares enjoyed in 1988, up until the East Asian crisis the model allowed a pace of export performance on a par with the pace of wage compensation relative to that of the world as a whole. From the 1997 crisis on, the Republic of Korea conformed more closely to the general pattern of "exporting more" but "earning less".[25] Another unusual case is represented by the patterns in China after the global financial crisis. From 2008 onwards, policymakers managed to sustain increases in the wage share without significantly affecting the pace of increase in export market shares. As discussed in earlier *Report*s, this may reflect the efforts to support income generation at the household level in order to allow faster increases in consumption than in investment and exports.

As discussed in other chapters of this *Report*, the usual justification for greater trade and financial liberalization is that the promotion of exports, even if at the cost of a relative deterioration of wage income, ensures a faster catch-up in terms of national income. However, for the selected countries in these charts, the patterns of convergence or divergence (the variable showing national income relative to

Chart 1.6

MANUFACTURING EXPORTS, WAGE EARNINGS AND GDP OF SELECTED COUNTRIES RELATIVE TO THOSE OF THE WORLD, 1985–2014



Source: UN Global Policy Model using historical data compiled from *UN Comtrade*, *UNCTADstat* and UNSD.

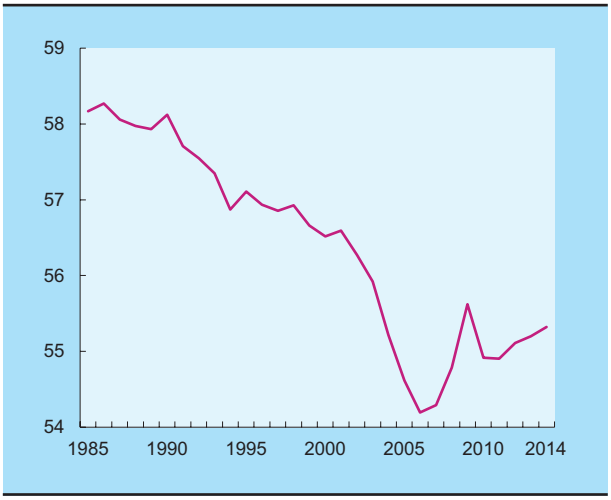
world income, in percentage terms) have little connection with whether export manufacturing shares were falling, stable or rising. In the light of the above discussion, part of the reason is that strategies based on gaining a greater share of world manufacturing exports through relative compression of wage shares, tend to reduce the potential for growth in domestic demand.

Together, the trends of developed and developing countries discussed above help explain the decline of the global wage share, and, in particular, the very sharp drop in 2002–2007 during the boom years for trade and output (chart 1.7). The sharp turnaround during 2008–2009 reflects the typical adjustment in deep crises, as profits tend to take the first hit until unemployment surges or workers' contracts are revised. The fact that the global wage share did not fall in 2010–2011 to pre-crisis levels, and rose mildly subsequently, is partly due to more active labour market policies in a number of developing countries, and some developed countries.[26]

Chart 1.7

GLOBAL WAGE SHARE, 1985–2014

(Per cent of global income)



Source: UN Global Policy Model using historical data compiled from UNSD and national sources.

(b) Under-consumption and trade acceleration: The role of deficits and lending

Given the relevance of labour income to sustaining consumption, it could be expected that the observed long-term decline in wage share in global income should translate into a tendency towards under-consumption for the world as a whole.[27] If consumption demand for the world as whole was too low, the likely outcome would have been a steady and prolonged deceleration of investment *and* of global trade (as import demand in all countries individually depends ultimately on consumption and investment demand). Thus, the real puzzle is how global trade showed such dynamism while the global wage share was on a steadily declining trend.

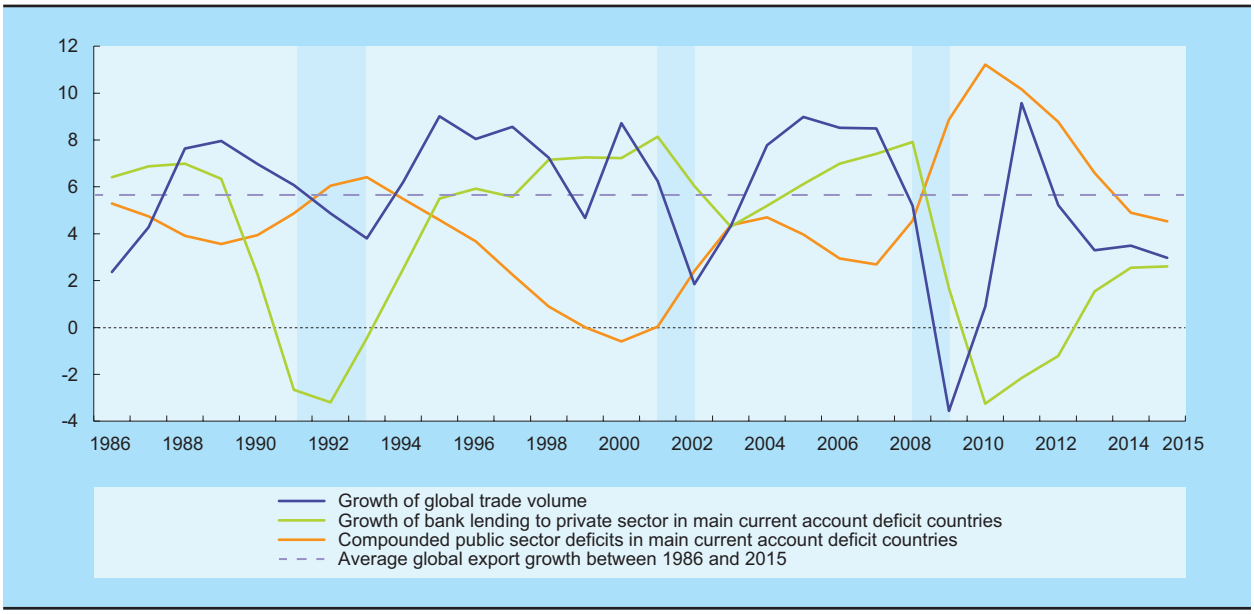
For the majority of developing economies, under-consumption is a direct effect of the fact that wage growth lags behind productivity with a concomitant rise in the share of non-wage income. One consequence is that the aggregate savings propensity increases, as the propensity to consume out of wage income is typically far higher than that out of profits (see *TDR 2013*). Under-consumption can also result from the fact that labour and social protection tend to be weak in developing countries and households put aside a portion of their wage income as a buffer (Akyüz, 2012). In any event, households in developing countries are earning insufficient incomes to absorb the increased output of manufactured goods they are producing, which is consistent with the export specialization strategy.

Meanwhile, for developed countries as a group, during the years of fast growth of global trade, and especially in the period of global imbalances prior to the financial crisis, there is no clear indication of under-consumption. The major current account deficit countries followed a different model that allowed a rise of consumption (public and private) despite the wage share contraction.[28] Indeed, in instances of sluggish activity (which could be expected to result from a persistent decline of the wage share) fiscal levers would bridge the demand gap until the momentum for a new boom developed. More significantly still, the suppression of wage incomes was compensated for by the increase in household debt, enabled by financial deregulation and relatively low interest rates. This generated a debt spiral among households, as well as a boom in asset markets such as housing and stock markets, which in turn had positive effects on consumption and investment. Such credit-driven bubbles are not sustainable and eventually end, often with a hard landing, as in 2008–2009.

Chart 1.8

GLOBAL TRADE GROWTH, CREDIT EXPANSION AND FISCAL DEFICITS IN THE MAIN CURRENT ACCOUNT DEFICIT COUNTRIES, 1986–2015

(Per cent, two-year moving average)



Source: UN Global Policy Model; using historical data compiled from *UNCTADstat*, UNSD and IMF.

Note: Main current account deficit countries are Australia, Canada, the United Kingdom and the United States. Variables correspond to weighted averages. Shaded areas denote years of significant deceleration in growth of global exports below the average for the period.

Under such "exceptional" conditions of credit booms or intermittent fiscal expansion in a significant subset of countries, fast growth of demand and global trade can be consistent with a declining global wage share.

Chart 1.8 adds to the evidence presented above, completing the global picture, by comparing the growth of trade, bank lending and fiscal deficits. The average annual growth of trade during this period was 5.5 per cent. Only during three sub-periods did global trade experience a marked deceleration significantly below the average, or a contraction: the crisis of early 1990s affecting Japan, the United Kingdom, the United States and a few north European countries; the "dot-com" crisis in the United States in 2001; and the global financial crisis of 2008–2009.[29] The recent period since 2012 represents an unusual pattern and will be discussed further below. Periods of weak fiscal stances in the major deficit countries exerted a negative influence on global trade. Declining and low fiscal deficits preceded global trade decelerations. Also, periods of trade slowdown or contraction have coincided with sharp decelerations in the pace of (real) bank credit expansion in such (current account deficit) countries. Conversely, only after a relatively sustained period of fiscal expansion and credit creation, did trade growth resume a fast pace. In brief, along with a decline in the global wage share, the patterns of global trade responded to a significant degree to the interactions between fiscal stances and credit creation in major deficit economies.

3. *Summing up and implications for the global outlook*

The fast pace of global trade between the mid-1980s and the financial crisis was, in part, encouraged by an increased pace of trade liberalization, but it was also heavily dependent on a series of global macro-imbalances that eventually led to that crisis. The

drastic correction of bank lending in deficit countries which occurred with the global crisis of 2008–2009 led to a contraction and subsequent weak recovery of trade despite the rise of public sector deficits. The persistence of the most critical of imbalances, that relating to wage shares, however, shows why a recovery in trade is proving difficult. More precisely, as long as the global wage share continues to decline because of efforts to increase competitiveness, including by shifting production from high-cost to low-cost locations, global trade growth will rely on the accumulation of deficits by a subset of economies. For such patterns of trade growth to continue, however, either fiscal deficits or credit bubbles have to help revive domestic demand, and therefore imports, which otherwise would remain inadequate in the face of the continuing weak growth of household income.

The unsatisfactory growth of trade from 2012 onwards, which was left unexplained above, can thus be clarified. Chart 1.9 replicates the variables shown above in charts 1.7 and 1.8, in conjunction with a conditional five-year projection. Reviewing the historic period, the chart shows that recourse to either rising fiscal deficits or credit bubbles to compensate weak wage growth is proving increasingly difficult. In particular, fiscal deficits in the major current account deficit countries are, instead of rising, contracting from unprecedentedly high levels. In 2015 these were still higher than in most other periods, above 4 per cent of GDP on average. Policymakers in these countries and in most of the developed economies are not considering further fiscal expansion. Meanwhile, even if fiscal deficits have been quite high in recent years, bank credit expansion to the private sector, at about 2.5 per cent, remains weak in comparison with earlier periods. And this is despite extraordinary "quantitative easing" experiments by central banks. Businesses are not increasing spending and, rather, continue to earn profits through cost-optimization and financial operations (see chapter V of this *Report*). Households are not significantly taking on greater debt burdens (with the exception of the United Kingdom, where the housing bubble has rapidly recovered from the global crisis and credit demand has picked up). The slow growth of global trade under these circumstances is not an anomaly, but is perfectly consistent with the underlying structure of income generation, demand and policy choice.

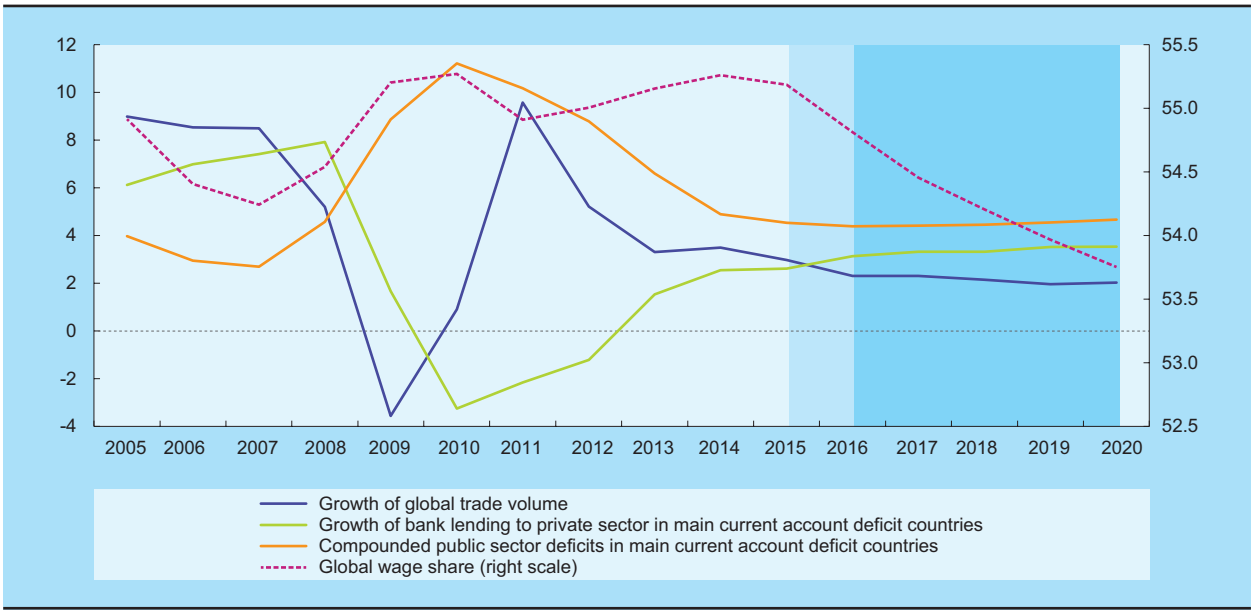
Chart 1.9 shows how the current configuration could play out over the course of a projection generated with the UN Global Policy Model.[30] The projection encompasses a vast set of conditions regarding the mid-term and is not in any way a forecast. In essence, it assumes that most developed economies, along with a few major developing economies, will press ahead moderately in their efforts at fiscal consolidation, even if this continues to weaken growth in demand and does not manage to improve the financial position of their public sectors, as tax revenues will also remain weak. Likewise, in the context of weak global demand, moves towards greater product-market and external liberalization will continue to constrain the growth of wage incomes, including through the spread of international production networks. Finally, even if monetary policy is expected to remain accommodative in most countries, effective credit creation for the private sector will continue to be sluggish. Under these circumstances, a conservative estimate is that during the coming years there will be a deterioration of the global wage share somewhat greater than 1 per cent of the projected global GDP. At the end of the five-year projection the wage share will reach a slightly lower level than in the pre-crisis period. The pace of bank credit expansion and the level of public sector deficits in the major current account deficit countries will remain around the current figures, with perhaps a slow acceleration of bank credit. The combination of these global conditions and patterns of the main current account deficit countries will not help trigger a revival of global trade, which may stay hovering around 2 per cent per annum.

In sum, under current structural conditions and policy stances, assuming that no significant changes in the direction of policies are implemented, trade growth will continue to be sluggish as the global wage share will continue to decline. Of course, a number of variations to this scenario are possible. Most notably, it remains plausible that surplus countries may increase spending in a way that will exert a positive net contribution to global demand. In this case the contributions to accelerate the pace of global trade will be from surplus countries and not from the countries now in deficit. What is more, such an acceleration of demand from surplus countries does not require credit bubbles, as the private sector in these countries enjoys large net financial surpluses. Similarly, such acceleration of domestic demand does not require that these surplus countries engage in excessively large public deficits, as at present they enjoy relatively well balanced fiscal positions. But for current surplus countries to succeed in exercising

Chart 1.9

CONDITIONAL PROJECTIONS OF GLOBAL TRADE GROWTH AND RELATED VARIABLES IN THE MAIN CURRENT ACCOUNT DEFICIT COUNTRIES, 2005–2020

(Per cent, two-year moving average)



Source: UN Global Policy Model; using historical data compiled from *UNCTADstat*, UNSD and IMF.
Note: Main current account deficit countries are Australia, Canada, the United Kingdom and the United States. Variables correspond to weighted averages. 2015–2016: preliminary; 2017–2020: conditional projections.

a meaningful contribution to the growth of global demand and trade, either the wage share or the public sector deficit has to increase ex-ante. This is equally true in other countries, and this seems to be a pre-condition to achieving faster growth of global trade and GDP from the current low levels.

This analysis suggests why trade and inequality have become closely associated in recent public discussions on globalization, but also why conventional policy proposals are inadequate to counter a dangerous backlash against closer economic integration. There are strong connections between the long-term deterioration of global wage shares and both the trade surge in the 1990s and 2000s and the slowdown of trade and economic activity since 2011. If these trends persist or worsen, then the threat of more determined protectionist responses could become real. However, like the boy who cried wolf in Aesop's fable, blaming protectionism for current trends runs the danger of not only distracting policymakers from making inclusive growth the axis of a globally coordinated programme but, as in the 1930s, of being ignored when a real protectionist threat emerges.

Notes

1 In an uncharacteristically harsh criticism of the IMF's role during the Greek crisis, the Independent Evaluation Office of the IMF criticized the IMF for having ignored the need for a standstill provision and for early and orderly debt restructuring, thereby contributing to the deepening of the country's debt and economic crisis (IMF/IEO, 2016).

2 Participation rate for men aged 20 or more fell from 72.7 per cent between 2000 and 2007 to 68.8 per cent in the first half of 2016; in the case of women aged 20 or more, the rate of participation declined from 57.8 to 55.6 per cent in the same period (United States Bureau of Labor Statistics).

3 Between 1973 and 2014, inflation-adjusted hourly compensation for the median worker rose by a total of 8.7 per cent, just 0.2 per cent per year. Conversely, net productivity (defined as the output of goods and services minus depreciation per hour worked) grew by a total of 72.2 per cent, or 1.3 per cent per year in the same period (Bivens and Mishel, 2015).

4 UNCTAD and WTO, 2016 news items: World trade weakens in first quarter as imports decline in Asia, 15 June 2016.

5 *World Metal Statistics Yearbook 2016* (World Bureau of Metal Statistics, 2016). See: *Got any copper to spare? Please send it to China*, Andy Home, Reuters, 23 February 2016; *China's first-quarter metal imports say more about supply than demand*, Andy Home, Reuters, 25 April 2016; and *China, India see oil imports grow, showing demand remains strong*, OPEC Bulletin 3/16.

6 See Hansen (2016) and Aelbrecht (2016).

7 See *China: A liquidity perspective on the onshore commodity boom*, JP Morgan Economic Research Note, 13 May 2016 and Citi (2016a).

8 International Energy Agency (IEA, 2016a); annual data for India from BP (2016).

9 Talks in April 2016 among leading world oil-producing countries, including some non-OPEC countries, failed to agree on a production freeze.

10 IEA (2016a) reports that by early May 2016 the number of active oil drilling rigs in the United States had fallen to a seven-year low of only 328, compared with 668 a year earlier and the peak of 1,600 in October 2014. Furthermore, upstream investment in oil is drying up as reflected in the expected fall in exploration and production capital (capex) expenditures of 17 per cent in 2016, after a reduction of 24 per cent in 2015. This would represent the first time that such investment has fallen for two consecutive years since 1986 (IEA, 2016b).

11 For a more detailed information on mine closures and production cuts by metal, see World Bank (2016), Citi (2016b) and HSBC (2016).

12 For more detail, see UNCTAD (2015a). Policy Brief No. 40, "When the Tide Goes Out: Capital Flows and Financial Shocks in Emerging Markets", 9 December 2015.

13 Overall capital flows include here net errors and omissions, which have been persistently negative since the second quarter 2014. This might be overestimating the size of net negative capital flows, because part of these errors and omissions may correspond to current account transactions. Without errors and omissions, the negative balance for capital flows was $525 billion in 2015.

14 It is noteworthy that, despite its intensity, the capital flow reversal of 2015 did not result in severe financial crises and collapses in GDP growth, as similar episodes had in the past. Greater resilience has resulted in levels of international reserves that remain relatively high in several developing economies and from managed (rather than fixed) exchange rate regimes, which have helped cushion the effect of capital outflows on individual economies through nominal adjustments (IMF, 2016). In particular, the country that experienced the largest negative net capital flows (China) is also the country with the largest international reserves.

15 Offshore renminbi accounts are opened by Chinese banks in jurisdictions outside mainland China (e.g. Hong Kong (China), Macao (China), Taiwan Province of China and Singapore) and available for non-residents wishing to constitute renminbi-denominated deposits. Thus, a reduction of such deposits accounts for a negative capital inflow.

16 Cross-correlations for net capital inflows (from non-residents) in 25 large emerging market countries averaged 60 per cent in the period 2005–2015.

17 UNCTAD secretariat calculations and McKinsey Global Institute (2015).

18 Stating that mounting protectionism cannot be blamed as the cause for slowing global trade does not logically imply that improving the international trade framework and rules would have no impact on global trade. For instance, advancing in multilateral trade negotiations (particularly in agriculture) or in some preferential trade agreements may benefit employment and income in developing countries, generating a demand stimulus that would also stimulate global trade.

19 See also Setser (2016), making similar observations based on country reports of the International Monetary Fund (IMF).

20 The empirical examination has been carried out for around 40 developing countries and China emerged as the only manufacturing exporter which showed an apparent lowering of imported manufacturing inputs for the exporting sector. A more specific study comparing the import-export structures of assembly operations between China and Mexico from the early 1980s to 2006, confirms that China's most noticeable improvement in value-added exports of manufactures took place between 2000 and 2006, while in Mexico processing zones did not manage to reduce import dependency at all during that period (see Shafaeddin and Pizarro, 2010).

21 Moreover, a more granular picture suggests that in several significant cases for the global volume of intra-industry trade, like the motor vehicles and the machinery subsectors, fragmentation (as measured by trade of intermediates over total trade) is on a somewhat increasing trend in recent years, rather than declining (UNCTAD, 2015c).

22 See Patnaik (2010), which explains the diffusion of activities by extending the Arthur Lewis model of "unlimited supply of labour" to a global scale. Core to this analysis are two observations. First, part of the labour creation mediated by MNEs is at the expense of shifting productive activities previously undertaken in the core countries. Thus, some of this is labour-displacing rather than labour-creating. Second, the combination of high productivity of the new jobs created in the developing country where the new activities are undertaken, with the increases in labour supply as workers from informal activities aim at accessing the new jobs, may not contribute to reduce labour reserves. Critically, for the pool of labour reserves to shrink, the growth of aggregate demand has to be significantly faster than the growth of labour productivity (see Taylor and Vos, 2002, for an analytical exposé).

23 The developing countries that managed to gain a significant share of world exports during this period are only a few in the East Asia region. For the sake of completeness other semi-industrialized economies in other regions (Africa, Latin America and South Asia) are included even if their export market shares are smaller than 2 per cent.

24 See, for example, Kozul-Wright (2007).

25 It should be clear from this discussion that "exporting more" but "earning less" does not refer to levels. Generally, over time, the levels of both exports and wage bills tend to increase but if export gains relative to the world grow faster than wage earnings relative to the world, the difference suggests a process of faster profit accumulation.

26 A few countries managed to introduce labour protection and wage protection policies and averted a fall of wage shares that would have resulted from the distributional adjustments after the crisis. Between 2010 and 2014 recoveries of the wage share were experienced in Argentina (equal to about 11 percentage points of GDP), Brazil (half of a percentage point of GDP), China (2 percentage points of GDP), Germany and South Africa (1 percentage point of GDP).

27 Under-consumption should be understood in the macroeconomic sense of a low share of consumption in national income, not in level terms. As Keynes (1936) puts it: "social practices and a distribution of wealth which result in a propensity to consume which is unduly low".

28 See Patnaik (2010).

29 The South-East Asian crisis of 1997–1998 did not contributed to a significant global trade slowdown and is therefore not considered here.

30 See Cripps and Izurieta (2014).

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Chapter II

GLOBALIZATION, CONVERGENCE AND STRUCTURAL TRANSFORMATION

A. Introduction

In the classical development literature, and its related policy advice, the relationship between economic growth and changes in the structure of production took centre stage. While there were differences across this literature, particularly on policy detail, there was general agreement that successful industrialization in a small group of "Northern" countries had created, and perpetuated, an international division of labour involving a high-income and technologically sophisticated "core" that exported mainly manufactured goods and a low-income and technologically weak "periphery" that was largely dependent on primary exports. Industrialization in the South was seen as the key to rebalancing the international division of labour, maximizing the gains from international trade and delivering "prosperity for all" (UNCTAD, 1964).

The case for making industrialization the key to sustained development in the South rested on its capacity to generate and combine a series of linkages, complementarities and externalities that together could trigger a virtuous circle of resource mobilization, rising productivity growth, increasing incomes and expanding market demand, both at home and abroad (Toner, 1999). Moreover, industrialization was linked with a demographic transition towards a more urban, more educated and more productive workforce, which would further reinforce this virtuous circle. While there were differences in opinion over what was holding back structural transformation in developing countries, there was broad agreement that their potential for catching up would, under the right conditions, allow for a convergence in incomes, and the closing of other economic and social gaps between the North and the South.

This case for industrialization highlighted the limits of relying on market forces for advancing structural transformation and called on active State involvement. In particular, following a path well-trodden by almost all developed economies, domestic industries needed to be supported and protected in their early stages, until they developed their own capacities to compete. In addition, and more so than for earlier generations of late industrializers, additional targeted support would be needed to promote manufactured exports from the South, given productivity gaps with leading industrial economies, and the relative smallness of their domestic markets (UNCTAD, 1964: 14). This approach became conventional wisdom throughout the developing world in the 1950s and 1960s and helped draw attention to weaknesses in the governance of the international economy that could hinder efforts at catching up, with various measures proposed to ease the balance of

Table 2.1

INDUSTRIAL GROWTH RATES, SELECTED COUNTRIES AND REGIONS, 1870–2014

(Per cent)

Groups	*1870–1890*	*1890–1913*	*1913–1920*	*1920–1938*	*1938–1950*	*1950–1973*	*1973–1990*	*1990–2007*	*2007–2014*
Germany, United Kingdom and United States,	3.1	3.4	1.4	1.9	0.9	5.2	1.1	2.1	0.2
Germany, Japan and United States	.	.	.	.	.	7.9	2.4	2.2	0.3
European periphery	4.7	5.0	-6.5	4.7	3.6	8.9	3.3	2.8	0.0
Asia	1.5	4.2	5.2	4.2	-1.7	8.5	5.8	4.2	4.1
Latin America and the Caribbean	6.4	4.4	3.4	2.8	5.3	5.7	2.7	2.2	1.0
Middle East and North Africa	1.7	1.7	-5.8	4.9	6.0	6.2	6.1	4.5	3.2
Sub-Saharan Africa	.	.	13.4	4.6	8.6	5.5	3.5	3.9	4.1

Source: Bénétrix et al., 2012, for the period 1870–2007; UNCTAD secretariat calculations, based on *UNCTADstat* for 2007–2014.

Note: The table reports unweighted average industrial (or manufacturing when available) growth rates by region. In this table, the country groups comprise the following: *European periphery*: Albania, Austria, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Czechoslovakia (for the period prior to 1993), Estonia, Finland, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Malta, Montenegro, Poland, Portugal, Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia, Slovenia, Spain, the former Yugoslav Republic of Macedonia, Ukraine and Yugoslavia (prior to 1995). *Asia* comprises the developing economies of East Asia, South-East Asia and South Asia, plus Georgia, Japan, Kazakhstan, Kiribati, Kyrgyzstan, Papua New Guinea, Samoa, Solomon Islands, Tajikistan, Tonga, Uzbekistan and Vanuatu. *Middle East and North Africa* comprises: Algeria, Bahrain, Egypt, Iraq, Islamic Republic of Iran, Israel, Jordan, Kuwait, Lebanon, Morocco, Oman, Saudi Arabia, Sudan, Syrian Arab Republic, Tunisia, Turkey, United Arab Emirates and Yemen.

payments constraint on faster growth and to mobilize more international resources to boost investment.

The pattern of structural transformation predicted (and prescribed) by development economists was followed by most developing countries in the post-war period, with economic and, particularly, industrial growth rates registering historical highs in most regions (see chapter III and table 2.1). However, catch-up did not follow in most cases, as developed countries enjoyed their own remarkable period of economic growth and technological progress, and income gaps widened further. Moreover, the early (and relatively easy) successes of import substitution industrialization in many developing countries brought their own "growing pains" (whether in the form of balance of payments problems, productivity slowdowns, inflationary pressures or rising inequality) that proved increasingly difficult to address (Hirschman, 1995).

Whilst some developing countries (notably the East Asian first-tier industrializers) did find ways to manage these growing pains and were able to build on their initial transformation gains, in many other cases, changes from the late 1970s in the economic and ideological landscape encouraged a very different approach to structural transformation in developing countries. In particular, the debt crisis of the early 1980s provided an opportunity for a new policy consensus, often disseminated through the attachment of a reform agenda to multilateral lending programmes, in which the focus shifted from changing the structure of production and trade to redistributing tasks and responsibilities between the State and market (through privatization, liberalization and deregulation measures), and with a particular emphasis on reducing the costs of doing business (through tariff reductions, wage compression and tight macroeconomic policies). Not only did this approach deny the advantages of industry for driving development, it also rejected the role of public policies to support any specific sector: it was believed that this should be left to competitive pressures in deregulated markets on the grounds that globalized market forces should shape countries' specialization according to their existing comparative advantages (World Bank, 1991).

On the basis of this logic, along with some new thinking about the determinants of growth and a plethora of econometric exercises, the new policy consensus promised stronger and more stable growth at the national and global levels. It also promised a rapid closing of income gaps between rich and poor countries, as international market forces were expected to naturally augment the specific economic advantages found in the developing world. The idea that self-regulating market forces would tame the business cycle and accelerate income convergence implied that the policy space deemed necessary to set priorities and manage the trade-offs that accompany structural transformation could be foregone, leaving competitively determined prices to unlock the opportunities of a globalizing world.[1]

The next section considers whether this strong convergence narrative accurately describes growth trends in the global economy over the last three and a half decades. Section C discusses how structural transformation fits into a convergence narrative and where advances have been made. Section D looks for possible sources of dissonance between the current global environment and the process of structural transformation. The final section draws some conclusions.

B. Globalization and convergence

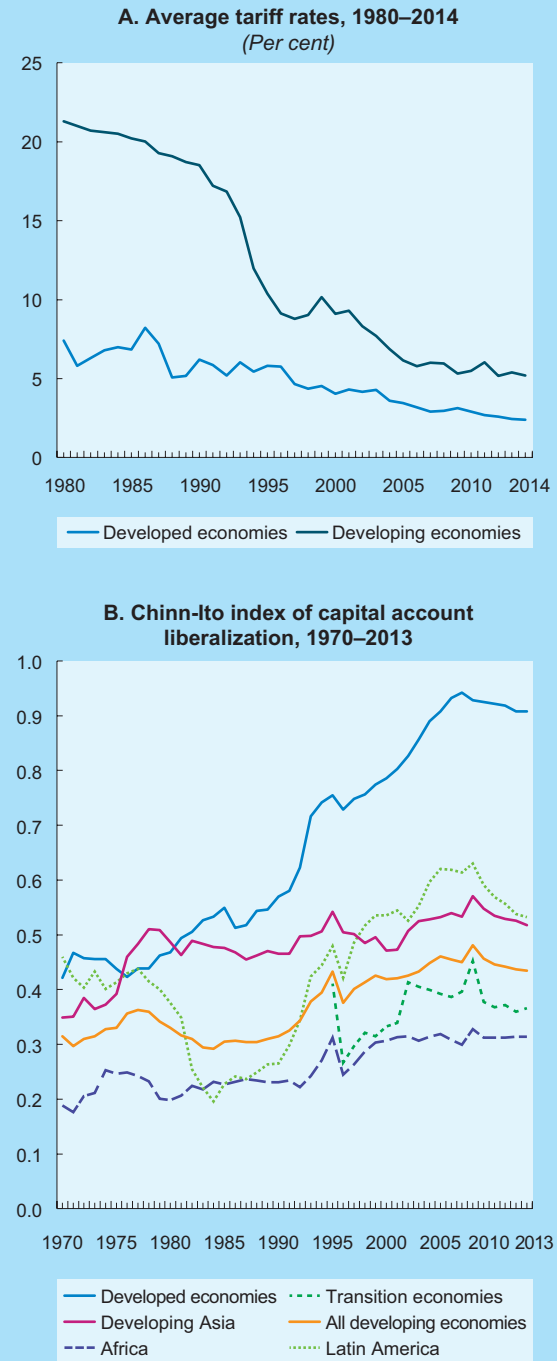
For a brief period after the start of the new millennium, the combined influence of a "great moderation" in the macroeconomic environment (Bernanke, 2004) and a "great convergence" in global incomes (Wolf, 2011) seemed to support the idea of a new international economic order emerging around self-regulating international market forces. In particular, following the fast rebound from the bursting of the dot-com bubble in 2000, a combination of sophisticated capital market engineering by financial institutions and astute central bankers, freed from political oversight, had, it was believed, finally solved the challenge of what Federal Reserve Chairman Alan Greenspan (2005) called "risk transfer and financial stability"; the business cycles had been tamed.

The financial crisis of 2008 exposed the limits of this reasoning in terms of macroeconomic stability, but it gave further momentum to the convergence story as developing countries bounced back unexpectedly strongly from the crisis,[2] raising the possibility that growth in the South, which had strongly outpaced that in the developed economies over the preceding decade, had become more self-sustaining and, on some counts had even "decoupled" from that in the North (Akin and Kose, 2007; Canuto, 2010). As discussed in previous *TDRs*, this is not a plausible assessment, in part because the growth surge in developing countries from the start of the millennium was the outcome of strong export growth supported by mounting debt levels in developed economies, the rebound was closely linked to policy actions adopted by developed economies in response to the crisis and partly because the rebound has not recovered the growth momentum achieved prior to the crisis.

The World Bank (2016: 34) has suggested that the great convergence has stalled thanks to a combination of weakening growth, heightened risks and restricted policy space in developing economies. And it has warned that it could falter altogether with a drift towards protectionism and slowing globalization. As discussed in the previous chapter, rising protectionism cannot explain the slowdown in global trade, or the weakening of output growth. The idea of slowing globalization is more difficult to assess given that globalization tends to mean different things to different people, and economic historians, having roundly rejected the idea that it is a linear and autonomous process, continue to debate how and why its ebbing and flowing over time has had varying consequences for different regions, countries and communities.[3]

Chart 2.1

TRADE AND FINANCIAL OPENNESS, SELECTED COUNTRY GROUPS



Source: UNCTAD secretariat calculations, based on WTO, *Integrated Data Base*; GATT Tariff Study files; International Customs Tariff Bureau (BITD); UNCTAD, *TRAINS* database; and Chinn and Ito, 2006, update May 2015.

Note: Regions' Chinn-Ito index are compiled with a simple weighted average. 0 indicates fully closed, while 1 indicates a fully opened financial account.

In general terms, globalization exhibits three overlapping but distinct dimensions which are often treated synonymously: a *policy dimension*, referring to the reduction of barriers to goods, services, people, capital and information flowing across national borders; an *economic dimension* which refers to the increasing scale of these flows and the extent to which countries are thereby integrated into an international division of labour; and an *institutional dimension* which refers to the nature, reach and influence of rules, norms and structures designed to manage the expanding network of international activity and transactions.

A good deal of the contemporary debate about how these dimensions fit together is driven by a highly stylized picture of an ideal global economy in which the decisions of households, firms and financial institutions are not impeded by obstacles generated by national boundaries. In such a world, which claims strong technical backing from conventional economic theory, goods, factors of production and financial assets are almost perfect substitutes everywhere (barring cultural idiosyncrasies) and economic welfare depends on the response of households and firms to global market incentives, given inherited endowments, demographic pressures and technological progress. Differences in living standards across this world depend primarily upon the pace of adjustment to changes in these "exogenous" factors.

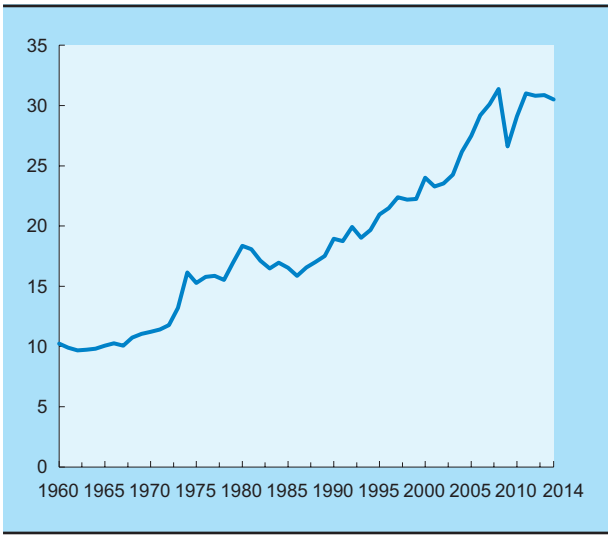
The world economy is still a long way from this flat supranational landscape. However, increased openness has certainly been a prominent feature of the past 30 years in both developing and developed economies(chart 2.1). Looking at the evolution of average tariffs as a measure of trade openness since the Tokyo Trade Round (which ended in 1979), these have been on a broadly downward trend, but with a particularly marked drop in developing countries in the first half of the1990s. Financial openness measured, for example by the de jure Chinn-Ito index, has also been the general trend, led by the developed economies, albeit flattening out since the financial crisis of 2008.[4]

Charts 2.2, 2.3 and 2.4 provide a familiar depiction of the evolving pattern of economic integration over the past few decades using the ratios between global exports, net international capital flows (as measured by the sum of national current account surpluses or deficits) and foreign direct investment (FDI)

Chart 2.2

GLOBAL EXPORTS AS A SHARE OF WORLD OUTPUT, 1960–2014

(Per cent)

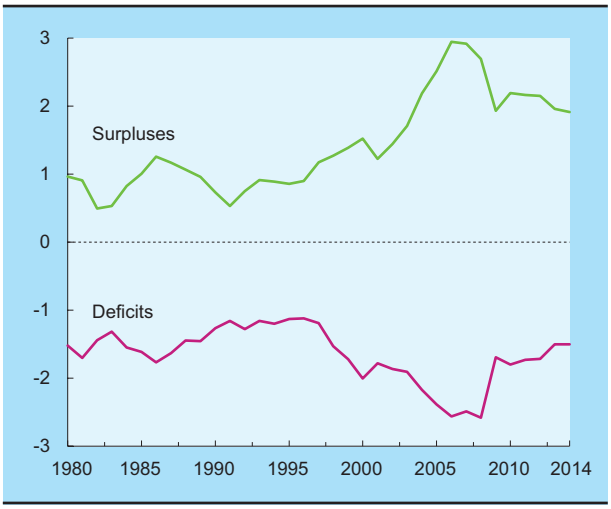


Source: UNCTAD secretariat calculations, based on World Bank, *World Development Indicators* database (1960–1969); and *UNCTADstat* (1970–2014).

Chart 2.3

GLOBAL CURRENT ACCOUNT SURPLUSES AND DEFICITS AS A SHARE OF WORLD OUTPUT, 1980–2014

(Per cent)

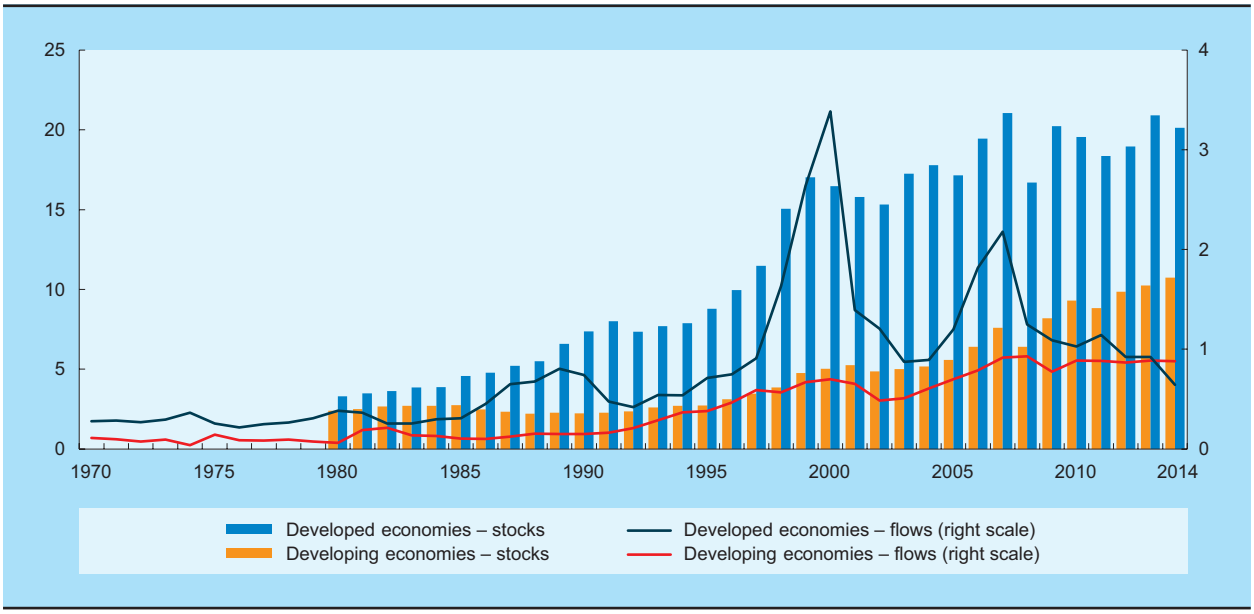


Source: UNCTAD secretariat calculations, based on IMF, *Balance of Payments Statistics*, and *International Financial Statistics*.

Chart 2.4

STOCKS AND FLOWS OF INWARD FOREIGN DIRECT INVESTMENT AS A SHARE OF GLOBAL OUTPUT BY COUNTRY GROUP, 1970–2014

(Per cent)



Source: UNCTAD secretariat calculations, based on *UNCTADstat*.

flows, to global GDP. A cursory examination of these charts suggests that there have been two distinct periods: the first exhibiting a measured recovery in integration from the low level that resulted from the economic and political dislocations of the 1930s, followed by a period in which international integration started to grow very quickly, and achieved historically high levels.

As a general characterization, while globalization during the first three decades after 1945 can be described as trade-led and organized around strong public institutions at the national and international levels, globalization after 1980 has been finance-led and organized around more open markets and corporate actors (UNCTAD, 2011a). In the earlier period of managed globalization, growth in both developed and developing countries accelerated sharply. To a significant extent, this reflected the policies of "welfare Keynesianism" implemented in many developed countries, as well as the State-led development strategies applied in many developing countries in the context of a relatively stable global economy. In both respects, sufficient policy space was a prerequisite for the success of both strategies (Helleiner, 2014; *TDR 2014*).

As discussed in previous *Reports* (see for example *TDR 2014*), the post-war multilateral arrangements were founded on the assumption that adverse influences emanating from the global economy should be countered with policy measures (at both the domestic and international levels) that preserve growth and development. The policy space this implied has been eroded by the spread of unregulated global market forces and various international agreements. Consequently, in the absence of global economic governance reform that would balance the increasing influence of global market forces, many countries, particularly but not only developing countries, find themselves having to adjust to international imbalances and shocks through domestic retrenchment. In fact, they have had to alter domestic policies, structures and regulations to reconcile with and conform to international market pressures (Lawrence, 1996).

Governments that ceded more and more influence over national economic prospects to international market forces, and cross-border financial flows in particular, generally expected to be rewarded with a trajectory of high and stable growth, with governments in the South expecting a particularly strong growth dividend. The combination of increased capital formation (thanks to a more efficient allocation of global savings) and rapid technological catching up (thanks to the heightened influence of foreign firms as carriers of more advanced technologies) along with widespread efficiency gains (thanks to a reshaping of production and investment activities in developing countries in line with comparative advantage) would drive these outcomes.[5]

Conventional growth models, both in their closed and open variants, have provided analytical support for the idea that there is an inverse relationship between per capita income (or level of productivity) and its future growth, i.e. economic convergence. Testing this idea has generated two empirical findings, which have animated recent discussions about globalization. The first is the apparent uniformity of conditional convergence rates, namely controlling for other factors, convergence in per capita income was predicted at around 2 per cent a year (Barro, 2012). A second finding has suggested that among all the possible conditioning variables the most fundamental is how open an economy is to the world economy (Sachs and Warner, 1995).[6]

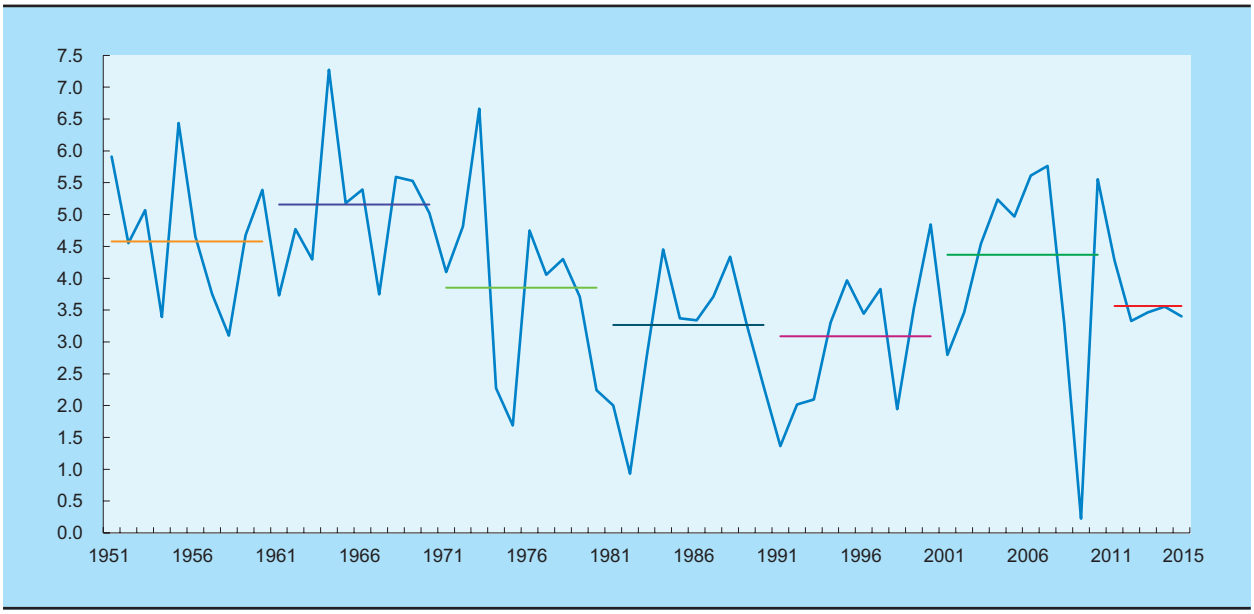
There are, however, serious methodological difficulties in trying to capture empirically the link between openness, growth and convergence.[7] Moreover, even assuming that a positive link between openness, integration and growth can be established in some cases, this still leaves open the direction of causation, with plenty of reasons to suppose that this runs from domestic success in raising productivity to increased trade, and to further liberalization, rather than the other way round.

The evolution of the global economy has not followed the simpler predictions of a globalizing world. In the first place, global growth has been on a steadily downward trend since the 1960s (with the brief exception of the 2000s) (chart 2.5). There is no consensus on why this slowdown has happened but there is little doubt that it originates in trends in the developed economies. Their slowdown over the last three decades opened the door for a resumption of convergence if growth in developing countries simply maintained the pace achieved during the earlier period.[8] Moreover, this period cannot be described in blanket terms as an era of catching up for developing countries.

Chart 2.5

WORLD OUTPUT GROWTH RATE, 1951–2015

(Per cent)



Source: UNCTAD secretariat calculations, based on The Conference Board, *Total Economy Database*, May 2015.

Since the 1980s and for the group as a whole, growth of GDP per capita did accelerate, and in the 2000s, every developing region grew more quickly than the developed-country average, in many cases by a considerable margin. So it is no surprise that in recent years talk of global income convergence has become more widespread. However, two features of the past three and a half decades stand out from table 2.2: first, the varying phases of convergence and divergence between developed and developing countries; and second, the growing disparities within the developing world, with some countries and regions growing much more rapidly than others.[9]

Average annual GDP per capita growth in the developing world during the 1980s and 1990s was actually lower than in the 1960s and 1970s, with convergence resulting from economic slowdown in the developed economies and accelerating growth in East Asia.[10] The first decade of the 2000s stands out as a period of rapid and generalized growth in all developing regions. The first half of the current decade already indicates, however, that this may have been something of an anomaly, as average growth rates in many countries in the developing world have settled back closer to the rates experienced in the 1960s and 1970s, and in some cases below those rates.

Moreover, taking the period 1980–2015 in its entirety, developing countries and regions have not shown similar trajectories, with only the Asian region showing a consistent pattern of convergence. The East Asian region has been able to maintain the momentum it built up during the previous era with South Asia joining in more strongly from the start of the millennium. However, in terms of per capita income, given their initial starting points and the pace of convergence, only the economies of East Asia have made noticeable strides in terms of closing the absolute income gap with those countries at the top of the development ladder (chart 2.6). Growing diversity among developing countries is a second striking feature of this entire period.

Taking a more granular perspective down to the country level can help add some further detail to these broad processes. Chart 2.7 depicts the correlation between the income gap with respect to the United

Table 2.2

GROWTH OF REAL GDP PER CAPITA AT PURCHASING POWER PARITY, SELECTED REGIONS AND ECONOMIES, 1951–2015

(Average annual growth, per cent)

	1951–1980	1981–2015	1951–1960	1961–1970	1971–1980	1981–1990	1991–2000	2001–2010	2011–2015
Developed economies	3.5	1.8	3.1	4.2	2.6	2.5	2.1	1.2	1.1
United States	2.3	1.8	1.3	3.4	2.2	2.6	2.4	0.9	1.4
Developing economies	2.7	3.8	2.7	2.6	3.0	2.1	3.2	5.8	4.0
Africa	1.8	1.2	1.5	1.9	1.2	-0.4	0.7	3.0	1.8
America	2.6	1.3	2.4	2.4	3.0	-0.4	1.6	2.4	1.1
Asia	2.8	5.0	2.8	2.7	3.3	3.6	4.2	7.0	4.9
East Asia	3.0	7.1	4.2	3.4	4.1	6.7	5.8	9.6	6.5
China	2.3	7.7	4.1	2.7	3.1	6.5	6.2	11.1	7.2
South-East Asia	2.6	3.5	2.3	1.6	4.0	2.6	3.0	4.2	4.0
South Asia	1.4	4.1	1.5	1.5	1.2	3.1	3.7	5.7	4.1
West Asia	4.4	1.4	3.2	4.9	3.4	-1.6	1.6	3.3	-0.1
Transition economies	3.2	0.5	3.7	3.7	2.0	0.5	-4.9	6.2	2.1
World	2.7	2.1	2.6	3.1	2.0	1.5	1.7	3.1	2.5
Memo items:									
Developing economies, excl. China	2.7	2.4	2.4	2.5	2.9	1.1	2.3	3.6	2.3
Developing economies, excl. East Asia	2.6	2.3	2.3	2.4	2.7	0.6	2.1	3.7	2.4
Developing economies, excl. East and South-East Asia	2.6	2.0	2.3	2.5	2.5	0.2	2.0	3.6	2.0
Developing economies, excl. East, South-East and South Asia	2.8	1.1	2.4	2.8	2.7	-0.8	1.2	2.5	0.6

Source: UNCTAD secretariat calculations, based on The Conference Board, *Total Economy Database*, May 2015.
Note: The Islamic Republic of Iran is included in West Asia. Real GDP corresponds to Geary-Khamis PPP.

States computed in 1990 and in 2014.[11] The existence of a clear positive correlation suggests that those economies that were more distant from the income frontier in 1990 tend to remain more distant in 2014. Most developing economies did not show any sign of strong convergence with the United States economy and some of them rather diverge, becoming relatively poorer in income per capita terms (i.e. those that lie above the 45-degree line). Between 1990 and 2014 the income gap increased in many low- and middle-income economies, and in 2014 the gap was 0.9 or higher (i.e. income per capita was at most 10 per cent that of the United States) in a significant number of countries. Therefore, although many countries have experienced persistent economic growth in the last 25 years, they have, to a significant extent, been unable to close their income gap with the United States.

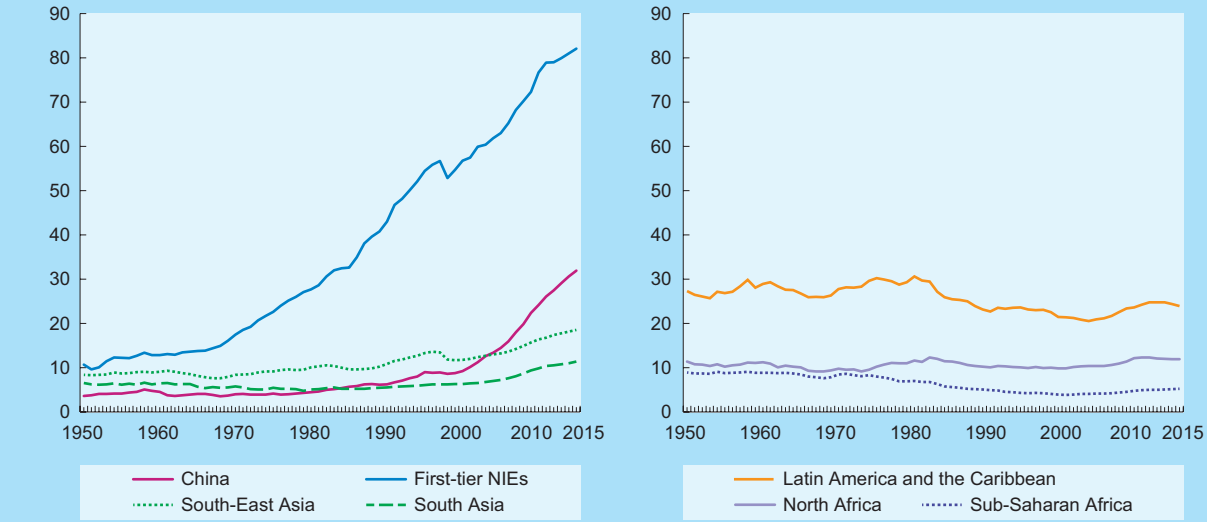
The chances of moving from lower to middle- and from middle- to higher income groups during the recent period of globalization show no signs of improving and have, if anything, weakened. On some counts this has become a particular concern for middle-income economies (see box 2.1) but it is more widespread. Building on the recent work of Arias and Wen (2016), table 2.3 uses the Maddison Project Database (Bolt and van Zanden, 2014) to estimate chances of catching up over the periods 1950–1980 and 1981–2010.[12] The dataset uses real GDP per capita at chained purchasing power parity (PPP) rates. In both periods, the United States is identified as the target lead economy. Countries are divided along three relative income groups: low (between 0 and 15 per cent of the hegemon's income), middle (between 15 and 50 per cent) and high (above 50). The table reports transition probabilities for the two sub-periods and the three income levels.

Two observations from table 2.3 are noteworthy. First, convergence from the low- and the

Chart 2.6

RATIO OF GDP PER CAPITA OF SELECTED COUNTRIES AND COUNTRY GROUPS TO GDP PER CAPITA OF THE UNITED STATES, 1950–2015

(Per cent)

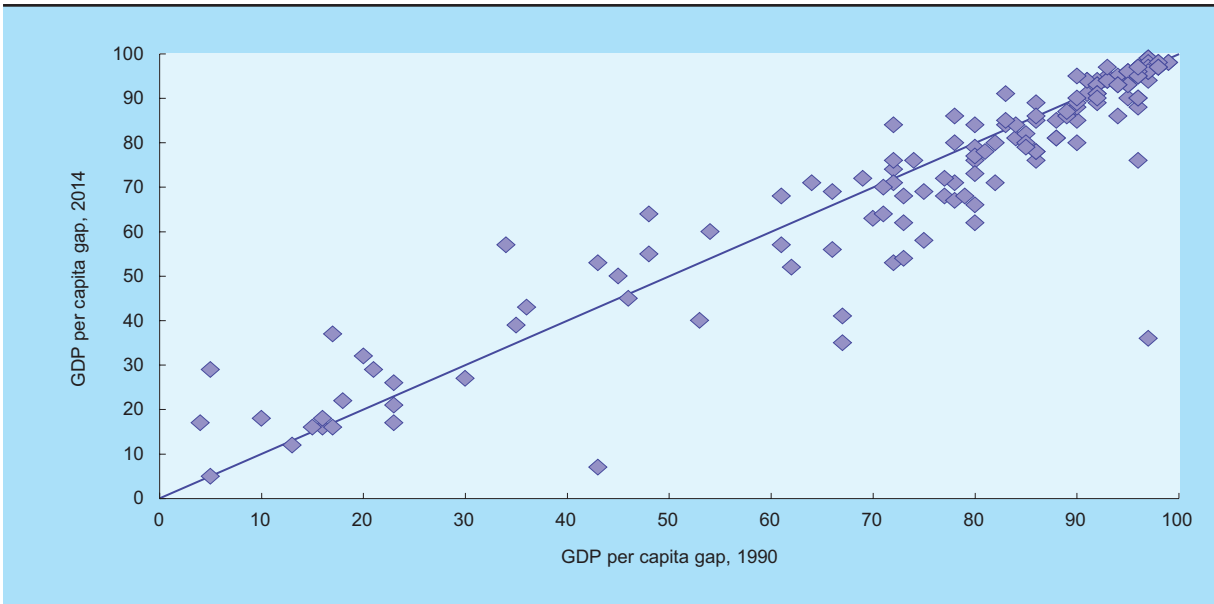


Source: UNCTAD secretariat calculations, based on The Conference Board, *Total Economy Database*, May 2015.
Note: First-tier newly industrializing economies (NIEs) are Hong Kong (China), the Republic of Korea, Singapore and Taiwan Province of China.

Chart 2.7

GDP PER CAPITA GAP BETWEEN DEVELOPING COUNTRIES AND THE UNITED STATES, 1990 AND 2014

(Per cent)



Source: UNCTAD secretariat calculations, based on World Bank, *World Development Indicators* database.

Box 2.1

MIDDLE-INCOME TROUBLES

The development literature is full of warnings about traps, gaps and curses, many of them linked to integration into the global economy. On closer inspection these often turn out to be less a matter of destiny and more of policy decisions and institutional design. However, in an increasingly interdependent world economy the link between the national and international division of labour is raising new policy challenges for many developing countries.

Attention has been devoted in recent years, in both academic and public debate, to what has been described as the middle-income trap (MIT). Although economic growth over the last half century has allowed many developing countries to reduce levels of absolute poverty, very few among them have been able to close the per capita income gap with the developed economies, let alone to catch up. Moreover, the frequency of growth slowdowns in the post-war period seems to be higher in middle-income than in low- or high-income countries (Aiyar et al., 2013). This evidence raises concerns about the validity of standard growth theory which predicts a relatively smooth growth path with fluctuations around a stable trend (see, for example, Barro and Sala-i-Martin, 1998) and implies an inverse relation between levels of income and subsequent growth rates allowing for strong income convergence between rich and poor economies (*TDR 1997*: 72–73).

In the real world, "hills, plateaus, mountains and plains" are much more the norm of global growth dynamics than the exception (Pritchett, 1998) and the cases in which low- or middle-income countries have successfully converged to the level of income of developed economies have been very few. The World Bank (2013) estimates that out of the 101 economies classified as middle income in 1960, only 13 had graduated to high income in the five decades that followed: Equatorial Guinea, Greece, Hong Kong (China), Ireland, Israel, Japan, Mauritius, Portugal, Puerto Rico, the Republic of Korea, Singapore, Spain and Taiwan Province of China. Most countries in Latin America, as well as in the Middle East and North Africa, reached middle-income status during the 1960s and 1970s, and have remained there. Even in East Asia, the second-tier of new industrializers, such as Malaysia and Thailand, has experienced growth slowdowns in recent years that could be conceived as an MIT. However, it should also be borne in mind that several countries have experienced growth slowdowns well before they have reached a threshold level of per capita income that could be seen as "middle income" even when using PPP based estimates; thus the explanations for such slowdowns must be sought in a wider context (see chapter III).

A clear and widely shared definition of the MIT is missing in the literature. This reflects both classification and conceptual issues. According to the World Bank, middle income covers a broad range of economies from some very poor sub-Saharan commodity exporters to relatively wealthy members of the European Union. The 13 countries noted above by the World Bank as escapees from the trap cover a remarkably diverse group of economies with little in common other than fast and sustained growth over a prolonged period. Spence (2011) refers to the middle-income transition as countries in the $5,000–$10,000 per capita income range that face the challenge of replacing labour-intensive sectors with a new set of industries of a more capital-, human capital- and knowledge-intensive nature. Felipe (2012a) distinguishes between lower and higher MITs; a country falls in the first category if it has been in the $2,000–$7,500 income range for over 28 years, and in the second if it has been within a range of $7,500–$11,500 for more than 14 years.[a]

The stagnation of middle-income economies emerges even more strikingly once their performance is compared to that of high-income economies (Kozul-Wright and Fortunato, 2016). Arias and Wen (2015) and Athukorala and Woo (2011) refer to a "relative income trap" in which income levels measured against those of the world economic leaders remain constantly low and without a clear sign of convergence, based in terms of each country's income per capita as a percentage of the United States level of income per capita. Arias and Wen (2015), using transition probability matrices for a sample of 107 countries between 1950 and 2011, suggest that the probability of remaining in an MIT (or a low-income trap) is persistent over time and across regions; the Asian tigers being the exception. However, as discussed in this chapter, breaking this period up between 1950 to 1980 and 1980 to 2010 actually indicates that it has become more difficult for developing economies to catch up but easier for them to fall behind during the latter period. Eichengreen et al. (2011), for example, construct and analyse sample cases where fast-growing economies begin to slow down. They find that the probability of slowdown is highest when per capita GDP reaches $16,740 (2005 international PPP dollars) but also when the ratio of per capita income to the lead country (United States) is around 58 per cent. Moreover, the probability of slowdown is highest when the share of manufacturing employment reaches 23 per cent. An exceptionally low consumption share of GDP is positively associated with the probability of slowdown. Thus, the issue is broader, cannot be limited to brackets of income levels and needs to be discussed in the context of structural transformation.

Conceptually, the notion of an MIT implicitly (or explicitly) accepts the idea that low-income countries are, in general, prone to convergence through faster growth than the richer countries, and that this process continues until a certain ceiling is reached. Yet the absence of such a general convergence trend (barring an explosive but short period from the start of the new millennium, which was not exclusive to low-income countries) as opposed to episodic convergence stories has been a striking feature of economic history over the past century. Middle-income countries are those that did indeed show faster rates of growth over some periods, which is what

Box 2.1 (concluded)

enabled them to move out of low-income status in the first place, but the question of why they then slow down requires sharper analysis than association with a particular level of income.

One argument used to explain the MIT is the so-called "developmental turning point" described by Lewis (1954), when the pool of surplus labour from the traditional sector finally gets absorbed into the modern sector, so that further expansion generates rising wages. This has been interpreted as a problem in a more open global economy because of the threat posed by rising wages unless they are accompanied by at least commensurate productivity increases. Paus (2012: 116) therefore argues that "many middle-income countries find that they can no longer compete in the production of low-wage commodities but that they have not developed the capabilities to compete on a broad basis in higher productivity activities. Middle-income countries now run the risk of being trapped, of being pushed onto the low road to development, where declining wages form the basis for competitiveness and growth."

However, while unchecked competitive pressures run the danger of a "race to the bottom" (see chapter IV), identifying this Lewisian turning point with the MIT is likely to be misleading. First, it is based on a notion of reaching full employment that causes rising wages and makes aggregate productivity indicators relevant, rather than productivity in trade-competing activities alone. Yet it is evident that countries can be "trapped" at low incomes or with decelerating growth rates well before they reach full employment. Second, it implicitly assumes that external demand is the main impetus for growth, whereas if internal demand is considered, then rising wages can offer new profit opportunities as markets expand domestically. In such a case, higher production costs may not be the defining constraint on export growth in middle-income countries (Kanchoochat, 2015). Other possible constraints that may be more binding arise from inadequate or inappropriate educational provision (particularly at higher levels) or weak technological support or an insufficiently sophisticated export basket that results in a tightening balance of payments constraint. In most of the successful catch-up economies identified in the World Bank study, higher productivity activities were sequentially developed in industries (e.g., iron, steel and electronics) using new skills and capabilities, some of which were transferred and adapted from existing industries, and others that were nurtured with more targeted government support. This strategic increase in high "connectivity" sectors allowed for a managed transition towards more sophisticated and higher value-added activities, especially those requiring similar technology and production techniques (Jankowska et al., 2012).

Yet the phenomenon of the MIT cannot be boiled down to merely an issue of reaching the limits of growth via capital accumulation such that technological upgrading must become the driver. In fact in most middle-income countries, the bulk of the labour force is low skilled. Technological upgrading of the modern sector, on the other hand, utilizes mostly high-skilled labour, and there is no guarantee that productivity gains will spill over into other sectors. Economies with surplus labour and sizeable informal sectors continue to face the challenge of ensuring aggregate economy-wide labour productivity increases, even when attempts to improve productivity in more sophisticated activities are successful. Thus, innovation on its own cannot be an easy solution to the complex phenomenon of growth deceleration.

From this perspective, economic diversification plays a key role in the process of development. Imbs and Wacziarg (2003) show that, until relatively late in the process of development, as income per capita rises sectoral production and employment become less concentrated and more diversified. It is only when the per capita income reaches a certain level (around $9,500 for their data set) that the sectoral distribution of economic activity starts concentrating again. Felipe (2012b) finds that those countries that have attained high-income status were substantially more diversified at the time of their transition than countries that remained in the middle-income group.

The possibility of a link between lack of diversification and growth slowdown is confirmed by Aiyar et al. (2013) who find evidence that sectoral diversification is associated with a lower probability of growth slowdowns. Diversification can be seen as a form of insurance against idiosyncratic shocks to a particular sector: to the extent that sectoral shocks could lead to slowdown and stagnation in a concentrated economy, diversification reduces the probability of such an event.

Traps and landmines exist at all stages of development, and their impacts vary not just according to per capita income levels but the specific external and internal conditions facing each country. While the MIT may not capture the dynamics associated with growth slowdowns that appear to occur at very different levels of per capita income, it is also the case that the problems facing more diversified countries at broadly "middle" levels of per capita income are somewhat different from the concerns of less diversified countries with lower per capita income. The fact that many of them tend to be manufacturing exporting and importing countries that have become more closely integrated with global financial markets over the past two decades adds to the complexities. The problems of many such economies come about not because of their levels of per capita income and the associated relationship between wages and productivity, but because of the multidimensional effects of the external environment operating in conjunction with domestic political economy.

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[a] These thresholds represent the median number of years that the sample countries spent in their income categories.

Table 2.3

PROBABILITY OF CATCH-UP WITH THE UNITED STATES, BY INCOME GROUP, 1950–1980 AND 1981–2010

Starting position \ Ending position	1950–1980			1981–2010		
	Low income	*Middle income*	*High income*	*Low income*	*Middle income*	*High income*
Low income	0.85	0.15	0.00	0.91	0.07	0.01
Middle income	0.12	0.70	0.18	0.21	0.71	0.08
High income	0.00	0.06	0.94	0.00	0.19	0.81

Source: UNCTAD secretariat calculations, based on the *Maddison-Project* database. Available at: http://www.ggdc.net/maddison/maddison-project/home.htm, 2013 version.

Note: Countries are classified in three income groups: low income (with their per capita income below 15 per cent of that of the United States); middle income (15–50 per cent); and high income (more than 50 per cent). Probabilities (ranging between 0 and 1) present the observed relative frequency of a change between income groups within the two considered periods.

middle-income groups has become less likely over the last 30 years (1981–2010) relative to the previous period (1950–1980). As reported in the table, the probability of moving from middle- to the high-income status decreased from 18 per cent recorded between 1950 and 1980 to 8 per cent for the following 30 years. Analogously, the probability of catching up from the low- to the middle-income group was reduced approximately by the same factor, from 15 per cent to 7 per cent. Second, and perhaps more strikingly, the probability of falling behind has significantly increased during the last 30 years. Between 1950 and 1980 the chances of falling into a relatively lower income group amounted to 12 per cent for middle-income economies and only 6 per cent for high-income countries. These numbers climbed to 21 per cent and 19 per cent respectively in the subsequent period.

Further insight into these developments can be gained by focusing on the top 20 performers between 1980 and 2013 (Dullien, 2016). These countries have enjoyed an average per capita growth rate of at least 3.2 per cent over the period, almost twice the figure for the United States.[13] This implies that these economies at least tripled their GDP per capita with the top performer, China, seeing a 16-fold increase. This is an extremely diverse group, ranging from small island economies to large former empires. There is considerable variation across these countries in terms of openness and trade integration, and some of the most successful economies engaged in trade integration strategically rather than in a general manner. Just two members of the group (Oman and Sudan) are oil exporters – a surprisingly small number. Some others include a few tiny economies that found specific niches in the world market (such as Bhutan, the Lao People's Democratic Republic and Saint Vincent and the Grenadines). The larger category includes economies (such as China, the Republic of Korea, Taiwan Province of China) that use deliberate development strategies, including industrial policy, typically alongside pursuing strategies that maintain competitive exchange rates (see chapter VI on the significance of exchange rates).

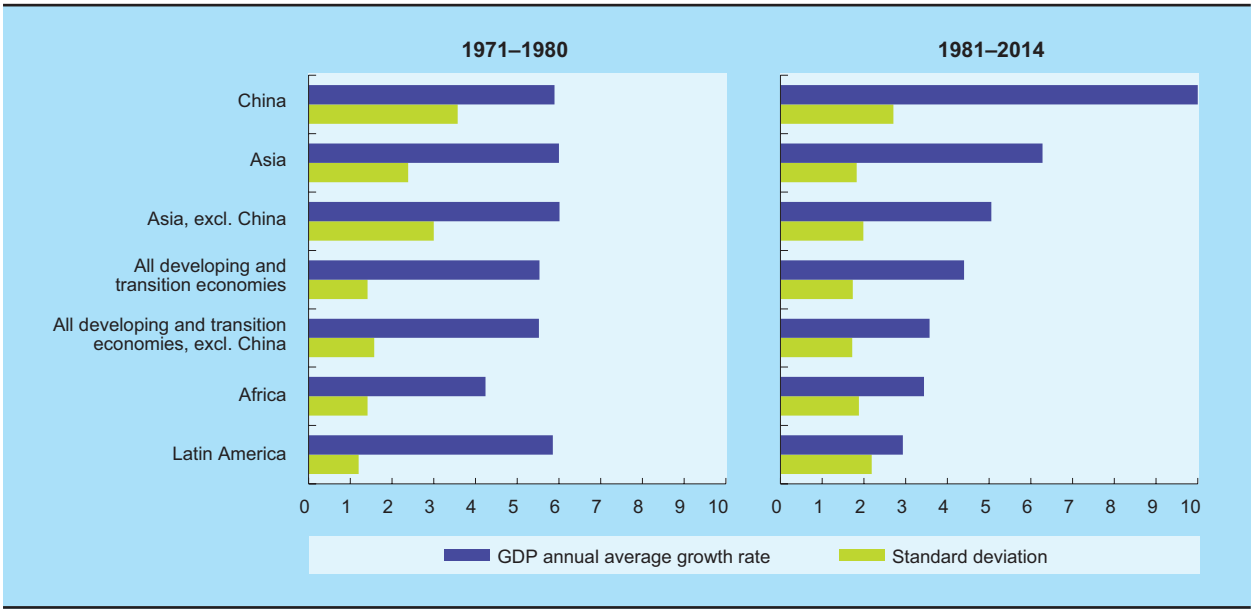
The other important point about the growth story of the last three decades or so is that building a stable growth path has also not become any easier compared with the past, again with Asia being the exception (chart 2.8). Rather, increased instability of growth across all regions appears to be a feature of the current era of globalization.

These longer term trends in per capita income have both determined and been affected by the evolving patterns of structural transformation across the developing world. These are considered in greater detail in chapter III, with reference to regional differences, but the next section outlines some of the general issues at stake.

Chart 2.8

REAL GDP GROWTH IN SELECTED COUNTRY GROUPS, 1971–2014

(Annual growth rate and standard deviation, per cent)



Source: UNCTAD secretariat calculations, based on United Nations Department of Economic and Social Affairs (UN DESA), *National Accounts Main Aggregates* database.
Note: Calculations are based on GDP in constant 2005 dollars.

C. Structural transformation: The missing link(s)

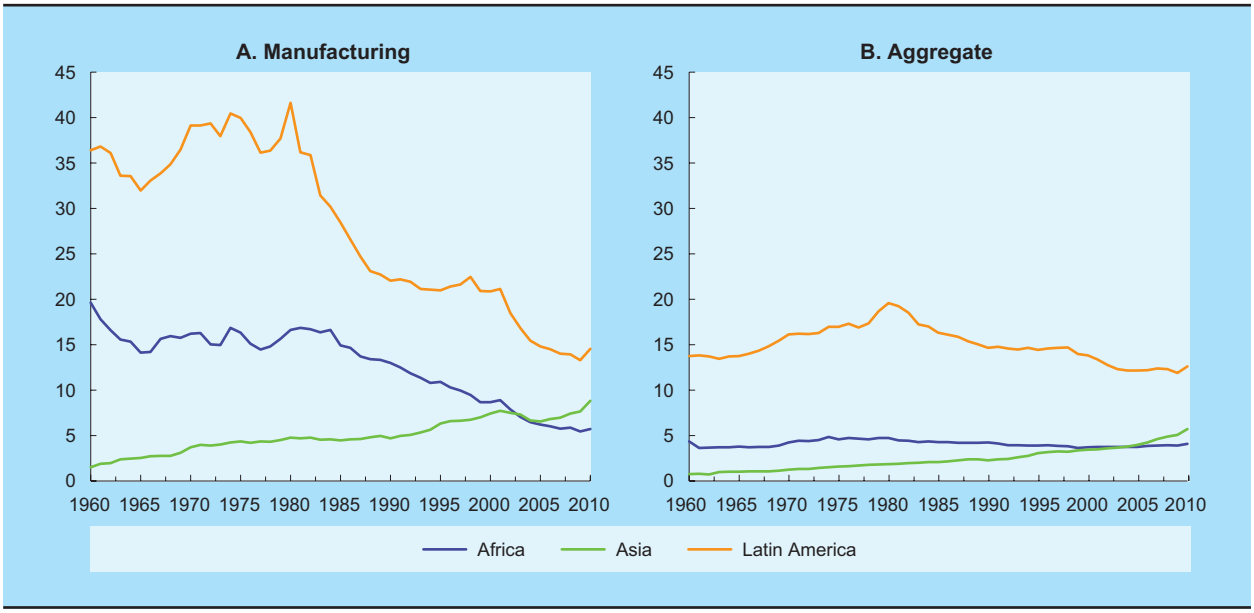
From 1950 to 1980, structural change in all developing regions more or less followed the pattern that development economists both predicted and prescribed. The share of agriculture in value added and employment fell, while that of manufacturing increased, along with that of other industries (utilities, construction and mining). There was, of course, considerable variation across countries reflecting differences in initial conditions and policy choices, but the classical pattern was most pronounced in East Asia (*TDR 2003*: 93–94). Perhaps not surprisingly, these structural changes coincided with a period of particularly fast industrial growth rates (see table 2.1) which, with one or two exceptions, has not been replicated before or since. In the subsequent periods, manufacturing industry's shares increased only in Asian countries, both for value added and for employment. They both fell in Latin America. In Africa, while manufacturing's share in value added tumbled, the employment share barely moved (see chapter III).

Data on labour productivity provide more telling evidence of this pattern and of the break in the process of structural transformation for several regions after 1980. Chart 2.9 shows the productivity gap between manufacturing industry in the three developing regions and the United States. As expected,

Chart 2.9

LABOUR PRODUCTIVITY IN THE MANUFACTURING SECTOR AND IN THE OVERALL ECONOMY IN SELECTED DEVELOPING REGIONS, 1960–2010

(As a percentage of United States productivity)



Source: UNCTAD secretariat calculations, based on Timmer et al., 2014.
Note: Figures in 2005 constant prices in national currencies were converted using 2005 exchange rates. Weighted averages across regions.

Asia's productivity gap shrank continuously over the period, most sharply in the late 1960s. However, it is more surprising (given the criticisms directed at Latin America's and Africa's development policies in this period) to find that, in both regions, labour productivity increased, keeping pace with the United States in the 1960s and in the 1970s. Conversely, from the early 1980s, there appeared to be a trend towards increasing divergence in labour productivity. A similar picture describes the evolution of labour productivity in market services (Timmer et al., 2014: 13).

Trends in structural transformation in different regions and economies since 1970 indicate that these have been closely related to patterns of capital accumulation, as well as income, production and learning linkages. These are considered in greater detail in the next chapter which suggests that the process of diversification towards greater shares of higher value-added activities, especially in manufacturing industries, in both income and employment, is ultimately about the ability of specific economies to develop these various linkages and the degree to which they are able to exploit them. Differences in the generation of such linkages largely explain the often sharply divergent patterns of structural transformation of different countries over the course of the past few decades.

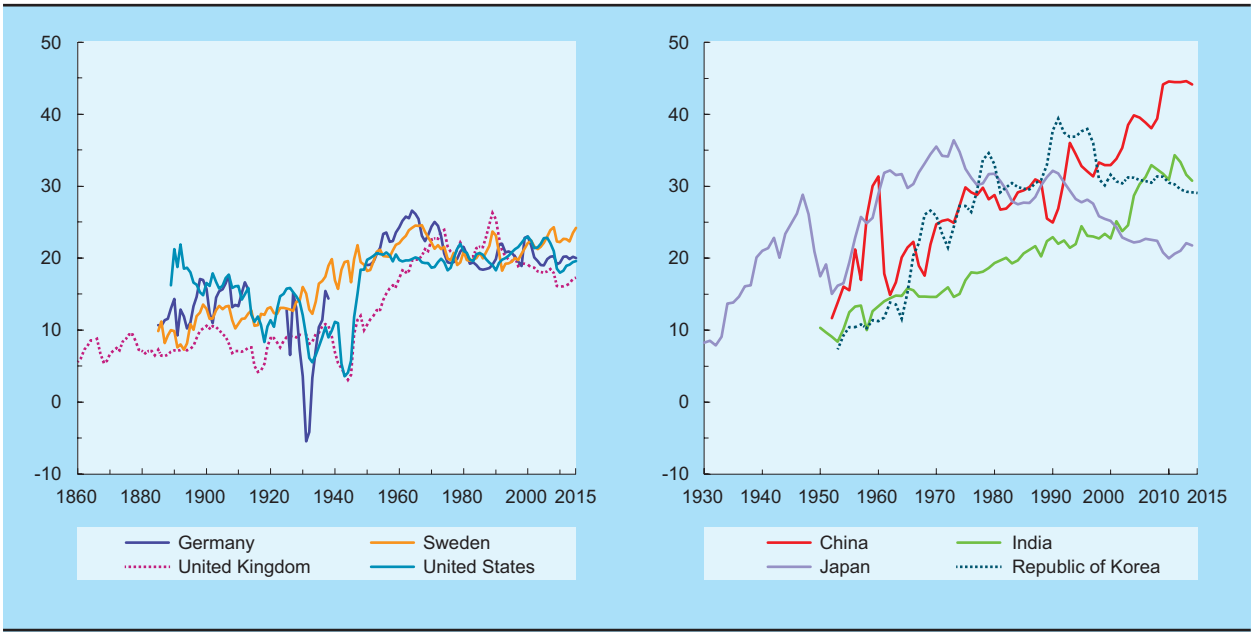
Looking at the broad sweep of history, it does appear that the later a successful catch-up process has begun the greater the investment push required to sustain that process (chart 2.10). In today's developed economies in the West, and Japan and the Asian tigers in the second half of the twentieth century, sustained and diversified industrialization based on a strong investment drive was also supported by a rapid increase in both exports and domestic demand (*TDRs 1996, 1997* and *2003*). To some extent, this virtuous pattern has also been exhibited in recent decades in China although, as noted earlier, China is still at a much lower level of income.

It also appears that the later the countries have embarked on a successful industrialization path, the greater has been the emphasis given to manufacturing

Chart 2.10

FIXED INVESTMENT IN SELECTED RAPIDLY GROWING COUNTRIES, 1860–2015

(As a percentage of GDP)



Source: UNCTAD secretariat calculations, based on Deane and Cole, 1962; Liesner, 1989; IMF, *International Financial Statistics*; and China National Bureau of Statistics.

Note: Investment figures for Germany between 1885 and 1938 refer to net fixed capital formation. Data for 1950–1990 are for the Federal Republic of Germany only. In the United States, investment figures up to 1947 refer to private gross fixed capital formation only.

exports. From the mid-twentieth century, the most successful cases of economic expansion have also been those that dramatically increased their shares of global merchandise exports, as indicated in chart 2.11.

In the immediate post-war period, the big story was the dramatic increase in the share of global exports of the then Federal Republic of Germany, a rise commensurate with rapid increases in that county's income. The export success of Japan, only somewhat more moderate, followed, becoming more significant in the 1970s. The 1980s can be seen as the period when the first-tier newly industrializing economies – Hong Kong (China), Republic of Korea, Singapore, Taiwan Province of China – achieved their export-oriented industrialization success, while the period after 2000 has been marked by the emergence of China. Yet these stories, remarkable as they have been, remain exceptions among the vast number of developing countries that have not shown the same capacity, or had the same opportunity, to improve export shares or translate those into sustained increases in per capita incomes.

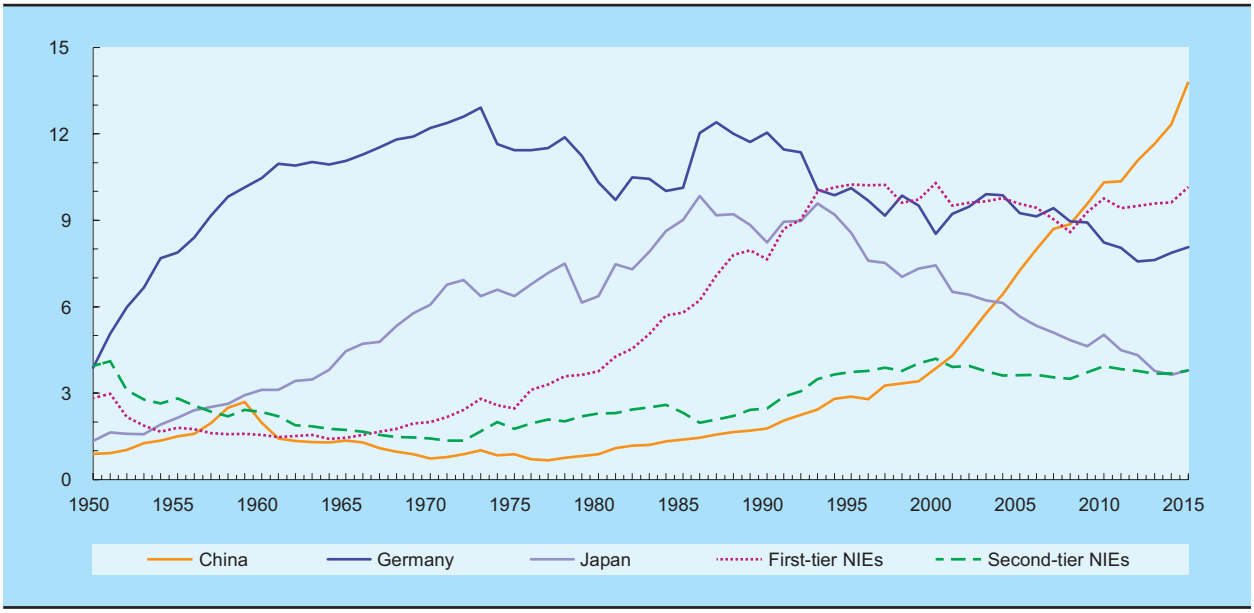
As global trade picked up pace from the early 1990s, the belief grew that it was becoming easier for more developing countries to follow a similar catch-up path to that of East Asia. As discussed in greater detail in chapter IV, this does not appear to have been the case. Moreover, and as considered in previous *TDRs*, this is, in part, because there is not an automatic link between exports and growth. Any efforts to strengthen that link are contingent on a variety of factors, of which two, in particular, stand out.

First, as was noted above, and is evident from charts 2.10 and 2.11, successful exporting countries have also experienced very substantial investment pushes, which were critical in enabling such expansion and providing the synergies that led to rising productivity and improved competitiveness. In most developing regions exports as a share of GDP have been rising steadily (or sharply) in the recent period

Chart 2.11

SHARE IN GLOBAL MERCHANDISE EXPORTS, SELECTED ECONOMIES, 1950–2015

(Per cent)



Source: UNCTAD secretariat calculations, based on *UNCTADstat*.
Note: First-tier NIEs are Hong Kong (China), the Republic of Korea, Singapore and Taiwan Province of China. Second-tier NIEs are Indonesia, Malaysia, the Philippines and Thailand. Germany comprises Federal and Democratic Republics prior to 1990.

(see chapter IV); however, the extent to which this did or did not pull up economic growth commensurately appears to have depended heavily on whether investment was strongly connected to this export drive. Indeed, it can be argued (Patnaik and Chandrasekhar, 1996) that the causation has typically run from investment to exports, with subsequent linkages creating positive synergies for growth. The second factor supporting industrial catch-up was the close link between export activities and the accumulation of the knowledge, skills and capabilities needed to sustain the non-price factors of competitiveness. This link was essential for sustaining the process of structural transformation as it enabled producers in targeted export industries to identify and exploit opportunities for change, and to invest in productive capacities and technologies with greater productivity potential (Abramovitz and David, 1996; Nübler, 2014).

A weakening of linkages between investment, exports and learning has produced the opposite effects. For example, there appears to be a close relationship between the evolution of the structure of exports and the inter-industry pattern of investment in major Latin American economies, with no significant shift towards technology-intensive industrial activities (*TDR 2002*).[14] Under these circumstances, the exposure of economies to international competition, whether through rapid trade liberalization or through efforts to attract FDI, may simply lead to the creation of enclaves of manufacturing exports with varying degrees of technological sophistication or to industrial rationalization whereby rising productivity through job cuts allows some sectors to maintain price competitiveness and market shares. In some cases, this may involve substituting domestic inputs with imported ones or reverting to a greater reliance on existing advantages from extraction and processing of primary commodities, even as employment falls in sectors with potential for strong productivity growth and greater technological dynamism (chapter III; see also *TDR 2003*).

D. A global enabling environment?

Understanding the evolution of different transformation paths at the country level requires considering specific local institutional conditions and histories as well as to policy choices. However, the global environment will also have a bearing on how local efforts to manage structural transformation processes evolve. In particular, the appropriate macroeconomic conditions are needed for governments and firms to build, expand and improve the linkages that underpin inclusive and sustainable industrialization and development.

The current global environment has certainly helped to enable increases in cross-border flows of goods, services and capital, including FDI. Trade flows in particular have played a major role in changing growth prospects for a small but significant set of countries. The mobility of labour across borders has increased to some extent since the mid-1980s, but has not matched capital movements to any significant degree. Moreover, while capital has definitely become much more mobile across borders, capital flows have been more volatile for most developing countries, and have not always been sustained over sufficiently long periods to enable for desired changes in accumulation and productive structures.

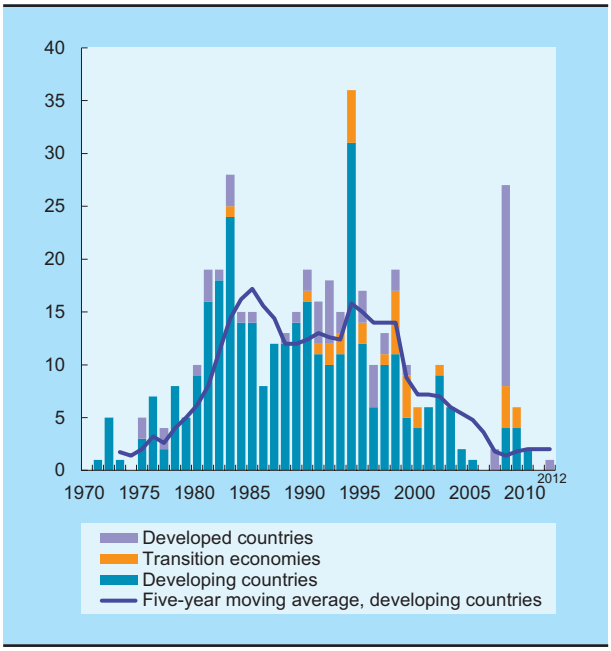
It is not entirely clear whether the global environment has enabled or hindered the kind of structural transformation that has been at the heart of success stories of development. Many of the successful catch-up economies established their paths in the previous era of globalization, under very different international arrangements than currently prevail, and which also allowed for more comprehensive State intervention in the form of trade and industrial policies and greater control over finance. China, which has been the outstanding growth story of this – indeed of any – era, has followed a path which is familiar from a previous generation of newly industrializing economies from East Asia. Its success reflects not simply a maximalist growth path but a continuous one which has, to date, avoided severe and lasting setbacks. That continuity has been underpinned by a successful transformation path which has seen a steady reduction of the weight of the rural economy and population, an industrialization push built around rising productivity in the manufacturing sector and tied to an expanding urban economy, and a strong link between exports and investment. There seems little doubt that changes in the global economy supported this process, but they did so in the context of a very strong developmental State and expansion of domestic markets. The record in other developing regions, and indeed in some other parts of the Asian region, is less positive, even for large economies such as Brazil, India, Indonesia, Mexico, Nigeria and South Africa (chapter III).

It is worthwhile, in this context, to identify some features of the global economy and of the international economic and financial architecture that have proved a good deal less enabling for a sustained process of structural transformation.

A first concern with today's global economic environment is the declining trend in growth, led by a persistent slowdown in the developed economies. It could appear that this has made catching up easier, but convergence under such conditions is obviously less desirable than in a broader context of overall dynamism. Further, this slowdown in developed economies has been associated with a series of macroeconomic imbalances and inequities that are likely to prove an obstacle to structural transformation in many developing countries. Most importantly, the lack of aggregate demand at a global level, resulting at least in part from wage restraint and attempts at fiscal austerity in most developed economies, has had cascading effects on the developing world. This

Chart 2.12

NUMBER OF SYSTEMIC BANKING CRISES BY COUNTRY GROUP, 1970–2012



Source: UNCTAD secretariat calculations, based on Laeven and Valencia, 2012.

has certainly become apparent with the recent slowdown of international trade discussed in the previous chapter. But the very rapid expansion of trade during the decade of convergence at the start of the millennium was itself heavily dependent on the massive accumulation of public and private debt in developed countries with deficits, which was never a sustainable process.[15] It is true that an important factor behind higher and sustained growth in the East Asian economies was a relatively high level of domestic credit to GDP (Priewe, 2015). However, that was mostly achieved within a heavily regulated financial system and linked to a vibrant profit-investment nexus as a key feature of these economies (*TDR 2003*). More recent trends in many emerging economies display a greater reliance on credit-fuelled expansions in more deregulated financial contexts, which have already given rise to concerns in many countries, as discussed in chapter V. A more generalized pattern of debt dependent growth in the context of greater financial deregulation and the absence of a strong international financial safety net appears to be an unreliable basis for a sustainable path of structural transformation.

A second (and related) area of concern is the tendency of the current era to give rise to periodic shocks and crises. The initial perceptions of a "great moderation" relied heavily on trends in developed economies, whereas for much of this period, developing countries experienced heightened vulnerability to economic shocks of varying origin, at least compared with the previous period (chart 2.12). The period from 2002 to 2008 was an exception, but this ended with the largest global economic crisis since the 1930s, the continuing effects of which still hold back growth in the developed economies and have belatedly generated instability in developing countries. Such an environment is unlikely to support the kind of long-term strategy which can guide a successful structural transformation path.

A third feature is the slowdown of capital accumulation across most regions in the global economy. There are obvious and close links between a robust process of capital formation and structural transformation; indeed, a strong investment climate was a central promise of the policy changes which ushered in the new era of globalization. The expectation was that capital would flow from a global pool of savings to finance trade imbalances in fast-growing economies and provide more resources for capital formation, particularly in capital-scarce, poorer countries where potential returns would be highest, and add depth to domestic financial markets. This expectation has not been borne out (*TDR 2008*). As chart 2.13 shows, there has been little connection between the trajectory of global capital flows, which have been very volatile, and the relatively dismal performance of gross capital formation.[16]

Another component of the current global landscape that is likely to have a bearing on the pattern of structural transformation at the national level is the way in which markets are organized at the international level, and the processes of greater concentration in several areas of production and distribution.

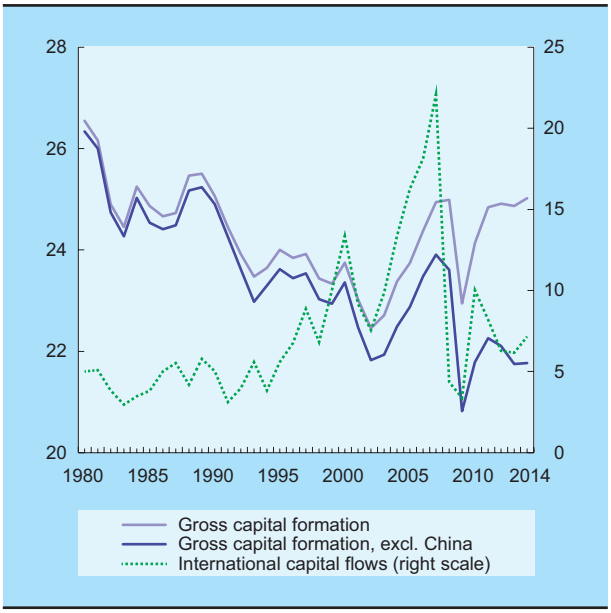
In a world of increasing returns, fast-moving technological change and first-mover advantages, large firms emerge with the aim, in part, of increasing their control over market forces. The assumption that prices reflect underlying cost conditions is questionable where monopoly conditions are present or where there are significant externalities or incomplete markets. The emergence of global financial institutions with potentially considerable influence over the markets

in which they operate has been a prominent, and much discussed, feature of the current globalization era. This is a well understood trend in the banking sector, where banks that were too big to fail became part of the environment leading to financial crisis, assisted partly by a wave of mergers and acquisitions in the 1990s (Santillán Salgado, 2011). But this trend was also true of other parts of the non-banking financial system. For example, a study by the Federal Reserve Bank of New York (Cetorelli et al., 2007), just before the financial crisis, found that in the period 1990–2004, there were significant increases in concentration in the United States markets for certain financial services such as securities underwriting and initial public offerings (IPOs) and mergers and acquisitions advisory services, as well as increased global concentration in equity-linked over-the-counter markets. At the same time, competition across financial institutions became more intense as the lines between market segments were eroded by deregulation. The relatively halting attempts at re-regulation of the financial systems in developed economies since the financial crisis have not made too much of a dent in the highly concentrated financial system globally: the countries with the highest degree of concentration in the financial sector – Japan, Switzerland, the United Kingdom and the United States – are all home to transnational banks and other financial institutions with very significant international presence.

Chart 2.13

INTERNATIONAL CAPITAL FLOWS AND FIXED INVESTMENT AS A PROPORTION OF WORLD OUTPUT, 1980–2014

(Per cent)



Source: UNCTAD secretariat calculations, based on IMF, *Balance of Payment Statistics*; and UN DESA, United Nations Statistics Division.

It is more difficult to gather empirical evidence on patterns of market concentration in other parts of the global economy. Nevertheless, a significant increase in market concentration has been observed in the case of the United States using two different methodologies (Council of Economic Advisers, 2016; and The Economist, 2016). The Economist (2016), using the top four firm's share in total industry revenue, found a significant increase in market concentration from 1997 to 2012 following a decline in the 1980s. Indeed, it increased in two thirds of 893 industrial and services activities. Markets in which the top four firms account for at least two thirds of sales are considered to be "oligopolies". Those in which such firms account for between a third and two thirds are "concentrated" and those in which this account for less than a third are "fragmented". The share of the "oligopolistic corner" in the economy increased from 4 per cent in 1997 to about 10 per cent in 2012. The share of concentrated industries rose from 24 per cent to 33 per cent, implying a fall in the share of fragmented industries from 72 per cent to 58 per cent.

It is probably no coincidence that, as the Council of Economic Advisers shows, the ratio between the returns on investment capital of the 90th percentile firm and of the median firm, which was stable at approximately two times from the 1960s to the mid-1980s, increased to more than five times in the 2000s. As sectors with "abnormal" profits have increased their shares, the share of post-tax profits in GDP has also soared since 1980, being now close to record levels. The counterpart of this is the declining share of wages in national income which has been discussed in previous *TDRs*. The impact of these trends on structural transformation will be examined in greater detail in chapter V.

The internationalization of production has also seen both heightened concentration and competition trends. Big firms dominate the world of trade and foreign direct investment. Moreover, liberalization and technological progress have made it easier for these firms to locate abroad and to further extend their global reach, including through non-equity modes

of operation, such as international outsourcing of production, licensing of knowledge to host-country companies, management contracts and franchising (UNCTAD, 2011b; 2016). Moreover, the waves of cross-border mergers and acquisitions since the early 1990s have certainly added to that reach. There is plenty of anecdotal evidence about the dominant global role of a handful of companies in particular products and services, from cars to brewing to mobile phones (Norfield, 2016: 121–123), and from just a few host countries.[17]

However, the links from increasing firm size at the national level to patterns of global ownership and the degrees of control such firms have over markets is far from a direct one, given that multinational enterprises (MNEs) are, in a more open global economy, bound to face the competitive challenge of foreign rivals both in their home and third markets. Still, the trend is discernable. One recent study, which constructed the networks of ownership and control around 43,000 MNEs, taken from the Orbis 2007 global company database, found that less than 150 core firms held nearly 40 per cent of the control over the economic value of MNEs in the world, via a complicated web of ownership relations (Vitali et al., 2011: 6). While such a pattern may have multiple causes ranging from reducing transaction costs, to risk sharing to increasing trust, the likelihood is that it will impact on market structure. Given that even small cross-shareholding structures at a national level can affect the operation of markets, the implications for competition (and competition policy) in key sectors in the global economy could be significant (Singh, 2002).

These factors have, most recently, come together around global value chains (GVCs), initially restricted to a few industries (such as semiconductors, cars and garments), but becoming steadily more and more common. Nolan (2012: 18–19) found that in more than 20 industrial sectors in which GVCs are organized, a few "system integrator firms" tend to dominate the chains; developed countries' corporations[18] still held, in 2013, the biggest market share in 20 out of 25 broad sectors, including cars, business and personal services, chemicals, electronics, financial services, heavy machinery and media (Starrs, 2014).

The impact of these trends on structural transformation is examined in greater detail in chapter IV. However, a related feature has been the heightened competition closely linked to the emergence of a global pool of labour, to be freely tapped by footloose capital and by system integrator firms which can easily shift parts of their global value chains, arbitraging labour cost differentials across countries. The increased bargaining power of capital – further enhanced by institutional and technological changes (ILO, 2013) – lies at the root of the decline in the global wage share since 1980, both in developed and developing economies (see chart 1.7 in chapter I; see also *TDR 2012*; Karabarbounis and Neiman, 2014). This tendency is often accentuated by various trade and economic partnership agreements that increase competition across countries in the production stage that involves more labour, even as they tighten intellectual property rights that increase monopoly control over the pre- and post-production stages (like design and distribution). Although still missing important details, multilateral initiatives such as the 2030 Agenda and the Addis Ababa Action Agenda (AAAA) point towards an alternative approach to building an international environment which would enable developing countries to reap the potential benefits of an increasingly integrated global economy.

E. Conclusions

A combination of greater openness, technological progress and increased capital mobility has increased the degree to which most economies are now integrated into the global economy, to the point where no policymaker or business can ignore the influence of events and policies in other parts of the world or the reaction of other actors – such as foreign governments and large internationalized firms – to their own actions.

The "universal interdependence of nations" is not, in itself, a new feature of the global economy. Nor is the spread of market forces, which have ebbed and flowed at the global level over past centuries. Rather, what makes today's globalization something of a new departure is the way in which economic, social and political factors interact to shape the rules of the game by which incomes and jobs are generated. In particular, weakened State regulatory authority and diminished policy space have meant that those forces are increasingly managed through uncontested and increasingly unaccountable private institutions and market structures, often with a high concentration of economic control and financial leverage, and with the ability to impose penalties on countries that seek to circumvent or bend those structures. Rodrik (2011) has described this as a shift towards deeper integration at the expense of democratic representation or policy space, though it is probably a mixture of both. Recognizing this is an important correction to the view that globalization is an autonomous, irresistible and irreversible process driven by purely impersonal forces. Such forces are important, but they are instigated and directed by specific political choices and private interests.

The case for choosing globalization as the framework for designing policy is based on the argument that it will stimulate entrepreneurship, investment and economic growth, particularly in developing countries, and enable them to rapidly catch up with the levels of income, productivity and welfare prevailing in the developed economies. That some countries have been able to do this is undoubtedly the case. However, the review of the evidence offered above suggests that successful countries have been very heavily concentrated in the East Asian region, that their growth paths have long roots back to the previous era of managed globalization, and that they have fostered a sustained process of structural transformation. Elsewhere the record is more chequered with episodes of both convergence and divergence and with fewer signs of the structural transformation needed to underpin sustained rises in productivity, even in periods when growth has picked up.

Closing gaps is made all the more challenging because policymakers are chasing a moving target with the graduation of a small number of successful newly industrializing economies and the evolution of richer countries. Even as growth has slowed in the developed economies, in several dimensions, such as years of schooling or urbanization levels, middle-income (and even some lower income) countries have already reached the point that today's rich countries attained only once they had crossed the high-income threshold. But in the meantime, high-income countries have moved on. In consequence, catching up today requires even more capital, education, innovation, infrastructure, as well as closer cooperation between the public and private sector, than was the case in the past.

After three decades of pushing toward a more open global economy, a key question is whether the kind of international trade, financial and production relations that have emerged are able to support the structural transformation needed for inclusive and sustainable growth and catching up. In this respect, and as argued extensively in previous *Reports*, when

currency and financial markets are dominated by speculative transactions, herd behaviour and recurrent crises, and when there is virtually no coordination at all of macroeconomic policies in the systemically important developed economies, a stable global economy that supports a strong pace of capital formation is unlikely to emerge. Similarly, an international trading system that generates greater volumes of trade but without commensurate increases in income and employment, and which reinforces existing structures of production and first-mover advantages, leaves weaker countries increasingly anxious about their future economic prospects. As their resources are increasingly stretched at home, poorer countries find it difficult to bargain effectively in pursuit of their own efforts to catch up and they remain highly vulnerable to the vagaries of international finance, the presence of footloose corporations, exogenous shocks and balance of payment difficulties.

Institutional developments in the international arena have further constrained developing countries with rules and restrictions that did not apply to late developers in the twentieth century (*TDR 2014*). Thus, as developing countries gear up to implement a new and more ambitious development agenda, they are facing not only a more complex and unstable global environment, but also one in which various instruments have been expunged from their policy toolkit. Many of these instruments have historically been critical for managing the process of structural transformation, and, in particular, industrialization. This is an issue taken up in the subsequent chapters of the *Report*.

Notes

1 This new policy consensus has been given various names – globalism, neo-liberalism, market fundamentalism, market triumphalism, Washington Consensus, etc. – none of which are entirely satisfactory. For accounts of its rise, see Kozul-Wright and Rayment, 2007, chap. 1; Mazower, 2012, chap. 12; and Toye, 2014, chap. V.

2 The IMF's *World Economic Outlook* 2009 predicted average growth for emerging and developing economies of 4 per cent, it turned out to be 7.4 per cent.

3 In his 2000 Prebisch Lecture in UNCTAD, the Canadian economist Gerald Helleiner argued "the very term globalization has become so slippery, so ambiguous, so subject to misunderstanding and political manipulation, that it should be banned from further use". For historical accounts of the changing nature of globalization and its impact, see Bairoch, 1993; Bairoch and Kozul-Wright, 1996; Bayly, 2004; Hopkins, 2002; O'Rourke and Williamson, 2002; and Panic, 2011.

4 This measure of financial openness is a de jure and not a de facto measure, i.e. the Chinn-Ito index does not measure the actual financial openness but only financial openness according to the regulations in place in each country as reported in the IMF, *AREAER*. To this end, the Chinn-Ito index is based on the four binary dummy variables that codify the tabulation of restriction on cross-border financial transactions (see Chinn and Ito, 2006): (i) The presence of multiple exchange rates; (ii) Restrictions on current account transactions; (iii) Restrictions on capital account transactions; and (iv) Requirement of the surrender of export proceeds. Eventually the index is the first standardized component of the four above mentioned variables using a principal components analysis methodology. However, the source IMF data do not capture the extent of all financial regulations that could either strengthen or weaken the financial system. For instance, they do not account for macroprudential measures that could be taken to avoid bailing out domestic financial institutions (leverage ratio, core capital, etc.) and other microprudential regulations (consumer protection against over indebtedness, etc.). In this regard, the IMF offers only a partial overview of a country's financial regulation, addressing mostly the interaction between residents and non-residents.

5 While a vast academic literature has provided support to these ideas, the World Bank's 1987 *World Development Report* was amongst the first attempts to offer a synthetic vision.

6 Two types of convergence have been distinguished in this literature: absolute and conditional. Under absolute convergence, backward regions actually do

grow faster on average than more advanced ones, so catching up is observed in reality. However, this result rests on a rather simplistic perception of the narrow determinants of growth. Theories of conditional convergence broaden the set of determinants of growth and recognize that economies may have different steady states. So backward regions still have the potential to grow faster than the more advanced ones, but this potential would be realized only if they satisfy certain conditions. If not, then the growth rate in backward regions may be as slow as, or even slower than, in advanced regions. Moreover, because economies converge on their own steady states there is no assumption about a final state where all income levels are identical. For an earlier assessment of this literature, see Rowthorn and Kozul-Wright, 1998.

7 See variously, Dullien, 2016; Levine and Renelt, 1992; Moral-Benito, 2012; Pritchett, 1996; Rodriguez and Rodrik, 1999.

8 The 1970s was also a period of convergence largely because growth in the developed economies slowed sharply thanks to a series of shocks.

9 While table 2.2 describes per capita incomes measured in terms of PPP conversion factors, it should be noted that there are both conceptual and empirical problems with the use of PPP-based comparisons of per capita income, including lack of comparability across different time periods and a tendency to overstate the incomes of the poor. This would obviously also affect conclusions with respect to convergence and divergence.

10 However, if China is excluded, the average growth rates for developing countries during the 1980s and 1990s were lower than those of the United States.

11 It is possible to compute the income gap as GAP = 1 − (Y*i*/Y*US*), where Y*i* denotes the real income per capita of a country *i*, and Y*US* the real income per capita of the United States (Felipe, 2012a).

12 For an earlier discussion on the use of transition matrices in the convergence debate, see Kozul-Wright and Rowthorn, 2002.

13 Bhutan, Botswana, Cabo Verde, China, Hong Kong (China), India, Indonesia, the Lao People's Democratic Republic, Malaysia, Maldives, Mauritius, Oman, the Republic of Korea, Saint Vincent and the Grenadines, Singapore, Sri Lanka, Sudan, Taiwan Province of China, Thailand and Viet Nam.

14 Note that exported goods may be classified as intensive in skills and technology, and yet not result from technology-intensive activities within the country, when the export-oriented firms mostly assemble high-tech imported inputs (e.g. in the *maquila* industry).

15 Even where some major deficit developed countries with internationally accepted currencies (such as the United States and the United Kingdom) had the space to finance external deficits, the corresponding internal disequilibria eventually led to the financial crisis.

16 The average rate of investment attained in the 1970s has never been recovered in subsequent periods in several regions and countries (as in Africa, Europe, Latin America and Japan) – not even in the 2003–2007 global boom (2005 constant prices and exchange rates, United Nations Statistics Division data).

17 UNCTAD, 2013, annex table 28, online only. Available at: unctad.org/Sections/dite_dir/docs/WIR2013/WIR13_webtab28.xls.

18 Taken from the *Forbes Global* yearly ranking of the top 2000 publicly traded companies.

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Chapter III

THE CATCH-UP CHALLENGE: INDUSTRIALIZATION AND STRUCTURAL CHANGE

A. Introduction

In recent years there has been a renewed interest in the role of industrialization in promoting sustained economic growth and development, reflected in Goal 9 of the 2030 Agenda for Sustainable Development which calls for promoting inclusive and sustainable industrialization. Five important factors have contributed to this revival of interest. First, many developing countries have failed to deepen and diversify their existing industrial capacity in a more open global economy; indeed, several of them have experienced a premature decline in the share of manufacturing in their gross domestic product (GDP). Second, there is a perception that export-led growth strategies in developing countries face more constraints than in the past, in particular due to the slower growth of global demand, especially from industrialized countries. Third, many developing countries continue to remain vulnerable to external trade and financial shocks. Fourth, and related to the latter point, there has been an end to the enormous windfall gains from primary exports generated by the commodity price boom during the first decade of the 2000s, which saw accompanying growth and investment spurts. And lastly, further deindustrialization in several developed countries is being observed with growing concern.[1]

In the "classic" pattern of structural transformation, there is a decline in the relative share of the primary sector in GDP and a rise in the share of industry (which comprises, in addition to manufacturing, mining and quarrying, construction and utilities) (Kuznets, 1973). When a certain level of per capita income is reached, the share of industry in GDP stops growing while that of services rises. At the same time, industry's share of employment falls as productivity increases, even as the share of employment in services continues to rise.

Historically, growth rates of industry have been closely related to those of GDP, and within industry, manufacturing has been critical. A broad and robust domestic manufacturing base has been the key to successful economic development, since it helps generate virtuous and cumulative linkages with other sectors of the economy, drives technological progress, and has the strongest potential for productivity gains. Thus, as manufacturing grows, primary production typically tends to become more efficient as a result of the greater use of capital and technology (including knowledge and technical skills) that not only contribute to productivity gains in manufacturing, but also to the development of the other subsectors of an economy. The services sector can emerge to supplement manufacturing activities from a certain level of per capita income onwards, and it may even grow to dominate the economy. However,

it is also possible that the expansion of services (in both output and employment terms) may occur even before a sufficiently diversified and dynamic industrial base is established, reflecting an interruption of the industrialization process.

In developing countries, the drive towards manufacturing was originally based on the observation that these countries faced a structural disadvantage in global trade relations: as the prices of developing-country exports (mainly primary commodities) tended to fall relative to those of developed-country exports (mainly manufactures) there was a decline in developing countries' terms of trade, which tended to perpetuate the income gap between rich and poor countries (the "Prebisch-Singer hypothesis", discussed also in chapter IV). Industrialization was expected to alter global trade patterns, resulting in changes in the international division of labour in a way that would be more favourable for developing countries. Diversification into manufacturing was expected to reduce developing countries' dependence on the production and export of primary commodities and ease the balance-of-payments constraints on development by either replacing imports or by generating additional export earnings (Prebisch, 1964).

Therefore, in the context of industrialization, this chapter gives particular emphasis to manufacturing, which, it is argued, is more likely to generate the linkages needed to sustain a virtuous circle of growth and structural transformation. Section B makes the case for the development of manufacturing as the means to structural transformation and income growth. Section C provides an assessment of changes in the economic structures of developing countries over the past few decades. Section D identifies different trajectories of structural change, and discusses why industrialization efforts, in terms of enlarging the share of manufacturing in total employment and value added, have been more successful in some developing countries than in others. Section E examines the potential contributions of the primary sector and services to the process of structural change. The final section draws a number of conclusions for policies in support of accelerated structural transformation.

B. The case for developing manufacturing industries

1. *The virtues of manufacturing*

The expansion of manufacturing activities can be considered as evolving through a process of "cumulative causation" (Myrdal, 1957; Kaldor, 1957, 1958) in which demand and supply factors interact: the expansion of manufacturing activities creates employment, incomes and demand, on the one hand, and accelerates increases in productivity on the other; this in turn boosts income and demand growth. Continuous upgrading of productive capacities in manufacturing, which is part of this process, can lead to productivity gains through entry into new areas of economic activity, the application of more advanced technologies, the production of more sophisticated goods, and/or the insertion into international value chains at rising levels of skill.[2]

The immense appeal of manufacturing lies in its potential to generate productivity and income growth (Kaldor, 1966), and because such gains can spread across the economy through production, investment, knowledge and income linkages. Several linkages deserve mention here. To begin with, expanding production can help build "backward" linkages (to source inputs for production), and "forward" linkages insofar as the produced goods are used in other economic activities (Hirschman, 1958). Intersectoral linkages emerge as knowledge and efficiency gains spread beyond manufacturing to other sectors of the economy, including primary and service activities

(Cornwall, 1977; Tregenna, 2008; UNIDO, 2009). Investment linkages are created when investments in productive capacity, new entrepreneurial ventures and the related extensions of manufacturing activities in one enterprise or subsector trigger additional investments in other firms or sectors, which otherwise would not occur because the profitability of a specific investment project in a certain area of manufacturing activity often depends on prior or simultaneous investments in a related activity (Rodrik, 2004). Income linkages emerge from rising wage incomes generated from industrial expansion; these add to the virtuous cycle through "consumption linkages". Income linkages also operate through supplementary government revenues (i.e. "fiscal linkages"), which may therefore expand public expenditure (Hirschman, 1986). The creation of such income linkages can strengthen the self-reinforcing aspect of industrialization through increasing domestic demand and therefore GDP growth.

Manufacturing activities create employment, incomes and demand, and accelerate productivity growth; this in turn boosts incomes and increases demand.

Static economies of scale (i.e. lowering unit costs owing to increasing scale of production) tend to be substantial in manufacturing. In addition, there is scope for exploiting dynamic economies of scale when capital accumulation goes hand in hand with the use of increasingly sophisticated technologies, with knowledge acquisition through learning-by-doing and with the development of tacit skills and know-how. Spillovers of skill acquisition and technological learning across manufacturing firms, and from manufacturing to other sectors through both direct and indirect channels, in turn generate further productivity increases. A combination of these factors enables climbing the technology ladder through continuous upgrading of products, processes, organizational patterns and market possibilities (Schumpeter, 1961; Gerschenkron, 1962; Amsden, 2001).

Sustainable industrial catch-up and acceleration of structural transformation require a high rate of investment in productive capacity and technological capabilities.

Sustainable industrial catch-up and acceleration of structural transformation require a high rate of investment in productive capacity and technological capabilities for several reasons. First, in order to benefit from static scale economies, firms need to increase their productive capacity. Second, efficiency gains that can result from improved allocation of factors of production and competition among manufacturing subsectors depend on the extent to which existing firms thrive and new firms emerge. This process is not possible without investment in new machinery and equipment. Third, productivity gains depend to a large extent on the introduction of new technologies that are embodied in machinery and equipment, which necessitates the periodic replacement of outdated machinery and equipment. These firm-level requirements add up to the need to increase investment rates and achieve some minimum level of per capita investment in the economy as a whole. Of particular importance is public investment in such crucial areas as transport and logistics, and telecommunications infrastructure, as well as the provision of power and water and other related utilities, as these indirectly boost the productivity of economic activities in all sectors and help accelerate the pace of structural transformation.

The justification for the growth of manufacturing is not only economic, but also geopolitical and social. In today's globalized economy, a country that lacks a significant manufacturing sector may eventually face demand obstacles to growth and chronic balance-of-payments constraints, making it vulnerable to decisions of external financial agents and to policy conditions set by official creditors. Moreover, industrialization allows the accumulation of technological capabilities that are important for any autonomous development strategy. In most developed countries, industrialization has also played a significant role in generating important social changes, including the expansion of a more formal organization of production and work. The developmental State – an important actor in all successful industrialization experiences – has played a catalytic role in promoting the rise of domestic entrepreneurs, and in fostering

the growth of urban, formal, increasingly skilled and potentially better organized working classes (see chapter VI). To the extent that these are associated with more cohesive and integrated societies, industrialization bolsters national consolidation and the stability of nation States, which in turn promote the development process (List, 1856).

However, one caveat deserves to be pointed out: historically the expansion of manufacturing has tended to rely on patterns of production that damage the environment through pollution and lead to degradation and overexploitation of natural resources and excessive carbon emissions associated with climate change. Indeed, some observers have argued for a shift to services-based growth precisely in order to avoid the environmental problems that have emerged in some rapidly industrializing countries. But such problems are not intrinsic to the industrialization process: they depend crucially on the choice of technologies, as "green" technologies are now available for a wide range of manufacturing production processes (Pegels and Becker, 2014). This also underlines the importance of facilitating the cheap and effective transfer of such technologies to developing countries (*TDR 2008*).

2. Knowledge linkages and productivity growth

The nature of technology and the knowledge acquisition for manufacturing change at different stages of industrial development. At the early stages, the skill levels required by the existing manufacturing subsectors may be relatively low, although on-the-job learning and experience can improve productivity. But from a certain stage of manufacturing development onwards, it is no longer advisable to rely solely on an abundant supply of low-skilled labour; adequately trained manpower and qualified personnel, including at various levels of management, become increasingly important. In order to be effective for sustained productivity and output growth, investment in productive capacity and technological upgrading therefore need to be combined with improvements and adaptation of workers' skills, management know-how and entrepreneurial competence.

Knowledge acquisition refers to the accumulation of capabilities embodied in machinery and equipment as well as in people in the form of tacit know-how and skills (Lall, 1992, 2003; Malerba, 2002). Such knowledge contributes to productivity gains in two ways. First, access to already existing knowledge (information, tacit know-how and skills) helps enhance the efficiency and competitiveness of enterprises' existing economic activities and processes. Second, the accumulation of new knowledge helps raise productivity, including through the introduction of new products, processes and organizational forms of doing business, which become more important as manufacturing output begins to expand. Such new knowledge supports further diversification of manufacturing activities, which in turn require a wider range of capabilities – including through learning-by-doing and research and development (R&D) – that promote innovation.

Different kinds of manufacturing activities across various levels of technological intensity – low, medium and high – also have diverse implications for fostering further knowledge and skill acquisition. Generally, when learning takes place in design and engineering activities that feed a broader spectrum of sectors, industrial production leads to steep learning curves that promote greater intersectoral linkages and flows of knowledge. These can improve efficiency both in manufacturing and other related subsectors of the economy. In countries where advanced production technologies and new products are developed, the increase in the capital that embodies those technologies and the acquisition of skills on how best to use them advance in parallel. The situation is different in most developing countries, where technologies can be imported but the know-how and skills to optimize the use of such technologies have to be developed domestically. Moreover, imported technologies often have to be adapted to the specific requirements and possibilities of each country. Thus, developing countries that have a lower capacity to develop new technologies by themselves generally face the challenge of combining adaptation of available technologies with developing the know-how and skills for dealing with increasingly advanced technical equipment. While the use of acquired new knowledge in industry is an important source of upgrading, the dynamics are likely to be weaker in the case of participation in global value chains (GVCs) where technology-intensive inputs, product design and production processes are largely controlled by lead firms based outside the country or countries where the production takes place.

Technological learning can occur at various levels, from school education and vocational training to learning-by-doing and R&D at the firm level, as well as in public or publicly supported institutions (Nübler, 2014). As in the case of investment, where publicly provided infrastructure complements and is often a precondition for the viability of private investment, the public sector can make a crucial contribution to productivity growth by offering education, professional training and support to R&D. Equally important for learning are public information and coordination services that help private entrepreneurs assess the opportunities and risks of specific investment projects planned and undertaken by others, including in the area of public infrastructure (Rodrik, 2004).

In a dynamic process of upgrading in manufacturing, investment, technological advance and knowledge and skills acquisition are complementary: when there is an increase in one element, it also raises the marginal contributions of the others (Nelson and Winter, 1973; Dahlmann, 1979). Moreover, productivity growth is also cumulative over time, in that initial productivity increases in manufacturing activities generate further output and productivity increases.

C. Trends in structural change since 1970

1. Long-term trends

Over the past four and a half decades, the global economy as a whole has undergone significant changes in economic activities across sectors and regions. Developing countries increased their share of global industrial output (in current prices) from 15 per cent in 1970 to 28 per cent in 2002; it jumped dramatically thereafter to more than half by 2014. Developing Asia accounted for two thirds of that increase.

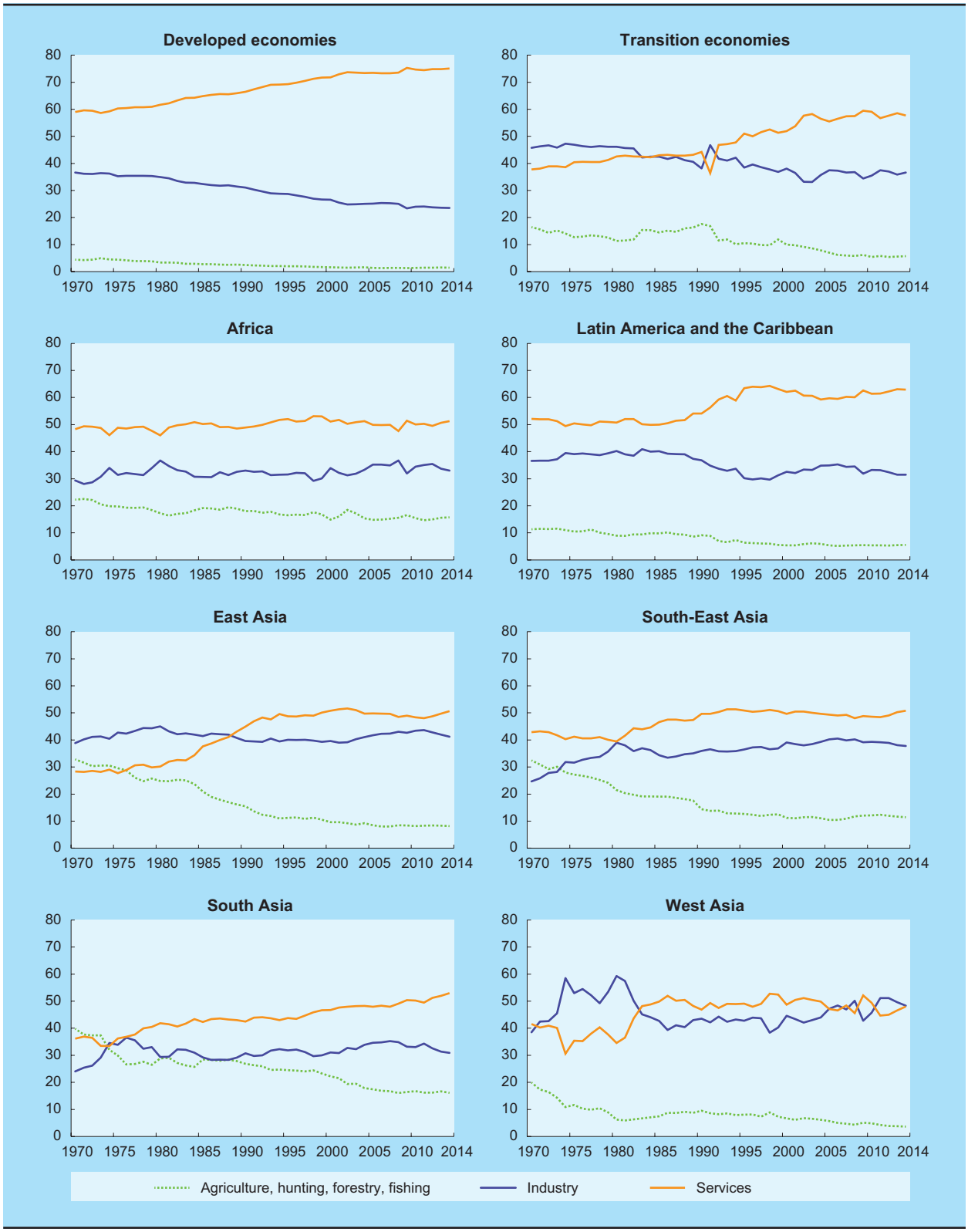
This shift in the distribution of industrial production to the advantage of developing countries resulted partly from an overall increase in their share of global output, and partly from the continuous decline of industry as a proportion of domestic value added in developed countries. In developed countries, the reduction of the share of industry in GDP was due almost entirely to manufacturing, the share of which fell from 26 per cent to 14 per cent of GDP. This decline was matched by the expansion of services, which since 2009 have generated 75 per cent of these countries' national income (chart 3.1). The transition economies and Latin America witnessed a similar trend of deindustrialization, with shares of services rising and those of industry and agriculture falling (in the latter case, from already relatively low levels). Asia presents a different picture. In this region, agriculture accounted for a significant proportion of GDP in 1970: slightly more than 30 per cent in East and South-East Asia, 40 per cent in South Asia and 20 per cent in West Asia. By 2014, the share of this sector had declined by between 25 and 15 percentage points in all these subregions. The main counterpart was the increase in the share of services, while the weight of industry remained roughly constant, or increased slightly as in South-East Asia. In West Asia, the share of industry has remained high and has even increased in recent years, largely driven by mining and the effect of higher global prices of crude oil and natural gas. Finally, in Africa as a whole there has been little change in the production structure, with the share of agriculture declining only slightly to the moderate benefit of industry, while the share of the services sector has remained stable at around 50 per cent of GDP.

In terms of employment, most developing regions have experienced a sizeable increase in the share of industrial employment since 1970 (table 3.1), although for many countries this has been due to construction rather than to manufacturing. The

Chart 3.1

SHARE OF ECONOMIC SECTORS IN TOTAL VALUE ADDED, BY COUNTRY GROUP, 1970–2014

(Per cent at current dollars)



Source: UNCTAD secretariat calculations, based on *UNCTADstat*.

Table 3.1

SHARE OF INDUSTRY IN TOTAL VALUE ADDED AND EMPLOYMENT, SELECTED GROUPS AND ECONOMIES, 1970–2014

(Per cent)

	Share of industry value added										*Share of industry in total employment*				
	At current dollars					*At constant dollars*									
	1970	*1980*	*1990*	*2000–2007*	*2010–2014*	*1970*	*1980*	*1990*	*2000–2007*	*2010–2014*	*1970*	*1980*	*1990*	*2000–2007*	*2010–2014*
Developed economies	38.6	36.5	34.6	28.5	26.2	32.7	30.8	30.8	28.3	26.4	36.3	35.4	31.3	26.9	23.9
North Africa	25.3	33.2	31.3	31.2	32.6	36.7	39.0	38.3	32.2	30.1	18.8	25.3	27.1	24.1	28.5
Sub-Saharan Africa	24.9	30.0	29.5	24.9	24.8	30.9	30.8	28.2	24.8	23.8	10.3	12.7	13.8	13.1	16.1
South Africa	38.4	48.1	40.0	30.9	44.9	46.0	40.3	35.7	30.6	27.0	28.6	32.0	30.1	22.8	22.7
Latin America and the Caribbean	32.2	35.9	34.1	33.0	32.0	35.3	36.1	33.6	34.1	30.9	23.8	25.4	25.2	21.8	21.2
Argentina	43.7	39.5	34.1	31.9	29.9	39.4	37.3	33.1	33.8	33.5	33.7	33.8	26.2	19.8	22.7
Brazil	35.8	40.6	36.9	27.3	25.5	34.1	34.7	29.4	28.5	27.7	21.3	22.8	22.8	19.5	21.7
Chile	40.5	34.2	41.9	39.9	37.0	45.1	40.3	42.4	41.6	34.6	29.7	28.2	28.4	22.8	22.7
Mexico	35.4	43.2	40.1	38.8	38.6	36.5	39.9	39.8	39.1	35.7	24.2	28.0	28.6	27.1	25.4
East Asia	30.0	35.6	34.7	32.6	29.9	21.9	31.4	33.6	41.1	43.9	18.4	29.5	34.7	28.1	25.3
China	40.1	48.0	41.0	46.0	44.9	22.8	32.4	32.5	45.6	48.2	10.2	18.2	21.4	23.3	29.1
Republic of Korea	25.0	33.7	39.4	37.2	38.3	20.9	30.5	34.7	36.7	39.6	18.0	29.6	35.7	27.2	25.1
South-East Asia	27.9	37.8	36.3	38.3	36.1	35.2	38.3	38.4	39.2	36.9	15.1	19.9	21.9	23.5	21.8
Indonesia	18.2	40.3	35.9	42.3	44.0	34.6	40.4	40.6	43.9	39.2	10.0	13.3	17.0	18.4	19.9
Malaysia	31.1	41.0	38.4	44.8	41.1	41.7	42.3	45.4	47.0	40.0	15.4	21.4	25.6	32.5	28.2
Philippines	35.4	42.1	37.6	34.0	31.5	36.8	43.6	37.3	34.4	33.5	16.2	16.4	15.8	15.8	15.2
Thailand	25.3	28.7	37.2	38.0	37.9	23.3	28.1	35.5	37.9	38.2	7.0	10.8	13.6	19.8	20.6
South Asia	18.8	25.8	24.9	27.1	27.8	21.1	22.3	23.8	27.6	29.4	12.7	14.0	16.7	19.5	22.8
India	23.8	28.8	32.9	33.2	31.8	26.5	29.0	33.2	33.8	33.5	11.6	11.0	13.2	18.3	21.9
West Asia	36.7	40.9	36.9	36.9	38.9	44.1	43.3	39.6	39.0	33.9	17.7	23.3	23.1	23.3	24.9
Transition economies	..	..	42.9	33.9	33.0	..	..	42.9	34.4	34.5	..	..	29.7	18.2	23.0

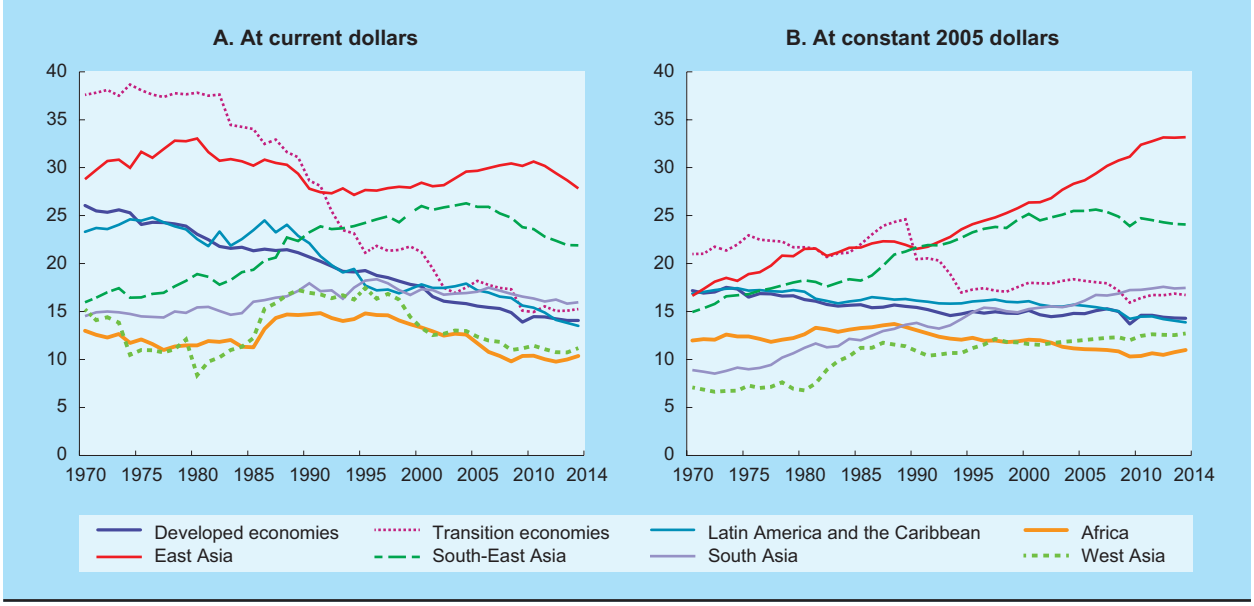
Source: UNCTAD secretariat calculations, based on UNSD; ILO, *Key Indicators of the Labour Market: KILM 4*; The Conference Board, *Total Economy Database*; World Bank, *World Development Indicators* database; Groningen Growth and Development Centre, *GGDC-10 Sector Database*.

Note: Calculations at constant prices are based on value added at constant 2005 dollars. Regional values correspond to unweighted averages. Industry comprises sectors C-F of ISIC Rev. 3. The samples of economies by country group are as follows: *Developed economies*: Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, the United Kingdom and the United States of America. *North Africa*: Egypt, Morocco and Tunisia. *Sub-Saharan Africa*: Botswana, Ethiopia, Ghana, Kenya, Malawi, Mauritius, Nigeria, Senegal, South Africa, the United Republic of Tanzania and Zambia. *Latin America and the Caribbean*: Argentina, Barbados, the Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Peru, the Plurinational State of Bolivia, Trinidad and Tobago and Uruguay. *East Asia:* China, Macao (China), the Republic of Korea and Taiwan Province of China. *South-East Asia*: Indonesia, Malaysia, the Philippines, Singapore and Thailand. *South Asia*: Bangladesh, India, Pakistan and Sri Lanka. *West Asia*: Bahrain, Jordan, Saudi Arabia, the Syrian Arab Republic and Turkey. *Transition economies*: Albania, Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the former Yugoslav Republic of Macedonia, Republic of Moldova, the Russian Federation and Ukraine.

Chart 3.2

SHARE OF MANUFACTURING IN TOTAL VALUE ADDED, BY COUNTRY GROUP, 1970–2014

(Per cent)



Source: UNCTAD secretariat calculations, based on UN DESA, Statistics Division, *National Accounts Main Aggregates* database.

exception is Latin America and the Caribbean, where the share of industrial employment has remained virtually stable. Other than in sub-Saharan Africa, industry in the other developing regions/subregions accounts for between 20 and 30 per cent of total employment.

Within the industrial sector, with the exception of East Asia, there was a general reduction in the share of manufacturing in value added (at current prices), although this started at different points in time (chart 3.2A). In 1970, only the transition economies and East Asia exhibited a higher share of manufacturing in GDP than developed countries. But the situation has reversed since then, and after 2000 only in West Asia and Africa were the shares of manufacturing in GDP clearly smaller than those of the developed economies. From this point of view, it would seem that most developing economies have narrowed the "industrialization gap", with the share of manufacturing in total value added closer to or even higher than that of developed economies, although this convergence has been occurring within an overall declining trend. This structural change had already started for the developed countries in the 1960s and 1970s, with a secular decline in the share of manufacturing employment (table 3.2). Since then, deindustrialization has spread to developing countries. Contributory factors to this general trend include "financialization" in the global economy, which generated macroeconomic instability and increasing inequality in income distribution. This has contributed to the slowdown of aggregate demand in the context of stagnating wage incomes and low quality and informal employment, which are associated with weaker productivity performance, underconsumption and lower levels of investment (see chapter II).

This downward tendency also reflects a broader global trend of falling prices of manufactured goods relative to the general price level, resulting, in particular, from faster productivity growth. Hence, measured at constant prices, the decline in the share of manufacturing in GDP in several regions has been much less steep over time, whereas that share has continued to grow in some Asian regions (chart 3.2B). The even sharper increase in the share of manufacturing in East Asia in constant prices (driven mainly by China) suggests an additional reason for this trend:

Table 3.2

SHARE OF MANUFACTURING IN TOTAL VALUE ADDED AND EMPLOYMENT, SELECTED GROUPS AND ECONOMIES, 1970–2014

(Per cent)

	Share of manufacturing in total value added														*Share of manufacturing in total employment*					
	At current dollars							*At constant dollars*												
	1970	*1980*	*1990*	*2000*	*2007*	*2011*	*2014*	*1970*	*1980*	*1990*	*2000*	*2007*	*2011*	*2014*	*1970*	*1980*	*1990*	*2000*	*2007*	*2011*
Developed economies	26.4	22.8	20.6	18.3	16.1	14.8	14.6	17.3	17.0	16.3	16.5	16.7	16.0	14.6	26.8	23.9	20.7	16.9	14.3	12.8
North Africa	20.8	17.0	20.0	19.2	16.5	16.7	17.3	18.2	15.7	16.9	19.1	17.7	17.3	17.3	12.6	13.8	14.4	14.0	12.9	11.9
Sub-Saharan Africa	12.7	14.8	15.6	12.2	11.1	9.9	9.4	12.7	13.8	13.7	11.9	11.3	11.3	9.4	5.8	7.2	8.3	8.3	8.6	8.4
South Africa	23.0	21.8	23.7	19.2	16.1	13.3	13.3	16.2	20.4	19.5	18.7	18.3	16.9	16.4	13.3	16.5	14.7	13.6	13.3	11.6
Latin America and the Caribbean	21.7	20.8	21.6	18.1	16.6	14.9	13.7	18.6	18.6	17.8	17.4	17.3	16.3	13.7	15.5	15.4	15.3	13.2	12.4	11.5
Argentina	33.3	27.0	24.5	16.1	19.9	17.9	14.6	26.4	23.8	22.0	20.5	22.3	23.0	21.5	23.5	21.4	17.8	12.2	12.5	12.1
Brazil	27.4	31.0	25.5	16.2	16.6	13.9	10.9	21.1	21.4	18.2	17.2	17.1	15.5	14.5	13.3	12.7	14.7	12.0	12.8	11.5
Chile	18.6	14.4	19.0	19.6	13.0	11.9	12.4	21.9	18.3	18.1	15.9	15.1	14.1	13.2	20.1	17.3	17.5	13.1	11.4	9.8
Mexico	18.9	18.6	19.7	20.5	17.4	17.1	17.7	16.4	16.8	17.0	19.0	16.8	16.4	16.7	18.0	19.9	20.0	19.6	16.2	15.6
East Asia	28.3	34.9	34.2	31.9	29.3	29.4	29.3	..	21.6	28.3	34.2	31.2	33.6	29.3	13.9	22.5	24.3	20.9	21.2	21.5
China	30.4	36.1	31.0	33.2	32.6	31.1	28.3	..	27.4	36.3	42.5	32.7	34.8	34.9	7.8	13.8	14.9	14.5	18.4	18.7
Republic of Korea	17.5	23.1	27.1	29.0	28.2	31.4	30.3	7.9	15.8	20.3	25.9	29.7	32.3	32.7	13.6	22.2	27.4	20.3	17.6	18.2
South-East Asia	17.7	22.3	24.5	27.0	25.8	23.4	22.5	16.5	21.1	23.8	26.8	26.6	25.7	22.5	11.4	14.4	15.6	16.3	15.4	14.0
Indonesia	9.2	12.4	20.8	25.2	24.5	22.2	21.6	5.7	10.4	18.8	24.2	24.2	22.8	22.5	7.9	9.2	11.6	12.7	12.0	12.4
Malaysia	16.4	21.6	21.8	28.7	26.4	24.5	24.2	12.3	15.5	21.1	27.7	27.5	25.3	24.9	9.9	13.7	17.7	24.4	19.6	18.1
Philippines	27.7	27.6	26.7	24.5	22.8	21.1	20.5	28.3	28.6	26.1	24.9	23.1	22.6	23.4	12.0	11.6	10.1	9.9	9.1	8.4
Thailand	15.9	21.5	27.4	28.6	30.7	29.2	27.7	15.8	21.1	25.2	28.4	30.4	29.3	28.4	5.4	8.3	9.8	13.6	15.1	13.9
India	16.2	19.3	20.5	19.0	19.5	18.1	17.2	12.7	14.2	17.3	18.4	19.9	20.3	20.3	9.4	9.1	10.5	11.4	11.9	11.6

Source: UNCTAD secretariat calculations, based on UNSD; and Groningen Growth and Development Centre, *GGDC-10 Sector Database*.

Note: Calculations at constant prices are based on value added at constant 2005 dollars. Regional values correspond to unweighted averages. Manufacturing corresponds to sector D of ISIC Rev. 3. The samples of economies by country group are as follows: *Developed countries*: Denmark, France, Germany, Italy, Japan, the Netherlands, Spain, Sweden, the United Kingdom and the United States of America. *North Africa*: Egypt and Morocco. *Sub-Saharan Africa*: Botswana, Ethiopia, Ghana, Kenya, Malawi, Mauritius, Nigeria, Senegal, South Africa, the United Republic of Tanzania and Zambia. *Latin America and the Caribbean*: Argentina, the Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, Mexico, Peru and the Plurinational State of Bolivia. *East Asia*: China, the Republic of Korea and Taiwan Province of China. *South-East Asia*: Indonesia, Malaysia, the Philippines, Singapore and Thailand.

the dramatic increase in volumes of manufactured goods in this subregion must have played a role in the overall decline in the relative prices of manufactures.

In developed countries, the shares of manufacturing in both total employment and GDP first increased with the expansion of real income, then peaked at some point, after which they started to decline, with a concomitant increase in the share of services, following an inverse U-shaped curve. The phase of "deindustrialization" is a normal consequence of the development process, owing to changes in the composition of demand and greater productivity gains in manufactures than in most other economic sectors (*TDR 2003*). The dynamics of demand, which at earlier stages of development encourage industrialization by rapidly expanding the demand for manufactures, tend to favour the expansion of services as income levels keep growing.[3] The relatively high productivity in manufacturing leads to a reduction in the share of that sector in total employment, followed by a reduction in total value added, particularly in nominal terms, as higher productivity gains in manufacturing tend to reduce the relative prices of manufactures. This combination of demand and technological factors explains why, in the developed countries, the share of manufacturing in employment peaked before its share in nominal value added, which in turn preceded its peak in real value added (Rodrik, 2015).

With the exception of East Asia, there has been a general reduction in the share of manufacturing in total value added.

However, as UNCTAD has also noted (*TDRs 1995, 2003*), deindustrialization in developed economies, particularly in some European economies, has not been completely smooth and spontaneous to the extent that it has been associated with institutional and financial transformation and regressive income distribution. These factors slowed down the growth of aggregate demand and constrained the capacity of services to productively absorb labour released from industry, leading to higher and persistent underemployment or unemployment rates (Palma, 2005).[4] Even so, such a process of deindustrialization in developed economies has generally occurred when the prior process of industrialization had already raised overall productivity in the economy, disseminated technological capacities and consolidated a domestic market.

The experience of developing and transition countries has been much more varied. The transition economies experienced the most dramatic reduction in the share of manufacturing in GDP in the second half of the 1980s and in the 1990s; indeed, manufacturing was particularly affected by the economic crisis. The subsequent recovery of GDP growth following the 1998 crisis in the Russian Federation benefited all sectors, and led to the stabilization of the share of manufacturing in GDP at constant prices (chart 3.2B).

By the 1970s, countries in the Latin America and Caribbean region had developed substantial industrial capacity, including in manufacturing in some countries such as Argentina and Brazil (table 3.2). Thereafter, there were steep declines in the shares of manufacturing in value added. The abandonment of long-standing industrialization strategies, beginning in the Southern Cone in the late 1970s, followed by aggressive structural adjustment were clearly factors contributing to such an outcome. The declining trends were generalized throughout the region following the debt crisis in the 1980s and the policy conditionalities imposed by the International Monetary Fund (IMF) and the World Bank. In some countries, deindustrialization trends were temporarily masked by large real devaluations in the late 1980s and late 1990s, as higher relative prices of manufactures (among other tradable goods) concealed falling production in real terms. Conversely, after 2003, real exchange rate appreciation accentuated the reduction of the share of manufacturing in GDP at current prices, even though growth in manufacturing recovered and the decline in manufacturing value added was less marked (in constant price terms).

The steep variations in the shares of manufacturing in total value added in West Asia can also be partially explained by shifts in relative prices (chart 3.2A). Thus, the declining share of manufacturing in the 1970s was not because of low real growth rates of the sector (which averaged around 7 per cent per annum), but rather because of the huge increase of the mining sector's share in nominal terms as a result of rising oil prices, which reduced the shares of all the other sectors. The subsequent increase in the share of manufacturing until the late 1990s was

partly due to greater dynamism in this sector, especially in Turkey, and partly reflected a reversal in oil prices. Similarly, the region experienced significant deindustrialization during the 2000s (measured as a share of GDP at current prices). However, during this period the growth of manufacturing accelerated to around 6 per cent per annum and its share in GDP increased slightly (at constant prices, chart 3.2B).

Africa remains largely dependent on the primary sector, with a low share of manufacturing in GDP, fluctuating between 12 per cent and 15 per cent (at current prices) until the 2000s. However, at constant prices, the fluctuations have been less pronounced. Since 2008, the share of manufacturing has stagnated at around 10 per cent of GDP, at both constant and current prices (chart 3.2). It is worth noting that this has occurred in the context of a significant acceleration of manufacturing production in the region. In sub-Saharan Africa (excluding South Africa), the growth rates of manufacturing jumped from an annual average of 0.2 between 1990 and 2000 to 5 per cent between 2001 and 2008, and to 7.6 per cent between 2009 and 2014. This does not necessarily indicate that a sustained process of industrialization is under way, since the starting point was low. For this to happen, manufacturing growth should be supported by a significant expansion of investment, and should last long enough to trigger the dynamics of structural transformation.

Most Asian countries present a rather different picture. The shares of manufacturing in GDP continued to grow at current prices until the mid-2000s in South-East Asia and until 2010 in East Asia, and are now the highest in the world. At constant prices, these shares have grown even faster in East Asia or decreased slightly in South-East Asia, reflecting the change in relative prices of manufactures, noted earlier, and pointing to the significance of volumes of production emanating from East Asia. Similarly, the share of manufacturing in South Asia shows a marginal increase and then a decline at current prices, but an increase at constant prices. Nevertheless, that share remains relatively low by both measures, at around 17 per cent of GDP.

These examples illustrate that a proper evaluation of industrialization or deindustrialization processes must be based on an understanding of their broader economic context. It is evident that a falling ratio of manufacturing in value added may reflect the absolute regression of that sector, with an associated loss of production capabilities, knowledge and expertise and the weakening of production linkages. Or it could simply result from the fact that, even if it is growing, other sectors are growing faster. The nature and implications of these different processes cannot be assessed without taking into account the existence or absence of a strong investment drive to support sustained economic growth, and the generation of productive, income and knowledge linkages, as discussed in the remainder of this chapter.

> Industrialization processes depend on the strength of the investment drive and the generation of production, income and knowledge linkages.

2. Impact of structural change and investment on aggregate productivity

(a) Productivity growth and structural change

As noted above, changes in the sectoral composition of output and employment have to be seen in relation to patterns of investment, growth and productivity. With regard to the crucial macroeconomic elements of structural transformation since 1970, namely the growth of GDP, industry value added, employment, labour productivity and investment, there were substantial differences across developing regions, but also a marked contrast between the pre- and post-1980 periods for most groups of developing economies (tables 3.3 and 3.4). Overall, during the 1970s the majority of developing economies experienced some structural change, supported by industry output and employment growth and also by increased labour productivity.[5] Since the 1970s, except for East Asia and South Asia (and sub-Saharan Africa in the post-2000 period), no developing region/subregion was able to maintain annual GDP growth rates at similar levels to those experienced in the 1970s. GDP growth in Latin America, West Asia and North Africa fell sharply in the 1980s with concomitant slumps in industrial output growth, demonstrating thereby the close connection also between value-added growth in industry and the overall growth rate of an economy.[6]

Table 3.3

AVERAGE ANNUAL GROWTH RATES OF TOTAL VALUE ADDED, VALUE ADDED IN INDUSTRY AND TOTAL EMPLOYMENT, SELECTED GROUPS AND ECONOMIES, 1970–2014

(Per cent)

	Total value added growth					*Industry value added growth*					*Employment growth*				
	1970–1979	*1980–1989*	*1990–1999*	*2000–2007*	*2010–2014*	*1970–1979*	*1980–1989*	*1990–1999*	*2000–2007*	*2010–2014*	*1970–1979*	*1980–1989*	*1990–1999*	*2000–2007*	*2010–2014*
Developed economies	4.1	2.7	1.5	3.4	1.2	3.6	2.3	0.6	3.5	0.2	1.0	0.9	-0.1	1.3	0.3
North Africa	6.1	4.5	3.4	4.5	2.4	7.3	4.3	2.9	4.1	1.1	2.8	2.2	2.4	3.3	1.6
Sub-Saharan Africa	5.0	3.5	2.9	5.2	5.6	5.2	3.0	1.7	5.5	6.3	3.1	3.3	2.3	2.3	3.0
South Africa	2.6	1.9	1.5	4.1	2.2	1.4	0.7	0.2	3.2	0.8	0.7	3.0	1.8	1.4	2.8
Latin America and the Caribbean	5.0	0.7	3.5	3.8	3.5	5.6	0.0	3.6	4.0	2.6	3.1	2.8	2.3	2.6	2.1
Argentina	2.6	-1.1	4.9	3.5	3.0	2.5	-2.2	5.1	4.2	1.8	1.4	1.7	1.2	3.2	0.8
Brazil	8.7	2.5	2.1	3.4	2.0	8.9	1.2	1.8	3.0	1.6	4.5	3.7	0.8	2.6	1.2
Chile	2.4	2.7	5.9	4.2	4.3	1.3	3.4	6.3	2.2	3.2	1.2	3.5	2.1	2.5	2.6
Mexico	6.4	1.7	2.9	2.6	2.8	7.1	1.5	3.2	1.7	2.1	5.1	3.3	2.9	1.8	1.5
East Asia	6.9	8.4	5.3	8.7	6.6	9.4	9.2	5.2	10.7	6.3	3.6	2.8	1.5	1.5	1.2
China	4.6	9.4	9.5	10.2	7.7	7.8	9.7	13.0	11.1	8.1	3.4	2.9	1.7	1.5	0.5
Republic of Korea	8.6	8.9	6.2	4.8	3.0	13.0	9.8	6.1	5.9	3.3	3.9	2.8	1.3	1.5	1.8
South-East Asia	7.3	5.4	4.9	5.1	4.8	8.8	5.4	5.3	4.4	3.9	3.6	3.0	2.3	2.3	1.6
Indonesia	7.4	5.4	4.0	4.7	5.6	9.5	5.4	5.3	3.7	4.8	3.7	3.5	2.2	1.5	0.7
Malaysia	8.6	5.6	6.6	4.8	5.2	8.2	6.4	7.1	3.7	4.1	3.8	3.1	3.1	1.8	3.3
Philippines	5.9	1.6	2.9	4.9	5.8	8.0	-0.1	2.2	3.9	6.2	4.0	2.7	2.8	2.8	1.0
Thailand	6.9	7.2	4.3	5.3	2.9	9.1	9.3	5.0	6.1	0.9	1.6	2.6	-0.1	2.1	0.2
South Asia	3.0	4.7	4.8	5.6	5.8	3.9	5.6	5.8	6.8	6.8	1.6	2.9	2.3	2.8	2.0
India	2.3	5.3	5.3	7.0	6.2	3.7	6.7	5.3	8.0	5.1	1.8	3.5	2.4	2.9	1.2
West Asia	7.4	0.8	4.0	5.2	0.3	7.7	0.6	5.3	4.4	-1.8	4.5	4.3	3.6	4.0	2.1
Saudi Arabia	10.7	-3.7	2.2	3.5	5.2	10.6	-6.1	2.2	2.5	4.9	5.9	6.3	2.5	3.8	3.9
Turkey	4.5	4.1	2.9	4.9	4.7	5.4	6.6	3.5	5.3	4.7	1.9	1.6	1.9	0.9	3.5
Transition economies	..	..	-6.1	7.5	3.3	..	..	-9.8	8.7	2.8	..	..	-2.5	0.4	0.5

Source: See table 3.1.

Note: Calculations are at constant 2005 dollars or number of employees. For the country samples in the groups, see table 3.1.

Table 3.4

AVERAGE ANNUAL GROWTH RATES OF INVESTMENT, TOTAL LABOUR PRODUCTIVITY AND LABOUR PRODUCTIVITY IN INDUSTRY, SELECTED GROUPS AND ECONOMIES, 1970–2014

(Per cent)

	Investment growth					*Labour productivity growth*					*Industry labour productivity growth*				
	1970–1979	*1980–1989*	*1990–1999*	*2000–2007*	*2010–2014*	*1970–1979*	*1980–1989*	*1990–1999*	*2000–2007*	*2010–2014*	*1970–1979*	*1980–1989*	*1990–1999*	*2000–2007*	*2010–2014*
Developed economies	3.4	2.5	2.6	4.8	0.9	3.1	1.8	1.6	2.1	0.8	2.5	2.8	3.1	2.8	1.1
North Africa	11.5	1.1	4.4	6.1	-0.8	3.3	2.3	1.0	1.2	0.8	2.5	2.0	0.6	-0.1	-0.4
Sub-Saharan Africa	4.2	-0.8	1.9	9.1	7.4	1.8	0.3	0.6	2.9	2.3	0.0	-0.2	-0.7	0.5	2.7
South Africa	3.4	-1.5	1.7	9.0	4.0	1.9	-1.1	-0.3	2.7	-0.6	0.0	-1.8	1.7	1.3	-3.8
Latin America and the Caribbean	7.1	-2.8	5.2	5.9	5.4	1.9	-2.0	1.2	1.3	1.5	1.3	-1.7	2.2	1.5	0.0
Argentina	3.0	-7.0	9.7	6.6	2.0	1.2	-2.8	3.7	0.3	2.2	1.7	-1.4	6.9	-0.7	-2.5
Brazil	9.4	-1.6	1.8	2.6	1.8	4.2	-1.2	1.3	0.8	0.8	3.4	-2.8	2.9	0.0	-2.5
Chile	-1.0	4.4	7.3	8.3	5.2	1.3	-0.8	3.8	1.7	1.7	-0.3	-0.5	6.2	0.1	-1.8
Mexico	7.3	-2.7	4.8	3.0	3.2	1.3	-1.6	0.1	0.8	1.3	0.6	-1.7	0.4	0.6	3.7
East Asia	10.4	8.7	6.8	14.1	9.3	3.0	6.3	6.3	6.0	4.2	0.8	4.9	9.1	6.4	5.1
China	7.2	6.5	13.8	12.5	8.1	1.2	6.5	7.8	8.7	7.2	-1.6	4.8	10.4	7.1	6.9
Republic of Korea	16.3	11.0	4.5	3.7	1.7	4.7	6.1	4.9	3.3	1.2	3.2	5.0	7.7	5.6	4.3
South-East Asia	10.8	5.0	2.4	4.7	5.7	3.6	2.4	2.6	2.8	3.2	2.5	1.5	1.8	2.5	1.8
Indonesia	13.6	7.4	1.3	6.7	6.6	3.7	1.9	1.8	3.2	4.9	3.2	-0.4	2.3	2.4	0.8
Malaysia	14.2	4.7	4.0	3.7	9.1	4.8	2.5	3.5	3.0	1.9	0.2	2.0	0.9	4.0	1.6
Philippines	10.4	-0.5	1.7	3.1	7.0	1.9	-1.0	0.1	2.1	4.8	4.0	-2.9	-1.0	1.9	3.7
Thailand	6.5	8.6	-3.5	7.4	2.7	5.3	4.6	4.4	3.2	2.8	2.5	5.9	2.3	1.9	1.1
South Asia	6.5	3.1	5.6	8.1	4.7	1.3	1.8	2.6	2.8	3.8	1.8	1.2	3.1	1.3	3.0
India	3.9	6.3	6.8	12.5	3.8	0.5	1.8	2.9	4.1	5.0	2.3	1.3	0.7	3.3	0.5
West Asia	10.7	-0.8	3.1	10.8	-2.0	2.9	-3.5	0.4	1.2	-1.7	3.0	-2.1	1.4	2.6	-1.5
Saudi Arabia	10.4	-8.2	4.3	13.7	6.7	4.8	-10.0	-0.3	-0.3	1.3	5.5		0.6	-1.9	-6.1
Turkey	4.4	9.2	3.0	6.8	4.2	2.6	2.5	1.1	4.0	1.2	5.0	-0.4	0.6	2.6	-0.3
Transition economies	..	..	-10.9	13.2	2.7	..	..	-3.6	7.1	2.7	..	..	-5.8	4.6	3.0

Source: See table 3.1.
Note: Calculations are at constant 2005 dollars or number of employees. For the country samples in the groups, see table 3.1.

Uneven patterns of output growth, employment generation and productivity dynamics emerged in developing countries from the 1980s onward. These provide another important insight: that rates of growth of GDP, investment, industry, employment and productivity have all tended to move together in cases of successful structural change. There were similar growth rates of industrial employment for several countries, but Asian countries already showed considerably higher rates of growth of output and employment in industry (table 3.3), supported by rapid productivity growth in industry (table 3.4).

Within any economy, productivity levels can vary considerably, depending on the economic activity, the size of the firm and the degrees of formality and informality of employment. Labour productivity tends to be particularly high in the mining sector (which includes hydrocarbons), as the bulk of mining production is undertaken by large, capital-intensive firms. Typically, the productivity level of manufacturing tends to be well above the national average, although this varies, as microenterprises and informal jobs displaying relatively lower productivity coexist with large firms that use high-technology and skilled labour and therefore have higher productivity. The lowest output per worker is generally in agriculture, especially in Asian and African countries where most producers are small peasants who use less mechanized technologies. Finally, the productivity of services depends on the type of activity. In general, finance, insurance, real estate, business services, and transport, storage and communications have relatively high levels of productivity (though initially this may simply reflect price movements), while community, social and personal services and government services tend to have much lower output per worker. Productivity in trade, restaurants and hotels is quite varied, but tends to be rather low in most developing countries, where a large segment of informal commerce exists.

Growth rates of GDP, investment, industry, employment and productivity have all tended to move together in cases of successful structural change.

Such variation suggests that aggregate productivity can be enhanced by reallocating employment from lower productivity to higher productivity activities, both within and between sectors. Clearly, the potential for this is greater in countries and regions where much of the labour force is employed in low-productivity activities, as is generally the case in Africa and Asia today, and was the case in Latin America around 1950. This potential was well exploited in Latin America until 1980, when the decline in the share of agriculture in total employment (from 55 per cent in 1950 to 32 per cent in 1980) was matched by an increase in shares of all the other sectors. Since 1980, however, the share of agriculture in total employment has been further declining, with employment redistributed mostly to low-productivity services. In a sample of Latin American countries covering most of regional output and population, aggregate productivity increased steadily until 1980, but has stagnated or declined in almost all sectors since then (chart 3.3A), reflecting, *inter alia*, a weakening of investment.

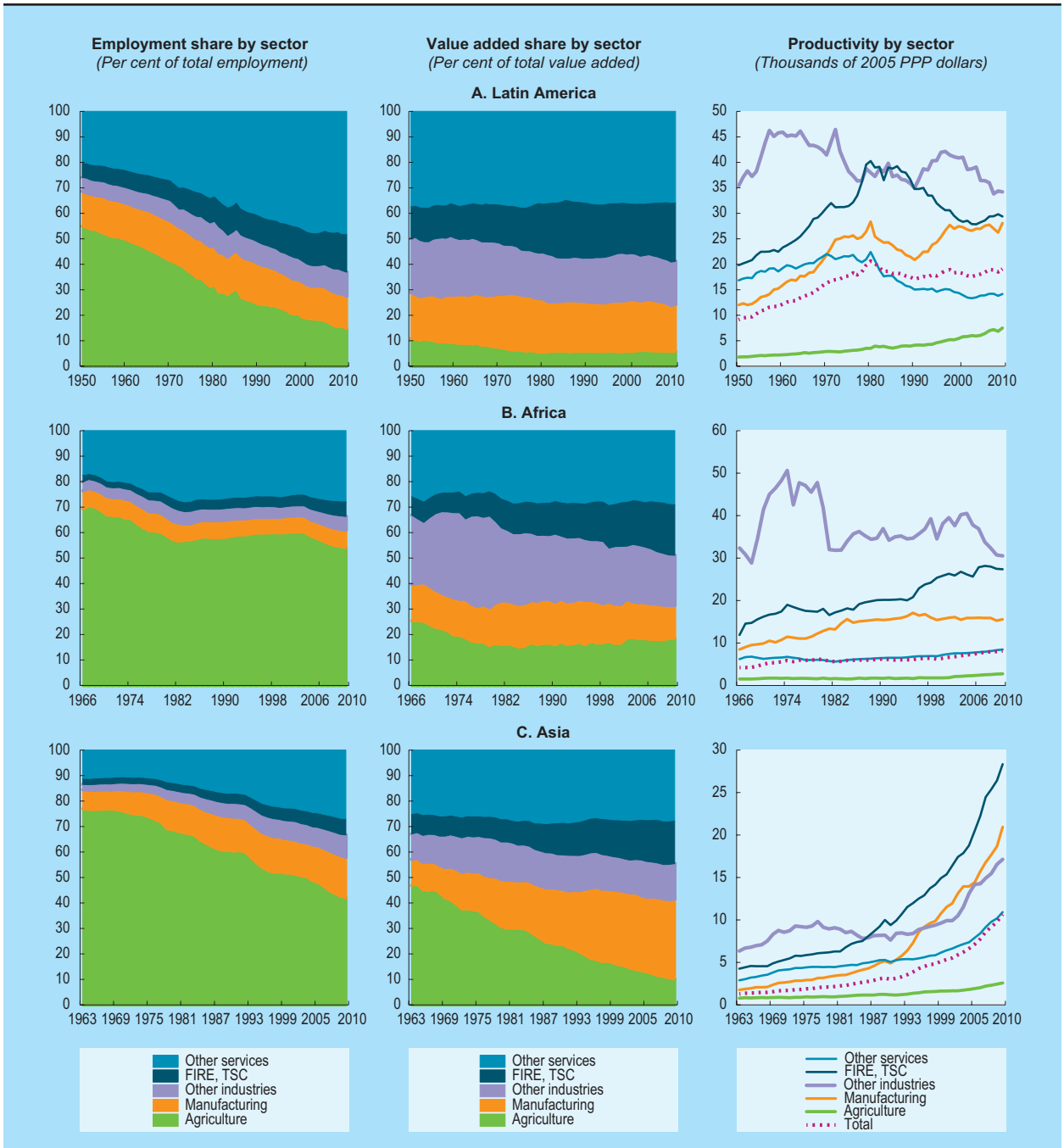
African countries also managed to increase aggregate productivity until 1980, thanks to a combination of productivity growth in industry and modern services, and to some – though limited – reallocation of employment from agriculture to (mostly) "other services". Even though productivity levels in these services were relatively low, they were nevertheless much higher than in agriculture (chart 3.3B). These factors weakened or disappeared between 1980 and 2000, as agriculture stopped losing its share of employment, and productivity in most modern sectors (with the exception of transport and communications) slowed down. There was a recovery in the 2000s, with a moderate decline in the share of agriculture in total employment along with some improvements in productivity, mostly in agriculture and low-productivity services. Since these sectors still employ 82 per cent of the population in these countries, any improvement in their productivity levels is of macroeconomic significance. By contrast, output per worker in mining is around 20 times the average, but it employs less than 1 per cent of the labour force in these countries.

Over the past half century, Asian countries experienced the greatest structural change as well as a stronger increase in productivity levels, although these started from very low levels (chart 3.3C). Whereas in the early 1960s, agriculture accounted for 77 per cent of the region's total employment, by 2010 this had fallen to 42 per cent, largely due to

Chart 3.3

EMPLOYMENT, VALUE ADDED AND PRODUCTIVITY BY ECONOMIC SECTOR IN SELECTED COUNTRY GROUPS, VARIOUS YEARS

(Per cent and constant PPP dollars per employee)



Source: UNCTAD secretariat calculations, based on Groningen Growth and Development Centre, *GGDC-10 Sector Database*.

Note: FIRE = finance, insurance, real estate and business services, TSC = transport, storage and communications – both categories represent higher productivity service groups. *Other services* comprise community, social and personal services and government services, as well as trade, restaurants and hotels which are relatively lower productivity groups. *Other industries* comprise mining and quarrying, construction and utilities. Calculations are based on weighted regional averages for the sample of economies, as listed below. *Africa*: Botswana, Egypt, Ethiopia, Ghana, Malawi, Morocco, Nigeria, South Africa, the United Republic of Tanzania and Zambia; *Asia*: China, India, Indonesia, the Republic of Korea, Taiwan Province of China and Thailand; *Latin America*: Argentina, the Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, Mexico and the Plurinational State of Bolivia.

Table 3.5

AVERAGE ANNUAL PRODUCTIVITY GROWTH IN SELECTED REGIONS BY DRIVING FACTOR, VARIOUS YEARS

(Per cent)

		Within sectors	*Between sectors*		*Total*
			Static reallocation effect	*Dynamic reallocation effect*	
Africa	1966–2010	0.80	0.51	0.20	1.51
	1966–1980	1.26	1.24	0.23	2.72
	1980–1990	0.27	-0.12	0.00	0.15
	1990–2002	1.38	-0.70	0.03	0.71
	2002–2010	1.35	1.07	-0.10	2.32
Asia	1963–2010	2.51	0.51	1.57	4.60
	1963–1980	1.89	0.70	0.53	3.12
	1980–1990	1.78	1.40	0.12	3.30
	1990–2002	4.40	0.89	0.40	5.79
	2002–2010	5.63	1.26	0.78	7.67
Latin America and the Caribbean	1950–2010	0.66	0.88	-0.29	1.24
	1950–1960	1.95	0.84	0.16	2.95
	1960–1980	1.23	1.31	0.13	2.67
	1980–1990	-2.24	0.73	-0.34	-1.85
	1990–2002	0.17	0.40	-0.25	0.32
	2002–2010	0.38	0.60	-0.07	0.91

Source: UNCTAD secretariat calculations, based on Groningen Growth and Development Centre, *GGDC-10 Sector Database*.
Note: Calculations are based on weighted regional averages for five main sectors, as defined in chart 3.3. For the country samples in the groups, see chart 3.3.

China, where it shrank from 82 per cent to 35 per cent during that period. The resulting shift in the employment structure involved increases in the shares of both industry and services, but the effect of these changes on aggregate productivity was not significant before 1975 because differences in sectoral productivity were not very large; for example, productivity in manufacturing was only 2.2 times that of agriculture in 1963. A much more important driver of productivity growth was the rising productivity *within* the different sectors. It was particularly high in manufacturing and modern services, and comparatively low in agriculture. Indeed, by 2010, productivity in manufacturing was eight times that of agriculture in the sample covered in this analysis. Therefore, the subsequent shifts from agriculture to other sectors generated a larger overall productivity effect. In East Asia, the process of structural change continued even after a certain level of industrialization had already been reached owing to considerable upgrading within the industrial sector and the emergence of strong intra- and intersectoral linkages, which favoured the expansion of different services sectors. This process was driven not only by consistently high rates of investment (see below), but also by strong export performance and growing domestic demand in these countries, as real wages rose in response to productivity gains. South-East Asia, too, achieved strong labour productivity growth in industry. Coupled with an increase in the share of industry in GDP, this led to faster overall productivity growth than in the other regions. However, in other parts of Asia, such as South Asia, industrialization has continued to be dominated by low productivity activities, reducing the potential for productivity catch-up with developed countries.

Table 3.5 provides a decomposition of aggregate productivity changes into those resulting from changes within individual sectors (the "within" component)

and those resulting from shifts in employment across sectors (the "between" component). The impact of employment shifts across sectors is further decomposed into the effect of moving across sectors with different *levels* of productivity (the static reallocation effect) and the impact of moving across sectors with varying productivity *growth* rates (the dynamic reallocation effect).[7] The decomposition of productivity growth in the various regions confirms the previous discussion. Overall, such growth in Africa and Latin America was slower than in Asia and less even, stopping or even regressing in some periods, unlike the sustained increases in Asia. In both Africa and Latin America, the slowdown in GDP growth and declining investment ratios had a negative effect on within-sector productivity in the 1980s and 1990s. In Africa, this was compounded by a lack of gains and some losses from employment reallocation across sectors, as labour stopped moving out of agriculture. There was some recovery in the 2000s, partly driven by employment shifts to sectors with higher labour productivity. In Latin America, the period between 1980 and 2002 saw employment shift towards relatively low-productivity services at the expense of both agriculture and manufacturing, where the share in total employment fell from 16 to 13 per cent between 1990 and 2002.[8] The recovery in Latin America after 2002 was also weaker, with aggregate productivity increases remaining well below the rates achieved in the 1950s and 1960s.

In Asia, all the components made sizeable positive contributions to productivity growth over the different periods, but within-sector productivity was important throughout, and was dominant in every period. In the 1990s and 2000s, productivity grew in all sectors, including agriculture, boosted by high investment levels in the countries concerned, which in turn generated various linkages and positive effects of economies of scale, learning-by-doing and other factors mentioned in the previous section. In countries such as China, the process of continued growth of agricultural value added, despite an absolute fall in agricultural employment, was accompanied by the absorption of additional workers in productive employment in non-agricultural sectors. However, this remains an important challenge in countries such as India, where around half the workforce is still employed in agriculture.

Clearly, sustained productivity growth requires a combination of within-sector improvements and between-sector employment reallocation towards higher productivity activities, both of which are driven by investment. This combination has proved difficult to maintain in most developing regions other than emerging Asia.

(b) Productivity growth, investment and knowledge acquisition

A necessary condition and driving force for productivity growth and structural change is capital accumulation. Indeed, the varying rates of capital accumulation in selected economies in different regions largely explain the variations in their productivity performances (see tables 3.4 and 3.6). Real investment fell markedly in the 1980s in sub-Saharan Africa and Latin America and the Caribbean (table 3.4). This was associated with drastic policy changes involving the retreat of the developmental State (including a continuous decline in public investment), along with trade and capital account opening and widespread market deregulation, in particular of the financial sector. Such changes were expected to prepare the ground for a broad recovery led by private investment, but this never gained momentum (*TDR 2003*; Palma, 2011). Since the 1980s, investment-to-GDP ratios have been the lowest in sub-Saharan Africa and Latin America, and although they increased in the 2000s, they did not return to their earlier levels.

An acceleration of investment helps developing countries reach a critical mass of activities in certain industrial sectors which then contributes to steady technological advances and diversification (OECD, 2012). This becomes particularly evident from an analysis of per capita investment (in constant 2005 United States dollar terms), which reveals the significance of absolute levels of investment in determining an economy's capacity for growth and structural change (table 3.6). Following a long period of stagnation, per capita investment in sub-Saharan Africa rose by 46 per cent to an average of $515 in 2010–2014. However, this was only 31 per cent more than its level of the 1970s, and less than 8 per cent of the average for developed countries. In South Asia, per capita investment during the same period increased threefold from its level of the 1970s, but even so it amounted to only $532, too low to be effective in supporting a process of dynamic productivity growth. In Latin America and the Caribbean, per

Table 3.6

PER CAPITA INVESTMENT AND INVESTMENT-TO-GDP RATIO, SELECTED GROUPS AND ECONOMIES, 1970–2014

	Per capita investment										*Investment-to-GDP ratio at current dollars*				
	In constant 2005 dollars					*As a percentage of developed economies*					*Per cent*				
	1970-1979	*1980-1989*	*1990-1999*	*2000-2007*	*2010-2014*	*1970-1979*	*1980-1989*	*1990-1999*	*2000-2007*	*2010-2014*	*1970-1979*	*1980-1989*	*1990-1999*	*2000-2007*	*2010-2014*
Developed economies	4 135	4 683	4 901	6 806	6 687	100.0	100.0	100.0	100.0	100.0	27.5	24.7	22.2	23.4	21.0
North Africa	391	486	396	526	527	9.5	10.4	8.1	7.7	7.9	24.9	27.9	23.4	22.9	22.1
Sub-Saharan Africa	392	349	354	352	515	9.5	7.5	7.2	5.2	7.7	19.7	17.8	19.0	19.6	23.4
South Africa	921	849	637	841	1 195	22.3	18.1	13.0	12.4	17.9	28.1	24.8	17.5	16.9	19.4
Latin America and the Caribbean	830	1 020	1 284	1 707	1 578	20.1	21.8	26.2	25.1	23.6	22.2	21.3	22.6	23.1	21.3
Argentina	1 084	793	895	921	1 612	26.2	16.9	18.3	13.5	24.1	22.5	17.3	15.4	15.6	17.5
Brazil	964	960	836	838	1 251	23.3	20.5	17.1	12.3	18.7	21.4	21.2	19.0	17.7	20.3
Chile	377	422	968	1 404	2 433	9.1	9.0	19.7	20.6	36.4	16.9	18.9	24.4	20.6	22.7
Mexico	1 144	1 235	1 294	1 655	1 832	27.7	26.4	26.4	24.3	27.4	21.8	21.3	20.7	21.7	21.5
East Asia	723	1 379	2 581	3 423	4 538	17.5	29.5	52.7	50.3	67.9	24.7	26.8	30.1	27.6	28.0
China	54	104	235	595	1 538	1.3	2.2	4.8	8.7	23.0	27.4	29.0	31.5	37.1	44.4
Republic of Korea	642	1 610	4 320	5 631	6 544	15.5	34.4	88.1	82.7	97.9	27.4	30.6	36.1	31.0	29.8
South-East Asia	595	1 130	1 958	1 650	2 530	14.4	24.1	39.9	24.2	37.8	18.3	22.1	27.5	22.1	25.7
Indonesia	68	141	269	276	460	1.6	3.0	5.5	4.1	6.9	16.4	21.3	23.5	21.0	31.9
Malaysia	345	655	1 360	1 242	1 767	8.3	14.0	27.8	18.2	26.4	24.6	32.7	39.1	24.3	24.8
Philippines	183	224	224	238	320	4.4	4.8	4.6	3.5	4.8	24.3	24.7	24.5	20.6	20.0
Thailand	249	397	901	667	907	6.0	8.5	18.4	9.8	13.6	26.4	28.7	36.0	24.2	25.3
South Asia	172	184	208	356	532	4.2	3.9	4.2	5.2	8.0	18.7	22.5	23.7	26.3	27.8
India	52	70	112	206	405	1.3	1.5	2.3	3.0	6.1	18.7	23.3	25.4	29.9	33.3
West Asia	2 379	1 825	1 536	2 608	3 938	57.5	39.0	31.3	38.3	58.9	22.5	24.3	22.6	20.9	21.8
Transition economies	..	..	366	501	828	..	..	7.5	7.4	12.4	..	..	20.5	23.2	23.6

Source: UNCTAD secretariat calculations, based on UNSD; and *UNCTADstat*.
Note: Investment corresponds to gross fixed capital formation. Regional values are unweighted averages. For the country samples in the groups, see table 3.1.

capita investment during the period 2010–2014 was higher than most other developing regions, averaging $1,578, but showed no increase from the previous decade and relatively little increase since the 1990s. South-East Asia, which experienced both more rapid GDP growth and more extensive structural change over the entire period, saw a nearly fivefold increase in per capita investment, from $595 in the 1970s to $2,530 in 2010–2014. However, the most outstanding per capita investment growth was in East Asia, from only $723 in the 1970s to $4,538 in 2010–2014, thus almost catching up with the developed-country average of $6,687. China, which experienced the most dynamic structural change in the post-1970 period, saw per capita real investment increase nearly 30-fold. Even so, its per capita investment at $1,538 is not particularly high, being close to that of Latin America and only around one-fourth that of the Republic of Korea or the developed economies.

While the rate of investment is a decisive factor for productivity growth, there is no strict correlation between the two, since productivity is influenced also by a number of other factors, such as capacity utilization and price developments. Moreover, the impact of investment on overall productivity also depends on the distribution of investment between construction and machinery and equipment, as well as the technology content and scope for technological learning through such investment. The latter is in turn influenced by skills development, education and training, and product and process development, and how well these are linked to actual productive operations.

As noted in section B above, technological learning and R&D activities are essential to support a dynamic process of productivity growth. The capacity for this form of knowledge acquisition grows with the level of productivity already achieved; it is greater in countries where productivity is already relatively high. As this normally occurs with rising fiscal revenues, public and publicly sponsored education, training and R&D can also play an important role. However, it is difficult to establish a direct relationship between productivity growth, knowledge acquisition and public policies that support them, as skills and technological know-how are difficult to quantify. As an approximation, expenditure on public and publicly sponsored R&D as a share of GDP may serve as an indication of the importance governments attach to knowledge acquisition for productivity growth and structural change.

Comprehensive data on public R&D spending are lacking, but it appears to have been rising in most regions and in most developing economies over the past 10 years. It has been the highest and has risen the fastest in East Asia, where productivity growth has also been the most rapid. In China it rose from 0.6 per cent to 2 per cent of GDP between 1996 and 2013, and in the Republic of Korea from an already high level of 2.2 per cent to 4.5 per cent, far above the average of 2.4 per cent for North America and Western Europe. In all other developing regions such spending has remained below 1 per cent of GDP. In sub-Saharan Africa, the region with the lowest level of productivity and relatively low productivity growth rates, it has stagnated at 0.4 per cent of GDP (UNESCO Institute of Statistics, 2016).[9]

However, at the country level, the relationship between R&D and productivity growth is not straightforward. Available indicators such as R&D as a percentage of GDP, or patents of residents, are input-output indicators that seek to measure knowledge flows and linkages indirectly, and may not be sufficient to derive a nuanced picture of learning linkages across and within countries. Several developing countries considerably increased their public R&D spending in the 2000s, but this is not reflected in higher productivity growth. Similar efforts with R&D activities appear to have varying effects on the evolution of productivity. For example, in 2010 several developing countries, such as India, Kenya, Morocco, South Africa and Turkey, invested 0.7–0.8 per cent of their GDP in R&D activities, but with varying effects on the acquisition of technological capabilities (beyond the obvious scale effects). This is mainly due to the presence or absence of learning linkages. Manufacturing in India, although stalled at 17 per cent of GDP, is more technologically diversified than that of Kenya or Morocco. This results in a relatively larger share of private sector R&D investment in India, which is evident in some of the more dynamic manufacturing subsectors, hence promoting technological activities in the industry as a whole. These matching R&D investments from the private sector may not automatically occur in other countries where the industrial base is not as diversified. Similarly, the considerably higher share of R&D spending in Brazil compared with other Latin American countries is not reflected in corresponding faster productivity growth in this country over the longer term.

Even taking into account the lag effects between R&D investments and industrial performance, the

positive impact of the former on industrial productivity growth seems to be contingent on two important factors. First, R&D spending should be targeted and invested in industrial activities that are relevant to the local context. That is, it matters where the R&D spending is channelled and how that contributes to tacit know-how accumulation and skills building. Second, R&D spending should assist in raising industrial productivity in the presence of the relevant learning linkages. Public R&D may be geared for use in a specific industrial subsector, and this know-how may not spill over into other sectors, or there could be weak linkages between R&D and the practical application of its outcomes.

D. Successful and stalled industrialization and premature deindustrialization

Developing economies have had varying degrees of success in creating production linkages over time, and in harnessing trade relations and international competitiveness to augment those linkages (discussed in chapters II and IV). Initial conditions and institutional legacies have been contributory factors, but policy choices have also played an important role, particularly in terms of their impact on the pace and direction of capital accumulation and technological upgrading (Amsden, 2001; *TDR 2003*).

The previous section has shown how individual countries and regions have performed in terms of structural transformation, investment and productivity. Still, in an interdependent global economy, development is not a purely internal process; it is also affected by and measured against those economies that have exploited first-mover and other advantages to reach the top of the development ladder.

Using a broad brush approach, it is possible to identify three different trajectories of industrialization. *Catch-up industrialization,* with robust growth of production, investment, income, and technological and trade linkages built around a large and increasingly diversified manufacturing sector gives rise to a strong catch-up growth dynamic resulting in narrowing the productivity gap with lead economies. *Stalled industrialization* is characterized by stagnant shares of industrial output and employment, and sporadic growth episodes that generate linkages that are not large or strong enough for industrial growth to withstand shock and setbacks resulting in continued vulnerability. In general, such a trajectory results in a widening productivity gap with lead economies. Finally, there is *premature deindustrialization* in which the shares of industrial output and employment fall prematurely, at levels of per capita income much lower than those at which developed economies started to deindustrialize. This is accompanied by delinking along several dimensions and a sharp drop in relative productivity levels.

Such a categorization is not intended to be definitive, nor does it suggest that countries are permanently locked into pursuing one path or another. These stylized trajectories, like other similar analyses (Palma, 2005, 2008; Tregenna, 2015), are intended to highlight the heterogeneity of industrialization experiences as a basis for learning from successes and failures and designing appropriate industrial policy responses (discussed in chapter VI).

1. Catch-up industrialization

The first trajectory describes what could be called the "classical" path of sustained catch-up industrialization in which the shares of industry (particularly manufacturing) in both income and

employment rise as per capita income increases in the early phases of economic expansion. After certain thresholds of industrial activity and per capita income are reached, industry's share of output continues to rise, but its share of employment declines as labour productivity in this sector (and most of all in manufacturing) increases more rapidly than in other sectors. As discussed in the previous section, the share of industry in aggregate value added then tapers off (and possibly may even decline) at a relatively high level of per capita income, leading to a transition to a greater share of services in both output and employment. A natural process of deindustrialization follows, as industrial productivity continues to grow but demand patterns shift towards services. This was the pattern followed in today's developed economies and later in the East Asian newly industrializing economies (NIEs), which, on some assessments, have already begun to deindustrialize along the lines of the developed economies (Ramaswamy and Rowthorn, 1997).

Initial conditions and institutional legacies have contributed to creating production linkages, but policy choices have also played a major role.

In several countries, the value added and employment shares of industry in general, and manufacturing in particular, increased smoothly from the 1970s (tables 3.1 and 3.2). The distinctive feature of East Asia in this respect is not so much the share of industry in employment and output but the share of manufacturing. Some other countries (e.g. Brazil and Turkey in the 1970s) have exhibited a similar pattern for brief periods, but none has sustained it over the longer term. Moreover, East Asia is the only region which has significantly narrowed the productivity gap with developed economies, both in aggregate terms and in terms of industrial development. For example, prior to the 1950s the Republic of Korea, which had little industrialization, a shortage of local skills and a small, underdeveloped market, rapidly became a high-income country by the 1990s, with a diversified economy, making it a stellar example of industrial catch-up in the late twentieth century. While its example has been widely discussed, and its success was as much due to a favourable configuration of geopolitical circumstances as to domestic policies, it is still relevant for illustrating the nature of the linkages that matter in generating a successful trajectory of economic expansion combined with desirable structural change.

The Republic of Korea, started out with a GDP per capita of only $150 at current prices in 1960 (significantly lower than that of Brazil at $208, Malaysia at $229 and Chile at $550), and by the 1980s, it had achieved a per capita income of over $10,000, reaching $20,500 by 2010 (Lee, 2013). The share of manufacturing in value added increased from 17 per cent in 1970–1971 to 31 per cent in 2010–2014 (at current values), while the share of manufacturing in employment rose from only 8 per cent in 1963 to a peak of 27 per cent in the early 1990s, declining thereafter to around 18 per cent, when the country had already achieved a relatively high per capita income (table 3.2).

Industrialization in the Republic of Korea was driven by manufacturing, beginning with lower technology and light industries in the 1960s and then moving on to more heavy industries and high-technology sectors. A smooth transition through these sectors occurred with strong credit and R&D support from the State, as well as both general and targeted State support for firms to compete in export markets. Additional support was provided through investment in broader infrastructure, particularly the provision of physical infrastructure (e.g. roads, internet, water and electricity) and relevant knowledge infrastructure (e.g. human capital, R&D laboratories and university centres of excellence). Thereafter, the Government began to grant special tax incentives for private investment. Imitation was followed by internalization of technological change and the development of new products and processes in different competitive segments, marking the entry of the country's firms into global markets (Lee et al., 1988; Rodrik, 2014). The Republic of Korea's export structure thus diversified from low- to medium- to high-technology categories, making it one of the few emerging economies to have created a widely sophisticated technological base.

While export performance is often considered the major reason for the Republic of Korea's success, also critical were the roles of domestic demand and related distributional changes, particularly land reform, that enabled positive income linkages, especially in the early stages of industrialization (Studwell, 2013). Indeed, these were essential factors which contributed to balanced economic growth by

creating a domestic market for the mass production of industrial goods.[10]

During the first period of industrialization in the Republic of Korea (up to the mid-1970s), along with very rapid productivity growth (more than 8 per cent a year) in a manufacturing sector dominated by labour-intensive industries, there was an even more rapid expansion of employment in the sector. Subsequently, the changing structure of manufacturing led to continued rapid productivity growth in the 1980s and 1990s, but at declining rates of employment expansion. The manufacturing sector was strong enough to continue enhancing productivity even after the 1998 and 2008 crises, but without further increases in its employment (chart 3.4). It therefore seems to have entered a "positive deindustrialization process" at an already advanced level of per capita income and manufacturing. China is another country that has been able to maintain rapid productivity and employment growth in manufacturing for several decades, and even to the present day (chart 3.4).

2. Stalled industrialization

Catch-up industrialization is much less common than cases of *stalled industrialization*, where shares of manufacturing value added and employment have stagnated at modest levels. Many developing economies, at different levels of per capita income, have experienced this to a greater or lesser extent. Their development paths have not excluded growth spurts, but rarely have these been led by manufacturing activity which has never reached the levels (in terms of employment or output shares) observed in East Asia. In most of the countries, manufacturing has reached a mid-level threshold which has proved difficult to exceed; productivity growth has tended to fluctuate sharply, though rarely has it matched even the weakest periods in East Asia, and when it has increased, that expansion has not been accompanied by a sustained rise of employment in manufacturing (chart 3.4).

In some countries the enclave nature of manufacturing (e.g. in assembly plants) has likely prevented the emergence of backward and forward linkages, and, in many instances, employment generation in manufacturing has been inadequate to create the required demand and income linkages. Moreover, investment levels, even if increasing, may still be too low to provide the big push required to trigger a self-sustaining process of expanding production capacities and domestic demand, and spread across a sufficiently wide spectrum of activities necessary for developing synergies between production and knowledge generation.

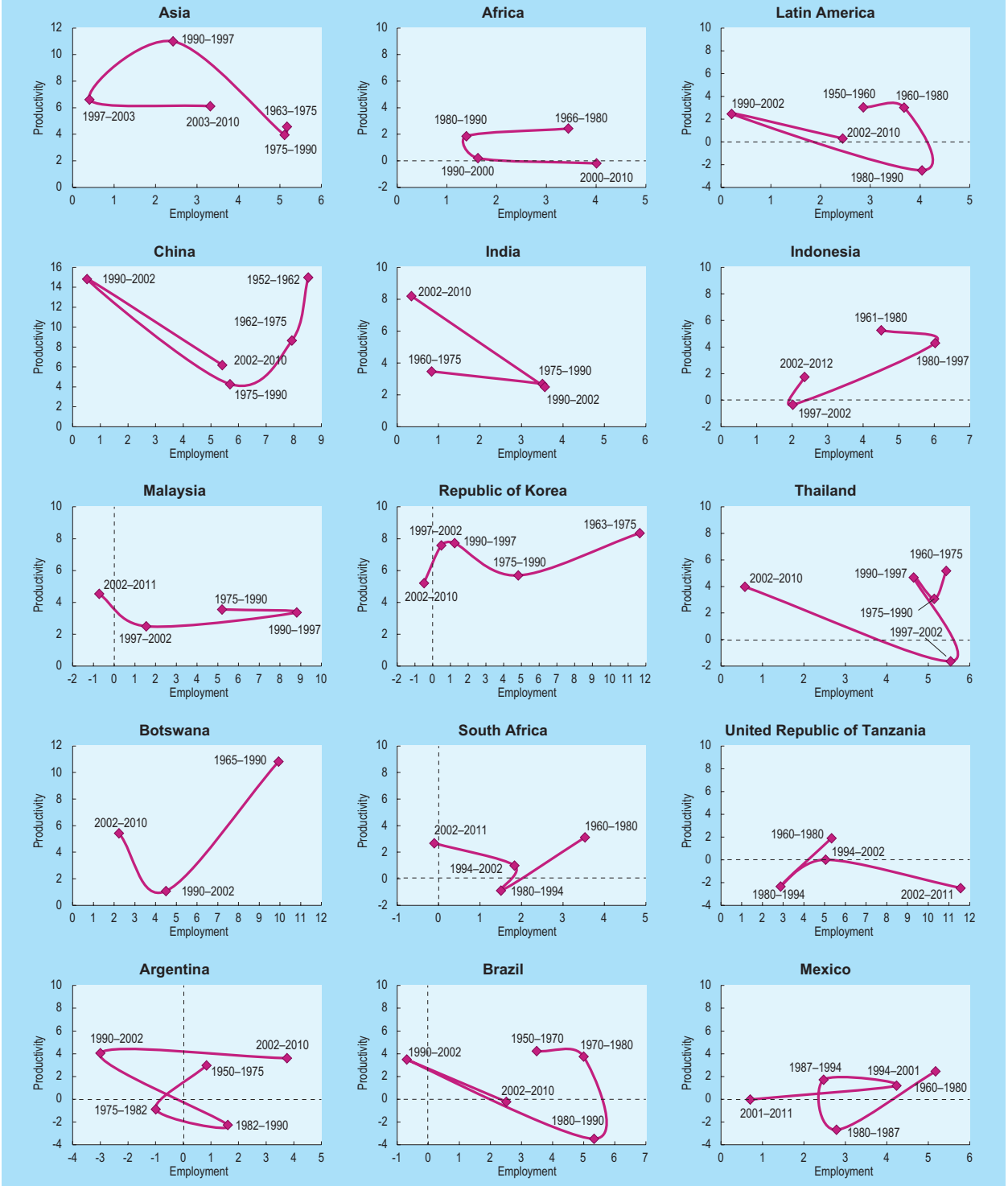
While, on the whole, the industrialization process has paused or frozen at levels of industrial income and employment that are too low to enable the forces of cumulative causation to work, specific variations exist. In some countries, such as India and Mexico, output and employment manufacturing shares have stagnated for prolonged periods. In others, such as many countries in sub-Saharan Africa, there has been very slow expansion of manufacturing activity and employment even before a solid base for sustained industrialization could be established. In yet other countries, such as a few in South-East Asia, industrialization trajectories have been interrupted for several periods following a major crisis. These patterns have been surprisingly common across a range of developing countries. Indeed, it is estimated that at least 30 countries are experiencing stalled catch-up growth (World Bank, 2012; Lee, 2013).

India provides an example of the first variant of stalled industrialization. In the 1950s and 1960s, its manufacturing sector went through the easier stages of diversification linked to a strategy of import-substituting industrialization. However, there was little subsequent momentum, as a result of which its core manufacturing (especially in capital goods sectors), which was developed in the initial decades of industrialization, remained underutilized, first due to lack of demand, and later to an absence of linkages characteristic of the growth of manufacturing (Raj, 1975; Bhalla and Ma, 1990). The share of manufacturing in total employment increased by only 2 percentage points over four decades, from 9.4 per cent in 1970 to 11.6 per cent in 2011, while the share in manufacturing value added stagnated at 17–21 per cent over the same period. From 1980 onwards, low-technology, labour-intensive sectors in manufacturing, such as food and beverages and textiles, showed marginal declines in output shares, but continued to have similar shares of employment. Even the more dynamic apparels sector saw only a 1 percentage point increase in output share between 1980 and 2005, while the employment share increased by 6 percentage points.

Chart 3.4

AVERAGE ANNUAL GROWTH RATES OF EMPLOYMENT AND PRODUCTIVITY IN MANUFACTURING, SELECTED COUNTRIES AND REGIONS, VARIOUS YEARS

(Per cent)



Source: UNCTAD secretariat calculations, based on Groningen Growth and Development Centre, *GGDC-10 Sector Database*.

Note: Average annual growth rates correspond to the periods indicated in the respective charts. Regions show weighted averages. For group compositions, see chart 3.3.

In medium- to high-technology sectors, such as motor vehicles and other transport equipment, chemical products and rubber and plastic products, the shares of output and employment in 2014 were similar to their levels in 1980.

Weakening production linkages within industry, as well as between agriculture and industry, which had been developed in the earlier period, never reached the necessary threshold to create knock-on effects on employment, income and demand in India. The limited domestic market (despite a large population), in turn, affected the ability to create the economies of scale needed for the country to become more globally competitive (Dasgupta and Singh, 2006; Kannan and Raveendran, 2009). Meanwhile, linkages and activities in other manufacturing sub-sectors, especially those related to engineering and design and high-technology products (e.g. for energy production), have been relatively weak (with the partial exception of the pharmaceutical sector). Thus, sectoral gains in productivity have not been associated with the creation of large and high-quality employment in the overall economy.

Catch-up industrialization is much less common than cases of stalled industrialization, where shares of manufacturing value added and employment have stagnated at modest levels.

The services sector in India has grown faster than the other sectors, to become the dominant sector in the economy. However, disaggregating services shows that while some categories (e.g. business services, software and services relating to information and communication technologies) have been growing at an average annual rate of 10 per cent since the early 1990s, other subsectors have grown more slowly. As a result, although the share of services in GDP is almost 60 per cent, its share in total employment is only around 30 per cent (Kotwal et al., 2011; Ghosh, 2015), with the largest proportion of employment remaining in very low productivity and poorly remunerated activities. These patterns of growth also explain the great variation in levels of productivity across and within the different sectors of the Indian economy. The weighted coefficient of variation in sectoral labour productivity is 0.69 – the highest in Asia (Klyuev, 2015) – pointing to considerable potential to increase economy-wide productivity by shifting resources from low-productivity to higher productivity sectors and subsectors of the economy.

Mexico provides another example of stalled industrialization, although at a higher industrial share in GDP than India. Its manufacturing grew at an average annual rate of around 7.5 per cent in the post-war period, with improvements in both employment and, to a lesser extent, productivity. By 1970–1980, the shares of industry and manufacturing sectors in total value added were around 40 per cent and 19 per cent respectively. But they have barely changed since then (tables 3.1 and 3.2). The manufacturing sector was severely hit by the debt crisis in the early 1980s, when its growth stagnated and productivity shrank until 1987. Policy reorientation and the process of joining the North American Free Trade Area (NAFTA) with the United States and Canada led to some improvement in productivity during the period 1987–1994, and to a more significant recovery in employment growth in the second half of the 1990s, along with a surge of production by assembly plants (*maquiladoras*). However, without an acceleration of investment, neither labour productivity nor employment creation grew in the 2000s (chart 3.4). The inability to achieve sustained industrial growth is reflected in the sluggish growth of manufacturing productivity, at an average of only 0.2 per cent per annum between 1970 and 2012; indeed, the overall economy showed no increase in productivity during this period.

Rapid trade and financial liberalization – which made the economy an important *maquila* exporter with only limited domestic production linkages – a recurrently overvalued exchange rate and the changing role of the public sector have all been factors contributing to the poor growth performance of Mexico's economy. A key feature of that economy has been the contrast between rapid export growth and weak investment growth (*TDR 2002*; Moreno-Brid et al., 2005; Moreno-Brid and Ros, 2009). The period following the NAFTA agreement, characterized by trade and financial liberalization, led to a strong increase in manufacturing exports, from only 10 per cent of total exports in 1981 to more than 80 per cent in the early 2000s, decreasing only slightly thereafter. However, as exports increased, imports kept pace, resulting in an increase in the imports-to-GDP ratio from 12.9 per cent in 1981 to 31 per cent in 2010. With domestically produced intermediate goods

accounting for only 25 per cent of total value added, few backward and forward production linkages could be established (Palma, 2005). The declining investment rate of the 1980s was reversed during the 1990s, but the investment-to-GDP ratio has been stagnant at 20–21 per cent since then. Thus, despite preferential access to the largest and most dynamic market in the industrial world and large inflows of foreign investment, the Mexican economy has been unable to establish the linkages needed to stimulate a dynamic process of industrialization and economic growth. This is largely due to a delinking of the exporting sectors from the domestic economy (Cruz, 2015; Palma, 2005).

Some countries in South-East Asia, such as Indonesia and Thailand, experienced a hybrid, stalled industrialization process, with positive structural transformation between the 1960s and the 1997–1998 Asian crisis. Until the crisis, this transformation was accompanied by rising investment rates and continuous increases in employment and productivity across a broad range of industrial sectors, particularly manufacturing (chart 3.4). The 1997–1998 crisis resulted in slower industrial growth and sluggish formal sector employment growth for these economies. Investment rates collapsed and have never fully recovered, and the industrial dynamics have been altered quite profoundly. Moreover, similar to Mexico, there has been an apparent disconnect between their strong export performance and production and learning linkages (Aswicahyono et al., 2011). Although growth gradually recovered after the crisis, the effects of the crisis on the key drivers of industrial growth have been profound, including a significant fall in investment rates from their very high levels and subsectoral shifts within manufacturing. In Indonesia, the post-crisis period saw an increase in the output shares of agriculture-based food and beverages and rubber products, and resource-based petroleum products. In Thailand, the output share of high-technology categories, such as machinery, computing equipment and optical instruments, grew from 0.2 per cent in 1982 to 8.1 per cent in 1996, but was still around 8 per cent in 2006. Thus, these countries still face the challenge of creating a positive nexus between technological change, investment and demand in the sectors that are already developed to some extent but have yet to realize their full potential for expansion and growth.

These countries display the dualism of a dynamic "modern" economy coexisting with a relatively stagnant and more informal economy. For instance, agricultural employment shares in Indonesia and Thailand, are still above 30 per cent, and productivity varies considerably across the different sectors of their economies. This is indicative of unexploited opportunities to boost economy-wide productivity and growth by shifting resources from low-productivity agriculture to higher productivity industrial and modern services sectors (Amarase et al., 2013; Chuenchoksan and Nakornthab, 2008; Lathapipat and Chucherd, 2013). However, such shifts do not occur on their own; they require proactive industrial policies to encourage them.

Other stalled industrializers – albeit at the opposite end of the spectrum from those in South-East Asia – include several economies in sub-Saharan Africa.[11] Starting from a much lower industrial base than the rest of the developing world, countries in the region took a step forward in expanding this sector, including manufacturing activities, during the period of accelerated growth between 1960 and 1975, when industrial growth rates exceeded those in the developed world (de Vries et al., 2015).[12] Subsequent structural adjustment policies had varying negative impacts on manufacturing in many countries in the region (UNIDO and Government of the United Republic of Tanzania, 2012). In this context, struggling local enterprises were unable to generate the resources needed to kick-start investment (which dropped precipitously until well into the 2000s)[13] or survive competition from foreign firms, while the few better performing State-led manufacturing firms attracted foreign buyers. In the region as a whole, the share of industry in total value added decreased slowly from its peak of 30 per cent in 1980, while the share of manufacturing value added fell by about 15 per cent to single-digit levels in the 2010s. Meanwhile, the share of industrial employment stagnated at below 10 per cent in the post-1970 period before reaching 12 per cent in the 2010s.

Proactive industrial policies are needed to encourage the shifting of resources from low-productivity agriculture to higher productivity industrial and modern services sectors.

Since the manufacturing sectors of many of the countries in sub-Saharan Africa did not develop to

a sufficient scale and level of sophistication during the import substitution period, the growth-pulling potential of this sector could not be realized, and it has never reached the scale needed to drive a cumulative process of linkage building.[14] Increasing returns and cumulative productivity increases have not been captured, export capacity has remained subdued, and there has been limited technological diffusion to other sectors of the economy. Moreover, learning-by-doing has been limited. In addition, strong forward and backward linkages with other sectors have not developed; indeed, linkages between agriculture and industry have become more fragmented over time, while limited employment generation in industry has pushed workers into low-technology services.

In both sub-Saharan Africa and the transition economies, the decline of industry, in general, and manufacturing in particular, has been concomitant with a reduction of per capita income, a situation referred to as "reverse deindustrialization" (Palma, 2005).

3. Premature deindustrialization

The strong economic growth rates and ambitious industrial policies that characterized much of the developing world in the 1960s and 1970s enabled some countries, particularly in Latin America, to achieve relatively high levels of manufacturing output and productivity. These countries more or less kept pace with the fast productivity growth rates in the developed economies. However, after the debt crisis and the "lost decade" of the 1980s, and the subsequent policy shift towards more market-friendly strategies, most of these countries experienced continuous declines in manufacturing output and employment shares. Large, and sometimes unilateral, trade opening, coupled in some countries with currency appreciation aimed at inflation control, strongly affected the profitability and viability of important segments of the manufacturing sector. In addition, regressive income redistribution and the retreat of the developmental State weakened domestic markets and further affected the previous drivers of industrialization. Hence, the strategies adopted for activating a dynamic process of private capital accumulation and growth, based on a combination of increased foreign direct investment (FDI) and reduced public investment and State intervention, did not produce the expected results. Indeed, investment rates fell and growth was well below the post-war average in these economies during the 1980s and 1990s (*TDR 2003*; Palma, 2011).

Industrialization processes in Argentina, Brazil and Chile had advanced significantly since the 1930s and 1940s, so that by the first half of the 1970s, their manufacturing sectors accounted for 34, 31 and 20 per cent of total value added, respectively. However, by 2010–2014 these shares had dropped to 17, 13 and 12 per cent, respectively (table 3.2). To some extent, a similar trajectory, though with differences in timing, was followed by countries in North Africa, as well as several transition economies following the collapse of the former centrally planned system, which largely destroyed the bases of their significant industrial development.[15]

Since this process of relative shrinking of manufacturing began at levels of per capita income that were much lower than the levels of income at which developed economies started to deindustrialize, this phenomenon has been termed "premature deindustrialization".[16] Such a contraction in countries that had achieved a significant level of manufacturing has often been associated with a political shock and a resulting change in policy direction.

Unilateral trade opening, financial deregulation, regressive income redistribution and the retreat of the developmental State led to premature deindustrialization in several countries, notably in Latin America.

In Latin America as a whole, the first stage of deindustrialization in the 1980s saw a steep fall in productivity, as manufacturing firms initially adjusted production and real wages rather than employment. However, at the second stage, when it was clear that the previous industrialization project had been abandoned, there was a general adjustment aimed at restructuring industrial activities and reducing employment. Such a "defensive strategy" (which included the closure of many firms) led to a recovery of productivity between 1990 and 2002, accompanied by absolute declines of employment in manufacturing in some countries (Porta et al.,

2016). Economic recovery between 2003 and 2011 generated new employment in the manufacturing sector, but achieved only mediocre gains in productivity growth (chart 3.4).[17] With investment-to-GDP ratios remaining low, Latin America's rate of capital accumulation has been the lowest among developing regions in the post-1970 period. The continuous decline in public investment in the post-1980 period clearly, but only partly, contributed to this reduction (see also chapter V). Investment-to-GDP ratios in North Africa and the transition economies have also been stagnant, at best, and comparatively low in per capita terms (table 3.5).

In the context of increasingly competitive global markets, premature deindustrialization poses further challenges to successful transformation by reducing the incentives to invest, weakening the dynamics of employment generation in modern sectors of the economy, reducing demand and income linkages and constraining the ability to benefit from economies of scale. In particular, the reduction in aggregate demand for domestically produced manufactured goods as a result of increased imports (in the absence of a concomitant increase of manufacturing exports) acts as a source of deindustrialization. As the dynamics of employment generation in the modern sector of the economy weakens, labour is often absorbed by the low-productivity primary sector, auxiliary services and/or the informal economy characterized by low quality jobs and low wages. Hence, the economy is further deprived of possibilities to build income linkages. Under such conditions, investment and domestic production linkages to successfully substitute imported intermediary and capital goods are severely weakened if not completely destroyed. Financial liberalization becomes a further source of deindustrialization through its effect on the relative competitive position of the exchange rate (Patnaik, 2003).

E. Making the primary and tertiary sectors work for structural transformation

1. *The role of the primary sector in structural change*

Historically, many countries managed to set in motion their industrialization process through various kinds of linkages with the production of primary commodities.[18] However, resource-rich countries have faced specific challenges associated with the "natural-resource curse", whereby their wealth of natural resources reduces incentives for structural change, and there are also instances of governance deficiencies, currency overvaluation and excessive external indebtedness.

However, there is nothing automatic about these connections, and the development outcome depends crucially on the management of the resources and the revenues derived from them. The challenge is to be able to stimulate a process of dynamic interaction between the production and export of primary commodities and structural transformation involving economic diversification, including the expansion of manufacturing activities. Even when the goal is to reduce the share of the primary sector in GDP, the sector can itself make an important contribution to that change in various ways that can enhance the linkages so critical to the industrialization process (UNIDO, 2012).[19] Forward production linkages in primary production are a potentially important source of raw material inputs for processing in domestic manufacturing industries. They can help increase processing activities as a first step in the expansion of the manufacturing sector. Primary production also requires a variety of inputs of goods and services, some of which can be supplied domestically

through backward linkages. Net exports of primary commodities can contribute to the foreign exchange earnings needed for financing capital goods imports for capacity expansion and technological upgrading in the manufacturing sector, thereby reducing the need for external borrowing. Higher incomes in the primary sector also help increase domestic demand for consumer goods, some of which can be produced domestically, thus generating demand linkages for domestic production. The primary sector, especially oil and natural gas and mining, is a major source of fiscal revenues for public investment and for the provision of public services, including education and vocational training, public utilities and business services (*TDRs 2002* and *2005*). Such public expenditure can finance economic diversification while also crowding in additional private investment.

The primary sector is often a major source of fiscal revenues, which can finance economic diversification while also crowding in additional private investment.

All this depends crucially on economic policy. Even more than in other sectors, the lack of appropriate policies to deal with export-oriented commodity production can result in enclave-type activities (particularly in extractive industries) and macroeconomic vulnerabilities. This generates particular types of weaknesses that have become evident at present after a decade of boom in global commodity prices and their subsequent decline. Thus, a period of higher prices and revenues from primary exports can support economic growth, but it can also lead to either more structural diversification or economic "reprimarization".[20]

The number of countries where primary commodities provide more than half of total export earnings increased from 108 in 2000 to 115 in 2014.[21] Some reprimarization of the export structure took place in Africa, where the share of processed and unprocessed primary commodities in total merchandise exports increased marginally from 75 per cent in 2000 to 76 per cent in 2014, and more significantly in South America, where the share increased from 66 per cent to 75 per cent (see also chapter IV).[22]

A basic problem with such dependence on the primary sector is the instability of international commodity prices, which leads to booms and busts in export earnings. This introduces an element of instability in public finances, and thus in public investment that relies on such revenues. In addition, a sharp rise of export earnings during boom periods can lead to exchange rate appreciations that reduce the incentive for domestic production of tradable goods, and therefore constrain economic diversification. Both of these require specific fiscal and monetary management if industrialization is to proceed under such conditions.

In the 2000s, many governments sought to mitigate the potentially negative impact of the instability of export earnings on public finances through new fiscal rules, such as limits on public expenditure and balanced or structural budget rules. These have generated mixed results. Some commonly cited successes are the structural balanced budget rule in Chile and the sustainable budget index rule in Botswana, which stipulates that current expenditure be financed only through non-resource revenues. Several governments established commodity funds (Aoun and Boulanger, 2015) to serve as a buffer against revenue volatility and as an instrument to smooth fiscal expenditure over time or for longer term savings for future generations, on the grounds that natural resources are finite.[23] To prevent or reduce exchange rate appreciation that would affect the competitiveness of domestic manufacturing industries, many governments sought to manage the nominal exchange rate through currency market interventions (see chapter VI).

2. Making commodity export revenues work for structural transformation

The contribution of commodity earnings to government revenues is the critical fiscal linkage that could facilitate growth and diversification strategies. This is evident from the increase in public investment in all the major commodity-producing regions following rising global prices of primary commodities in the 2000s. The share of public investment in GDP increased in Latin America from 3.5 in 2000 to 4.1 per cent in 2014, in Africa from 5.1 to 6.1 per cent and in the transition economies from 2.7 to 4.3 per cent (IMF, 2015). Public revenues from primary

activities were used in ways that could contribute to economic diversification, such as funding public development banks and investing in technology development.[24] With declining commodity prices, some of these spending patterns may be reduced or even reversed, which raises the question of the sustainability of such strategies.

The generation or strengthening of linkages between the primary sector and manufacturing is receiving renewed attention.[25] Ideally, these activities should develop backward and forward production linkages, in addition to consumption and fiscal linkages (Hirschman, 1958, 1986). Backward production linkages in the extractive industries can be promoted mainly through local content requirements or recommendations. They aim at local employment creation and the development of domestic production capacity to supply the commodities sector. In recent years, multinational enterprises (MNEs) themselves appear to have an interest in increasing linkages, as some inputs for their activities can be procured locally at lower cost, and also to fulfil corporate social responsibility requirements. But it is the role of governments to set or negotiate local content rules with MNEs, and promote cooperation between these firms and local firms to establish a network of efficient domestic suppliers. The potential for backward linkages appears to be even greater in agricultural production to the extent that efforts aimed at output and productivity increases in many countries lead to an increasing demand for relatively unsophisticated equipment and inputs that can often be provided by domestic firms (UNCTAD, 2015a).

Even the mining sector, which has frequently behaved as an economic enclave, can provide an important market for domestic production during the initial construction phase.[26] State-owned enterprises (such as Petrobras in Brazil and Petronas in Malaysia for the oil sector, and Codelco in Chile for copper) have been instrumental in the success of local content policies. However, like all such industrial policies, it is important to ensure that the benefits of these policies are not captured by local elites through corruption practices, or that excessive domestic preferences do not encourage the development of inefficient domestic companies.

Processing of domestically available raw materials, instead of exporting unprocessed commodities, promotes production linkages between the primary sector and industry …

The classical approach to fostering production linkages between the primary sector and industry focuses on the processing of domestically available raw materials instead of exporting unprocessed commodities. This approach has been labelled "export substitution", as export restrictions can support such linkages. Some examples where government policies have helped develop resource-based industrial production include diamonds beneficiation in Bostwana; the creation of a petrochemical pole based on abundant gas reserves in the Plurinational State of Bolivia; and the development of the leather industry in Ethiopia, Kenya and Namibia. Measures to discourage exporting the raw material have also supported domestic processing. For example, levies on unprocessed soya exports favoured the creation of an industry of soya-based biofuels in Argentina; export taxes applied in 2008 and the 2013 ban on the sale of raw minerals in Zambia helped develop refined copper and copper alloy production, and led to the building of three copper smelters; and an export ban on unprocessed nickel in Indonesia encouraged domestic value addition (Ramdoo and Bilal, 2014).

Another strategy is to focus on the dynamic benefits for the manufacturing sector by improving the supply of domestic raw materials. This can reduce the manufacturing sector's dependence on imported raw material inputs, and, if supported by adequate industrial policy measures, it may serve as an incentive for starting new or expanding existing industrial activities (UNECA and African Union, 2013). Such initiatives follow an integrated approach that seeks to develop the primary sector in tandem with the manufacturing sector. They are based on the perception that efficient domestic supply chains can encourage investment in domestic manufacturing capacity. Although there appears to be some scope in a number of developing

… another strategy is to focus on fostering dynamism in the manufacturing sector by improving the supply of domestic raw materials.

countries for increasing the extraction of base chemicals and base metals, the provision of raw material in sufficient quantity and quality for processing in a growing manufacturing sector is mainly a supply issue. Therefore, productivity-enhancing measures in agriculture can complement measures aimed at expanding manufacturing activities.

The insufficient integration of domestic supply chains is often a serious constraint on the expansion of manufacturing activities and even on the optimal use of existing production capacities, especially in poorer countries where agricultural productivity is especially low. But also, in many of these countries, the provision of agricultural raw materials to sectors such as food processing, textiles, clothing and leather goods is often far below their potential. As a result, large amounts of raw materials and intermediate goods that could be sourced locally have to be imported. Therefore, in their case a broader industrial policy would also focus on vertical integration of agriculture with industry (see box 6.1 in chapter VI). This may require changes in agricultural production and marketing structures and capacity-building among agricultural operators to better meet the requirements of manufacturers in related activities. Additionally, an extension of the cultivated land area and an increase in agricultural productivity may be necessary, including, in particular, the installation of extended irrigation systems. For agricultural operators and domestic traders, this will imply adapting traditional behaviour patterns to the exigencies of vertical integration, for example through the creation of larger operating units and the commercialization of agricultural activities.

Improving the efficiency of domestic supply chains needs to focus not only on quantity, but also on the quality of the agricultural inputs for manufacturing firms. Compliance with international product standards requires strengthening national quality infrastructures by improving related regulatory and public services for conformity assessment and quality enhancement, as well as certification services. The promotion of compliance with standards and related learning and investment has to begin at the stage of raw material production.

3. The role of services in structural transformation

The shares of the services sector in both total value added and employment have grown considerably over the past few decades, not only in developed economies, where this has been a normal feature of long-term structural change, but also in many developing countries, where it has occurred at much earlier stages of industrialization and structural transformation. Therefore, the question arises as to whether developing economies can "leapfrog" to more advanced stages of industrial development by relying to a greater extent on services in structural transformation, and by shifting employment and income creation from activities in the primary sector directly to the tertiary sector.

Interest in the possibility of services-led growth may also result from the fact that export-led industrialization is becoming more difficult, as an ever increasing number of producers from developing countries compete in a global market that is expanding much more slowly than when some countries successfully embarked on export-oriented industrialization (see chapter VI). There is, however, little evidence of the highly heterogeneous service sector, by itself, playing the role of engine of growth without a strong manufacturing base. Some modern services, such as those enabled by ICTs, can have positive impacts on structural transformation similar to those that traditionally have been ascribed to manufacturing in terms of productivity and employment growth and linkage creation, including through international trade (Dasgupta and Singh, 2005; Saéz et al., 2015). On the other hand, services embrace a broad range of activities, from mostly low-skilled and low-productivity consumer services to high-skilled and technology-intensive business services.

The services sector is more likely to assume a supporting role in accelerating structural transformation in countries that have a dynamic manufacturing industry with fast productivity and income growth.

Optimistic views on the potential of the services sector to replace, to a significant extent, the manufacturing sector as a driver of a dynamic process of structural transformation rely on observations on the evolution of productivity in developed countries over the past few decades. While the overall slowdown

of productivity at the end of the 1970s and 1980s was generally perceived to result from the "tertiarization" of the economy, studies have shown that services in the United States, rather than slowing down productivity growth, have actually sustained overall productivity performance since the 1990s (Bosworth and Triplett, 2007; Inklaar and Timmer, 2008). With respect to developing economies, other studies have pointed out that the services sector has been contributing to aggregate productivity as much as manufacturing in many countries (Timmer and de Vries, 2009).

However, such studies need to be considered with caution. First, the increasing importance of services as a share of total employment could partly result from a "statistical illusion" (Andreoni and Gregory, 2013; UNIDO, 2013), since various activities, ranging from design and data processing to transport, cleaning and security, are increasingly contracted out by manufacturing firms to specialist service providers, so that the boundaries between services and manufacturing activities have changed over time (Di Meglio et al., 2015). Such services are not new to economies, but external provision by specialized service firms implies an accelerated expansion of the services sector and a deceleration of value-added growth in manufacturing. More importantly, the expansion and upgrading of such services are largely dependent on the expansion and upgrading of the manufacturing activities they relate to.

Second, the heterogeneity of the tertiary sector implies that the ability of different kinds of services to boost productivity varies widely. The *GGDC 10-Sector Database* (Timmer et al., 2014) highlights considerable productivity variations across different service categories between 2000 and 2010 (table 3.7). In most countries of the sample, productivity is significantly higher in "finance, insurance, real estate and business services" and in "transport, storage and communications" than in other categories. The first category involves high-skilled services whose value added is significantly affected by price changes that are hard to represent realistically as "productivity" changes, while the second includes activities that have been progressively outsourced by manufacturing firms. Productivity levels in other categories such as "trade, restaurants and hotels", "community, social and personal services" and "government services" are, in general, much lower. There are also significant disparities across countries, which imply that achieving high productivity in different categories of services should not be taken for granted.

In any case, the composition of the services sector matters in terms of its contribution to employment and productivity growth. Low productivity services, for example in hospitality and personal care, may help to create employment for surplus labour, but the gains in terms of overall productivity will be low. By contrast, high productivity services are, to a large extent, a reflection of the high productivity growth of industrial activities, and the rising wages and incomes that this helps to generate (Felipe et al., 2014). Thus, in most cases, service activities have not emerged *sui generis,* but as an offshoot of high-productivity manufacturing activities, and at the same time they may contribute significantly to productivity growth in those manufacturing activities.

The services sector therefore needs to rely on strong intersectoral interactions and interdependencies with a mature manufacturing sector. In India and countries in Africa, studies have highlighted the significant role played by services as inputs to the manufacturing sector, but they have also concluded that those countries still have the potential for diversifying their economies through stronger linkages between the two sectors (Hansda, 2005; Saéz et al. 2015). In countries where industrialization has stalled, the movement of labour into service activities has generally resulted from inadequate employment creation in the economy as a whole. In African countries, for instance, labour shifted into the services sector as employment creation in manufacturing weakened, and the services sector expanded by 12 percentage points, on average, between 2000 and 2012. However, much of the value added in services in Africa results from low-productivity activities (UNCTAD, 2015b).

Overall, the services sector is therefore more likely to assume a supporting role in accelerating structural transformation in countries that also have a dynamic manufacturing industry and fast productivity and income growth, than in countries with stalled industrialization at a low level of industrial value added. This is because the level of income per capita is still too low to generate a substantial demand for more skill- and technology-intensive consumer services, and because manufacturing has not yet reached a stage where it would strongly drive a business service sector, or where the latter could significantly

Table 3.7

RATIO OF MANUFACTURING PRODUCTIVITY TO SELECTED SERVICES PRODUCTIVITY, SELECTED ECONOMIES, 2000−2010

(Annual average)

	Community, social and personal services	*Finance, insurance, real estate and business services*	*Government services*	*Trade, restaurants and hotels*	*Transport, storage and communication*	*Ranking by productivity of the manufacturing sector among services*
Developed economies						
Japan	1.7	1.3	1.3	1.7	1.1	1
United States	1.9	0.6	1.7	1.7	1.0	2
Africa						
Botswana	0.9	0.6	1.3	1.1	0.6	4
Egypt	..	0.6	3.7	1.2	1.0	3
Ethiopia	1.0	0.1	0.3	0.5	0.1	6
Ghana	1.1	0.3	0.6	1.6	0.2	4
Kenya	1.6	0.2	0.4	1.2	0.3	4
Malawi	0.9	0.3	1.7	1.5	0.5	4
Mauritius	1.7	0.5	1.0	0.9	0.5	4
Morocco	..	0.1	2.3	1.4	0.7	3
Nigeria	5.6	0.7	3.3	1.1	1.9	2
Senegal	3.7	0.1	0.6	1.6	0.4	4
South Africa	2.3	0.9	1.4	2.1	0.7	3
United Republic of Tanzania	9.6	0.4	1.8	2.0	0.7	3
Zambia	37.3	0.3	..	1.2	0.8	3
Latin America						
Argentina	5.3	3.2	3.7	2.7	1.3	1
Bolivia (Plurinational State of)	1.1	0.5	..	2.1	0.5	3
Brazil	4.8	1.0	1.0	2.2	0.9	2
Chile	2.0	0.8	..	2.7	1.1	2
Colombia	1.4	0.9	..	2.9	1.0	2
Costa Rica	1.6	1.3	1.3	1.8	1.0	2
Mexico	4.5	0.6	1.3	1.3	0.6	3
Peru	1.9	0.9	..	2.2	1.6	2
Venezuela (Bolivarian Republic of)	3.1	2.9	..	3.6	2.4	1
Asia						
China	11.2	0.3	1.3	1.8	1.0	2
China, Hong Kong	0.4	0.4	..	0.6	0.6	5
China, Taiwan Province of	1.2	0.8	0.7	1.1	0.7	4
India	2.1	0.3	0.6	0.9	0.7	5
Indonesia	1.5	0.7	3.9	2.7	1.9	2
Malaysia	2.1	0.8	2.8	1.9	1.1	2
Philippines	8.4	0.7	2.5	3.0	2.6	2
Republic of Korea	1.6	2.3	..	3.4	1.4	1
Singapore	2.4	1.0	..	1.2	1.2	1
Thailand	0.6	2.3	10.9	2.5	1.0	2

Source: UNCTAD secretariat calculations, based on Groningen Growth and Development Centre, *GGDC-10 Sector Database*.

contribute to productivity growth in manufacturing. This is in contrast to the nature and potential of the services sector at the onset of deindustrialization in developed economies, where manufacturing has already grown to account for a significant share of a country's GDP.

On the other hand, some services may be less dependent on domestic linkages than others. With the expansion of global trade in services, developing countries may also benefit from an expansion of service exports in niches that can be filled on the basis of static country endowments, such as sites of historical or scenic interest for tourism, or time zone proximity, or language skills for call centres, accounting and similar business services. The tourism sector has a strong export component, and can be a source not only of job creation but also of foreign exchange, and even for the generation of backward linkages to certain manufacturing activities. But while that sector relies less on domestic demand, its development requires appropriate physical infrastructure, and it has weak potential for contributing, on its own, to overall productivity growth in an economy. Similarly, attracting offshore services of medium or high value added is likely to remain out of reach for developing countries that lack sufficient industrial and technological capabilities (OECD, 2005).

F. Conclusions

Industrialization, and in particular the development of a dynamic manufacturing sector, has a dimension that reaches beyond the firm level and the level of individual prioritized subsectors, and even beyond the manufacturing sector as a whole. It has implications for society as a whole and not only for pioneers in individual manufacturing activities. While industrial development offers considerable potential for income growth across the entire economy, it also affects social and political structures. This chapter has suggested that public sector involvement in the process of industrialization is essential for both productivity growth and linkage creation. Another argument in favour of State involvement is based on the recognition that domestic infant industries need to be supported and protected from more advanced competitors until they develop their own capacities to compete.

Government support aimed at achieving sustained productivity growth and technological upgrading of products and processes needs to be based on a systematic assessment of the actions needed to address the most binding constraints on domestic manufacturers' ability to accelerate productivity growth, diversify their production and move up the technological ladder. Such assessment and the implementation of appropriate public policy measures require consultation between public and private sector institutions.

Since the key to productivity growth and upgrading of manufacturing activities lies in sustained capital accumulation, a favourable macroeconomic policy stance and a well-functioning financial system that provides adequate long-term investment are of the utmost importance for the industrialization process and the realization of productivity gains (*TDR 2003,* chap. IV). Indeed, the deterioration of the macroeconomic and financial environment during the 1980s and 1990s was one, if not the main, reason for the slowdown of manufacturing and productivity growth in many developing countries.

The experiences of successful industrializers demonstrate that the promotion of structural transformation requires attention to different sources of growth, including boosting private and public investment, fostering technological progress, strengthening domestic demand and increasing the capacity of domestic producers to meet the exigencies of international markets. This implies the need for interaction

between several areas of public policy: macroeconomic management, financial policies, trade policies, technology policies and public education. Moreover, in order to foster cross-sectoral and cross-regional linkages, output and productivity growth in the primary sector, and thus agricultural policy and the management of rents from mining activities, should not be neglected.

The successful implementation of the 2030 Agenda for Sustainable Development in part rests on the full use of the available policy space for developing countries to expand their manufacturing sectors, accelerate productivity growth and actively support the creation of linkages between the most dynamic subsectors of manufacturing and the rest of their economies.

Notes

1 See for example, Bellofiore and Garibaldo, 2011; *TDR 2014*.

2 Within different categories of manufacturing, certain technological domains appear to be especially critical for boosting manufacturing productivity, such as mechanical engineering, electricity and electrical devices, and information technologies (Nelson, 1993; Hobday, 1998; Bell, 2007; Cimoli et al., 2009).

3 It has been observed that part of the shift of employment and value added from manufacturing to services actually results from the statistical consequences of outsourcing: a number of activities (e.g. transport, cleaning and maintenance, design and data processing) previously conducted by employees of manufacturing firms (and as such accounted as manufacturing employment and value added) began to be delivered by separate structures offering services to large manufacturing firms (Dasgupta and Singh, 2006). More generally, complementarities between some services and manufacturing ensured a steady rise in services such as transportation, energy, communications, finance and public social services, which were able to generate "good quality" jobs in terms of productivity and remuneration.

4 This process was described as "negative deindustrialization", as opposed to "positive deindustrialization" that occurred in the context of rapid growth and full employment (Rowthorn and Wells, 1987).

5 However, there were already a few countries that had started to show some signs of deindustrialization, along with problems in sustaining labour productivity growth. For instance, countries such as Argentina, Bahrain, the Bolivarian Republic of Venezuela, Ghana, Saudi Arabia and South Africa experienced significant losses of industrial output (and also in some cases employment) shares with no significant productivity gains in the subsequent decades.

6 These effects can be broadly corroborated with the growing per capita income differences during these decades, especially between the Asian countries, on the one hand, and the Latin American and African countries on the other, which led to a near doubling in the number of least developed countries from 25 in the 1980s to 49 by the 2000s (Ocampo and Vos, 2008).

7 Aggregate labour productivity (ΔP) is decomposed into three components following Timmer et al. (2014): $\Delta P = \Sigma i\ (Pi^T - Pi^0)\ Si^0 + \Sigma i\ (Si^T - Si^0)\ Pi^0 + \Sigma i\ (Pi^T - Pi^0) * (Si^T - Si^0)$, where Pi is the labour productivity level of sector i, Si is the share of sector i in overall employment, and superscripts 0 and T refer to initial and final years. The first component reflects the changes in productivity within every sector during the period under consideration ("within" factor). The second captures the effects of changing shares of employment in sectors based on the different productivity levels at the beginning of the period ("between", static reallocation effect). The third component measures the joint effects of changes in employment shares and sectoral productivity growth ("between", dynamic reallocation effect); its contribution is positive if employment shifts towards sectors that have rising productivity. It should be noted that the "within" and "between" effects for the whole period normally differ from the averages of the shorter periods, as is particularly evident in the case of Asia. This is because the "within" factor is calculated as the change in productivity per sector times the share of employment in the starting year. For Asia, the long-term calculation is based

on the situation in 1963, a time when the shares of employment in the sectors with the fastest growth of productivity were smaller. This, in turn, gives more prominence to the "dynamic-between" factor, which captures this structural change. Instead, taking subperiods, there is a higher "within" contribution because these are calculated with different initial employment shares, in which (particularly in Asia) the weight of the dynamic sectors is much higher. For the same reason, the "between-dynamic" is smaller, simply because the structural change over 50 years was larger than in any of its subperiods.

8 UNCTAD secretariat calculations based on Groningen Growth and Development Centre, *GGDC-10 Sector Database*.

9 See: http://www.uis.unesco.org/DataCentre/Pages/BrowseScience.aspx.

10 Significantly, more egalitarian agrarian relations and rising rural incomes in China, including in Taiwan Province of China, were also very important in ensuring large and dynamic domestic markets for industrial goods before the export push in both these economies.

11 Given the rather large and diverse range of countries in sub-Saharan Africa, in some countries a trend of stalled industrialization is observed, while others seem to be undergoing premature deindustrialization, discussed later.

12 This analysis is based on the *Africa Sector Database* (of the GGDC 10-Sector Database) that covers 11 sub-Saharan African countries for the period 1960–2010 (see: www.ggdc.net/asd).

13 Gross fixed capital formation in the whole of sub-Saharan Africa fell from an average of 26 per cent of GDP between 1976 and 1981 to only 16 per cent, on average, between 1984 and 2000 before recovering to 21 per cent in 2012–2014 (*UNCTADstat*).

14 Even countries that managed to maintain very rapid expansion of their manufacturing sector for long periods struggle to reach that critical point. For instance, Botswana's manufacturing recorded a real average annual growth rate of 11 per cent between 1964 and 2014, but the starting point was so low that its share in GDP did not exceed 7 per cent in 2014.

15 The North African countries considered in table 3.1 (i.e. Egypt, Morocco, Tunisia) and Turkey are examples of economies that attempted to maintain some degree of industrialization but with little structural change to sustain productivity growth. Growth rates were high in the 1970s but subsequently declined, and were subject to boom-bust cycles depending on the conditions of the global economy.

16 The term "premature deindustrialization" seems to have been first used by Wong (1998) when discussing the increasing productivity of the ICT sector in Singapore to avoid reallocation of the labour force to services. UNCTAD (*TDR 2003*) has applied the term to some sub-Saharan African and Latin American countries to emphasize the concerns about reduced manufacturing output and employment shares at lower levels of per capita GDP, and low or negative productivity growth. Palma (2005) and Dasgupta and Singh (2006) further conceptualized the term in relation to per capita income levels in developing countries.

17 One exception has been Argentina, where productivity and employment soared during its rapid recovery in 2003–2011 (chart 3.4). Thanks to improved macroeconomic conditions, a revival of domestic demand and a competitive exchange rate, the number of firms in the manufacturing sector increased by 42 per cent between 2002 and 2007, following the closure of 19 per cent of them between 1998 and 2002. However, reindustrialization lost steam following the reappearance of balance-of-payment constraints and an economic slowdown in 2008, which has been more pronounced since 2011. The government in place until 2015 applied some defensive measures aimed at protecting employment in manufacturing and containing imports of manufactures, and also used public procurement policies, central bank credit management and direct funding of high-tech projects to support the manufacturing sector. While these measures were effective in safeguaring employment and technological capacities, they could not further advance the reindustrialization process (Porta et al., 2016).

18 See Furtado (1971) for Latin America, and Jomo and Rock (1998) for South-East Asia.

19 See also Szirmai and Verspagen, 2015.

20 Reprimarization refers to the increase of primary commodities' share in total GDP and/or exports. As discussed in section III.C, such increases in the share of the primary sector have different economic implications when they occur at the expenses of other sectors, and when they result from a more rapid growth of production and/or exports of primary commodities than in other (also expanding) sectors, as frequently happens during commodity price booms.

21 However, the number of countries dependent on only one commodity declined from 44 to 35 in the same period (based on *UNCTADstat*).

22 It should be noted that the increase in the share of primary commodity exports resulted mainly from higher commodity prices, and not because other exports performed badly. In regions with high commodity dependence, such as South America, West Asia and Africa, all categories of exports grew rapidly over this period.

23 A proper assessment of such funds will be possible only over a longer time horizon. So far, their performances have been mixed, depending on factors such as having a clear definition of objectives, the existence and adherence to fiscal and investment

rules, flexibility in adverse circumstances, a clear division of responsibilities, ensuring of transparency and effective oversight (Sharma and Strauss, 2013).

24 For example, Ecuador has devoted part of its hydrocarbon rent to the creation of the "knowledge city" of Yachay, with the aim of creating a technological pole to support economic transformation.

25 See for instance the studies published by the Making the Most of the Commodities Programme, which are available at: http://www.commodities.open.ac.uk/mmcp. See also UNIDO and the Government of the United Republic of Tanzania, 2012; OECD et al., 2013; ACET, 2014; and African Development Bank and the Bill & Melinda Gates Foundation, 2015.

26 During the construction phase, there is considerable demand for activities with potentially strong domestic ramifications. Industrial policies can help generate a network of domestic supply firms. In Mozambique, for instance, the official agency, Mozlink promoted the use of domestic small and medium-sized enterprises as suppliers of Mozal aluminium. In South Africa, 89 per cent of the mining sector's spending takes place within the country, providing a market for the local manufacturing and services sectors (Kaplan, 2016).

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Chapter IV

REVISITING THE ROLE OF TRADE IN MANUFACTURES IN INDUSTRIALIZATION

A. Introduction

Export-led industrialization, along with the trade in manufactures that is presumed to drive it, often seems like the last best idea for using trade to speed up development in the modern era. It simultaneously evokes the successes of the East Asian tigers and the alleged failures of import-substituting industrialization. Moreover, it confirms the significance of industrialization as an essential stepping stone to development, as there is little else that has proved as effective in fostering catching up. And it appears to conform to the prescriptions for trade liberalization in conventional trade theory.

However, export-led industrialization is much harder to achieve than is assumed by conventional wisdom. Its success is crucially dependent on the policy framework within which it evolves and on global and domestic economic conditions, which may or may not facilitate it. To induce industrialization and productivity-enhancing structural change, it is not enough to expand exports of manufactures; it also necessitates the development of deep and robust domestic production, learning and income linkages. Indeed, it is well established that the East Asian export-led growth model, including its more recent variants, is about maximizing the developmental benefits of trade by managing it through proactive industrial, macroeconomic and social policies, including the pairing of export promotion with the protection of infant industries and import substitution, particularly in the initial stages of industrialization (*TDR*s *1994, 1996* and *2003*). Indeed, managing trade to support domestic development was the same approach used by almost all of today's developed countries at some point in their industrializing histories (Chang, 2008; Cohen and DeLong, 2016).

The global economy has changed considerably since developed countries first industrialized, and even since the first-tier of East Asian late industrializers accomplished their catch-up miracles. Today's global economy is much more open, not only because of the many multi- and bilateral trade and investment agreements concluded, but also because of the full entry of former centrally planned economies into the global trading system. It is also more crowded, with a multitude of countries simultaneously trying to realize the promise of export-led industrialization by exporting their manufactures, thereby increasing the global supply of less-skilled labour. Advances in information and communication technologies (ICTs) have made it easier and cheaper to manage far-flung production networks, contributing to the rise of global value chains (GVCs) and giving multinational enterprises (MNEs) an even more prominent role

in the global trade regime. The latter also dovetails with global financialization, as MNEs become less directly involved with production activities and more concerned with coordinating productive assets, such as the ownership, control, design and marketing of intellectual property.

The central question of this chapter is whether the export of manufactures has led to the sorts of industrialization, productivity growth and structural transformation that are widely expected to result from this approach, focusing on the period since the 1980s. The chapter is organized as follows. Section B outlines the reasons the chapter focuses on trade in manufactures (particularly exports), and it develops a framework for understanding the linkages between trade in manufactures, industrialization and development. Section C begins with an overview of the broad changes in global trade, followed by an empirical analysis of inter- and intraregional trade in manufactures by country group since 1980. Section D evaluates the impact of exports of manufactures from the supply side, assessing structural transformation in terms of manufacturing value added, and the relationship between those exports and aggregate productivity growth. It also discusses how export sophistication and diversification shape the impact of trade on growth, especially as it has been linked to the so-called "middle-income trap" discussed in chapter II of this *Report*. Section E focuses on the prospects for industrial upgrading in the context of GVCs. Sections F and G analyse the distributional aspects of trade in manufactures both within and across countries, drawing from this analysis the implications for both human and physical capital accumulation. Section F uses a gendered lens to assess the employment record of the increased trade in manufactures, and the prospects for increasing incomes and reducing gender inequality as part of an industrialization process driven by trade. Section G focuses on inequalities between the North and South as reflected in their changing terms of trade, and assesses whether the expanding trade in manufactures has afforded the South the kind of pricing power necessary to drive investment and wage growth. Section H concludes.

B. A preliminary framework

As discussed in the previous chapter, manufacturing activities are a key means for catch-up development. And the processes of industrialization and productivity-enhancing structural change that stem from them provide an important foundation for achieving many of the Sustainable Development Goals (SDGs). Indeed, SDG 9 specifically calls for promoting inclusive and sustainable industrialization, reflecting its importance in advancing sustainable development. Likewise, international trade plays a significant role in shaping and mediating these relationships, both in practical terms, given the expanding reach of globalized production, as well as in terms of development theory and policy, where trade liberalization is often viewed as the solution to a wide range of development challenges. That trade in manufactures is a means to achieving inclusive industrialization and development, rather than an end in itself, is the starting point of this section, which presents a framework for understanding why this sort of trade is hypothesized as driving industrialization, structural change and productivity growth.

> Trade in manufactures is a means, rather than an end in itself, to achieving inclusive industrialization.

To begin with, it helps to categorize the linkages between trade and industrialization into two types. The first captures how both exports and imports of manufactures directly affect productivity growth

through changes in the structures of production. The second is based on how and to what extent trade in manufactures affects the structures of distribution and accumulation, which could, in certain conditions, spark increased investment and growth while sustaining higher wages and hence improving livelihoods.

Starting with the structures of production, export of manufactures can generate productivity growth both within and across industries and sectors. Probably the most familiar line of transmission is through economies of scale (i.e. the more of a good that is produced, the lower becomes its average cost) and scope (i.e. capabilities in one set of activities lower the effective cost of engaging in other activities). These economies of scale and scope are dynamic in the sense that they afford more than a one-off means of raising productivity; they create capabilities and processes that improve productivity in an ongoing and cumulative way. From this perspective, exporting becomes instrumental, because the domestic markets of most developing countries, even if they provide a starting base, are not large or complex enough to support the scale or scope achievable in global markets – an insight related to Adam Smith's oft-cited notion that the division of labour is limited by the extent of the market, and that external markets can act as a "vent for surplus" (Myint, 1977).[1]

The productivity growth and industrialization that exporting manufactures can generate requires exporting sectors to have strong production and learning linkages with the rest of the economy.

However, there is a potential contradiction here, as economies of scale and scope imply that large firms, or agglomerations of firms, may be necessary for capturing some of the benefits deriving from exports of manufactures. That world trade, and the GVCs that shape the structure of that trade, are so dominated by large firms – especially in the top tiers of value added – is probably related to this point (Bernard et al., 2007; Melitz and Trefler, 2012). Moreover, it also means that exporting first, and capturing those dynamic economies of scale and scope before others do, provides a strategic advantage, making it more difficult for new entrants to compete – the so-called "first mover advantage".

These challenges have often provided the basis for arguments in support of infant-industry protection. They maintain that developing-country firms need some combination of time, support and protection to adequately build their capabilities before they can compete internationally, just as developed-country and East Asian firms did during their nascent industrial periods (Wade, 1990; Chang 2002). Concerns about infant-industry protection are also linked to how exporting firms that have become globally competitive following initial protection can enhance both opportunities and capabilities for learning, discovery and innovation. Technological, managerial and worker capacities are cumulative and path-dependent, and experience – especially of the sort afforded by the dynamism of international markets – lengthens the forward reach of prior success (Amsden, 2001). Export of manufactures is an activity where these sorts of positive externalities and spillovers show particular promise.

However, there is an instructive difference between the macro and micro evidence of learning-by-exporting. As discussed in some detail in *TDR 2014*, while exporting firms also tend to be the most productive in a sector, micro-based empirical evidence indicates that this correlation is primarily driven by selection rather than by the hypothesized causal link from exporting to productivity growth (Harrison and Rodríguez-Clare, 2009; McMillan and Rodrik, 2011; Melitz and Trefler, 2012). That is, more productive firms tend to start exporting; alternatively, opening up to trade simply increases the market share of more productive firms because competition drives less productive domestic firms out of business. Either way, the sector's overall productivity increases, but not necessarily because firms are becoming more productive.

It is therefore essential that, at the macro level, the exporting sector should be able not only to strengthen and raise its own productivity, but also to generate positive linkages with the rest of the economy. As discussed in chapter III of this *Report*, these kinds of linkages depend on the policy framework (Furtado, 1967; Hausmann et al., 2007). Dynamic economies of scale and scope, coupled with the productive externalities and spillovers these processes engender, are by their very nature difficult to capture – empirically or practically – at the firm or even industry level. It may be useful here to be reminded of the substantive

difference between the narrow benefits of enclave production, and those derived from strong production, income and learning linkages, as discussed in the previous chapter.

Another way that exports and imports of manufactures can affect the structure of production and productivity is through their impact on aggregate patterns of structural change. As detailed in the previous chapter, part of productivity-enhancing structural change involves shifting labour and resources from low productivity work in traditional agriculture to higher productivity work in manufacturing and modern services. And selling to external markets enlarges these possibilities to a greater extent than what can be achieved by selling exclusively to domestic markets. Hence exporting manufactures can not only raise productivity within industry, it can also raise an economy's aggregate productivity by redistributing existing resources across broad economic sectors.[2] However, when there is surplus labour (a nearly universal feature of both developing and developed countries in the current era of deficient aggregate demand), import competition, and/or productivity growth that is driven by the exit of less productive firms from industry, trade liberalization can result in declines in aggregate, economy-wide productivity, even as it raises productivity in the industrial sector (McMillan and Rodrik, 2011). The determinant is the impact on employment, and whether the productivity growth in industry (when it occurs) is outweighed by a larger shift of labour and resources into low productivity work outside the industrial sector. These are the sorts of dynamics that underlie growing concerns about "premature deindustrialization" in developing countries, discussed in the previous chapter.

Growing aggregate demand, both domestic and international, is central to capturing and capitalizing on the opportunities afforded by trade in manufactures.

Typically, export-led industrialization and the productivity growth associated with it are considered almost exclusively from the production or supply side. However, demand can also play an important role through an economy's distribution of income and the consequences for capital accumulation. In order to capture and capitalize on the opportunities afforded by trade in manufactures, its benefits must be channelled in ways that lead to positive structural transformation and widely shared growth. Aggregate demand is central to this process.

First, export of manufactures should support a strong investment drive by generating profits for domestic firms in international markets. Such profits provide a basis for increasing domestic investment and financing innovation and upgrading. Upgrading can also come from the direct import of capital equipment and foreign technology, which in turn requires the foreign exchange earned by exports (alleviating the balance-of-payments constraint on growth).[3] The challenge here is a complex one, and involves generating, capturing and directing profits and rents in productive, development-oriented ways. Many of these issues are discussed in the next chapter on the profit-investment nexus and in the closing chapter on industrial policy. At this point, suffice it to note that industrialization and development require capital accumulation, and this raises the question as to whether the current global trade regime has, in fact, generated sufficient resources for financing such accumulation.

In a related sense, a key driver of investment (and the productivity growth and structural transformation that result) is aggregate demand, both domestic and external. When firms expect demand to increase, they respond by investing in order to expand productive capacities. Buoyant demand also makes it easier to assume the risks associated with moving into new areas of production or engaging in technological innovation. With export-led industrialization, external demand can help fulfil this function, but it has become a more capricious partner with the slowdown of global trade and the exponential expansion of the field of exporters (partly a result of the ease of entry into GVCs and international production networks). Additionally, depending exclusively, or even primarily, on maintaining a competitive edge by compressing wage growth structurally limits the extent of domestic demand. Ultimately, the path to development based on exporting manufactures should eventually lead to better livelihoods (more employment and higher wages) if it is indeed to live up to its promise.

For this to happen, it is necessary to move beyond traditional narratives of industrialization and the types of investments required to achieve it. When trade is associated with an increase in employment at higher wages, it also encourages investment in human capital, both by raising incomes and the returns to education, thereby enhancing the capabilities of labour (Lederman and Maloney, 2012). This aspect is sometimes overlooked when making a linkage between exporting and industrialization. But labour supply-side policies are not a substitute either, not least because supply is hardly ever successful at generating its own demand, especially where labour is concerned (Amsden, 2010). When investment in human capabilities is driven by demand, and is thus directly connected with employment, it becomes a substantive and sustainable vehicle for upward mobility. At the same time, from the perspective of fostering gender equality, generating more and better jobs for women is essential for empowering them. Moreover, both higher profits and better wages provide a tax base for public revenue and for investment in physical and social infrastructure, thereby helping to overcome one of the key challenges of financing the SDGs.

If, instead, aggregate demand and wage growth stagnate, competition grows intense and profit margins become slim, and governments are reluctant to expand the tax base for fear of losing (domestic or foreign) business activity, a sort of low-level equilibrium will prevail. In such a context, the productivity growth that may accompany trade in manufactures on the supply side may be used to gain, or simply maintain, market share by lowering relative export prices, thus effectively giving away productivity gains to global firms or foreign consumers. If these dynamics are strong enough, productivity growth may actually make a country worse off by lowering the terms of trade to a larger extent than the gains in growth.[4] This problem evokes points made by Raúl Prebisch and Hans Singer, that because the prices of developing-country exports (largely primary commodities) tend to decline relative to developed-country exports (largely industrial goods), developing countries face a structural disadvantage in global trade relations with the North, thus maintaining and magnifying the income gap between rich and poor (the so-called "Prebisch-Singer hypothesis"). Updates have since taken into account the increasing role of manufactures in developing-country exports (*TDR 2002*; Sarkar and Singer, 1991), but the spirit of the original hypothesis remains a concern. Since the distribution of income partly determines the nature and rate of capital accumulation and innovation, the price that developing countries get for their exports of manufactures could constrain the developmental benefits of trade.

C. Trends in international trade by region

1. General trends

The one element in the most recent era of globalization that has unquestionably proved successful in developing regions is trade expansion, both exports and imports. Between 1980 and 2014, developing countries as a whole increased their exports of goods and services (at constant prices) at an average annual rate of close to 7.5 per cent, compared with an average annual GDP growth rate of 4.8 per cent. As a share of GDP (at current prices), exports of goods and services from developing countries rose from an average of 19 per cent in the early 1970s to 27 per cent in the 1990s and 37 per cent in the 2000s; they reached a peak of 40 per cent between 2005 and 2008, before declining to 33 per cent in 2014 (table 4.1).[5] This expansion of exports (and also imports) as a share of GDP was significant in all developing regions (and developed as well), though it was larger in East and South-East Asia and more moderate in Latin America and the Caribbean and in South Asia.

Table 4.1

SHARE OF EXPORTS OF GOODS AND SERVICES IN GDP, BY COUNTRY GROUP, 1970–2014

(Per cent of GDP at current dollars)

	1970–1979	*1980–1989*	*1990–1999*	*2000–2009*	*2010–2014*
Developed economies	15.1	16.9	18.5	23.0	27.4
Transition economies	..	..	32.9	37.6	34.0
Developing economies	18.9	23.0	27.5	36.9	35.3
of which:					
Africa	22.6	21.4	24.5	31.9	31.4
Latin America and the Caribbean	13.2	16.3	15.3	22.5	21.2
East Asia	14.0	26.2	35.3	42.4	37.2
South-East Asia	29.7	39.2	57.7	76.3	65.0
South Asia	12.6	8.2	12.7	19.4	22.9
West Asia	36.3	39.3	33.3	43.7	50.9

Source: UNCTAD secretariat calculations, based on *UNCTADstat*.

The increase in international trade flows of developing regions also altered the pattern of international trade, albeit with a slight time lag. Between 1960 and 1990, the regional distribution of global trade remained virtually unchanged, with the share of developed countries averaging around 73 per cent of total merchandise trade, and that of developing countries around 23 per cent (transition economies accounting for the remaining 4 per cent). The participation of developing countries started to increase in the mid-1990s, and strongly accelerated during the 2000s, virtually doubling to about half of total world trade in 2015. However, the process has been uneven. East, South-East and South Asia accounted for two thirds of developing countries' total merchandise trade, and for 70 per cent of the increase in developing countries' share in total trade between 2000 and 2014. However, other groups of countries also expanded their share in both exports and imports of merchandise, such as the transition economies, Africa, South America and West Asia. The rise in commodity prices (but also in volumes traded) was largely responsible for the significant increase in the value of their exports and their purchasing power, which enabled an expansion also of imports. In particular, the share of trade among developing countries has more than doubled since 2000.

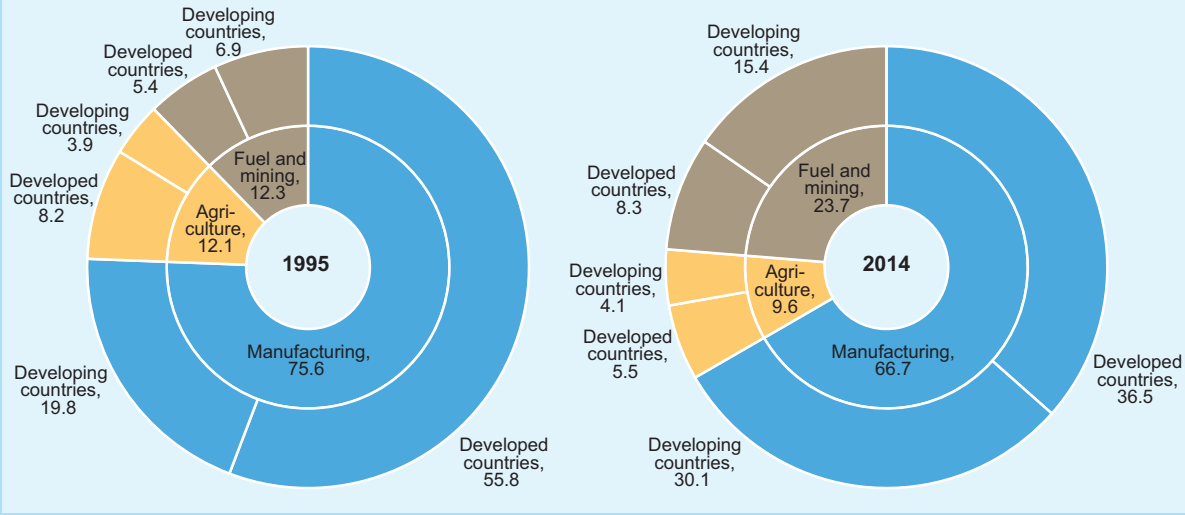
The changing weights of different regions in global trade affect its product composition, since the demand structure of different countries is not uniform, nor is their involvement in international production networks. In particular, the rise in developing-country demand has had a strong impact on the composition of global trade. It has operated through, among other factors, the change in relative prices. Increasing demand for primary commodities from large, fast-growing Asian countries (in particular China), combined with a range of other factors, including the slow supply response and the financialization of commodity markets, were the main drivers of the commodity price boom between 2003 and 2011–2013, and this increased the share of commodities, both processed and unprocessed, in total merchandise trade. Between 1995 and 2012, world trade in commodities (agriculture, fuel and mining) increased from 24.4 per cent of merchandise exports to 35.4 per cent, declining to 33.3 per cent in 2014 (chart 4.1). Growth was concentrated in minerals and fuels, while the share (not the value) of agricultural products slightly declined. Growth was also higher for unprocessed than processed commodities. This reflects the structure of the most dynamic markets, particularly China, which has its own substantial processing capacity.

In several regions, the composition of exports is closely related to the trading partner. In the successful industrializing regions of East and South-East Asia, high- and medium-skill manufactures, including the intermediate products required to assemble final

Chart 4.1

DEVELOPING AND DEVELOPED COUNTRIES' SHARE IN WORLD EXPORTS IN MANUFACTURES AND SELECTED COMMODITIES, 1995 AND 2014

(Per cent)



Source: UNCTAD secretariat calculations, based on *UNCTADstat*.
Note: In this chart, data for developing countries include data for transition economies. The totals of the inner and outer rings each equal 100 per cent. Each category includes the following SITC Rev. 3 codes: manufacturing = 5, 6, 7, 8 less 667 and 68; agriculture = 0, 1, 2, 4 less 27 and 28; fuel and mining = 27, 28, 3, 667, 68, 971.

manufactured goods, constitute the main exports, most of which are sold within the Asian region. On the other hand low-skill manufactures are predominant in South Asian exports. In all three subregions, developed countries remain an essential market for low-skill manufactures (charts 4.2C, D, and E).[6]

Africa exports mostly unprocessed commodities to the world – around 57 per cent of total exports (chart 4.2A). However, its intraregional exports consist mostly of manufactures and processed commodities (43 per cent and 22 per cent, respectively, in 2014). Hence, even though intraregional exports have remained modest (increasing from 12 per cent to 20 per cent of total exports between 2000 and 2014), they explain 42 per cent of the increase of African exports of manufactures between these years. Intraregional trade thus has the potential to support industrialization and diversification in Africa. It should therefore be encouraged, since one of the obstacles to African intraregional trade is precisely the insufficient supply of manufactures and processed commodities (*TDR 2007*).[7] The reorientation of some African exports from developed countries to other developing regions (most notably Asia) would not have the same impact on the composition of exports, because unprocessed commodities constitute a higher share of exports to Asia than exports to developed countries (chart 4.2A).

A similar pattern can be seen in South America and the transition economies, two groups whose already strong dependence on commodity exports has increased in recent years. In South America, the share of unprocessed commodities rose from 40 per cent to 52 per cent of its total exports, mostly due to an increase in exports to other developing regions, especially Asia (chart 4.2B). Conversely, exports of manufactures declined to only 25 per cent of total exports in 2014. However, manufactures, mostly high skill, remained at 50 per cent of intraregional exports. Thus, for these manufactures, the region accounts for as much as 60 per cent of their foreign markets. For the transition economies, the bulk of

Chart 4.2

COMPOSITION AND DIRECTION OF EXPORTS, SELECTED REGIONS/GROUPS, 2000–2014

(Per cent)

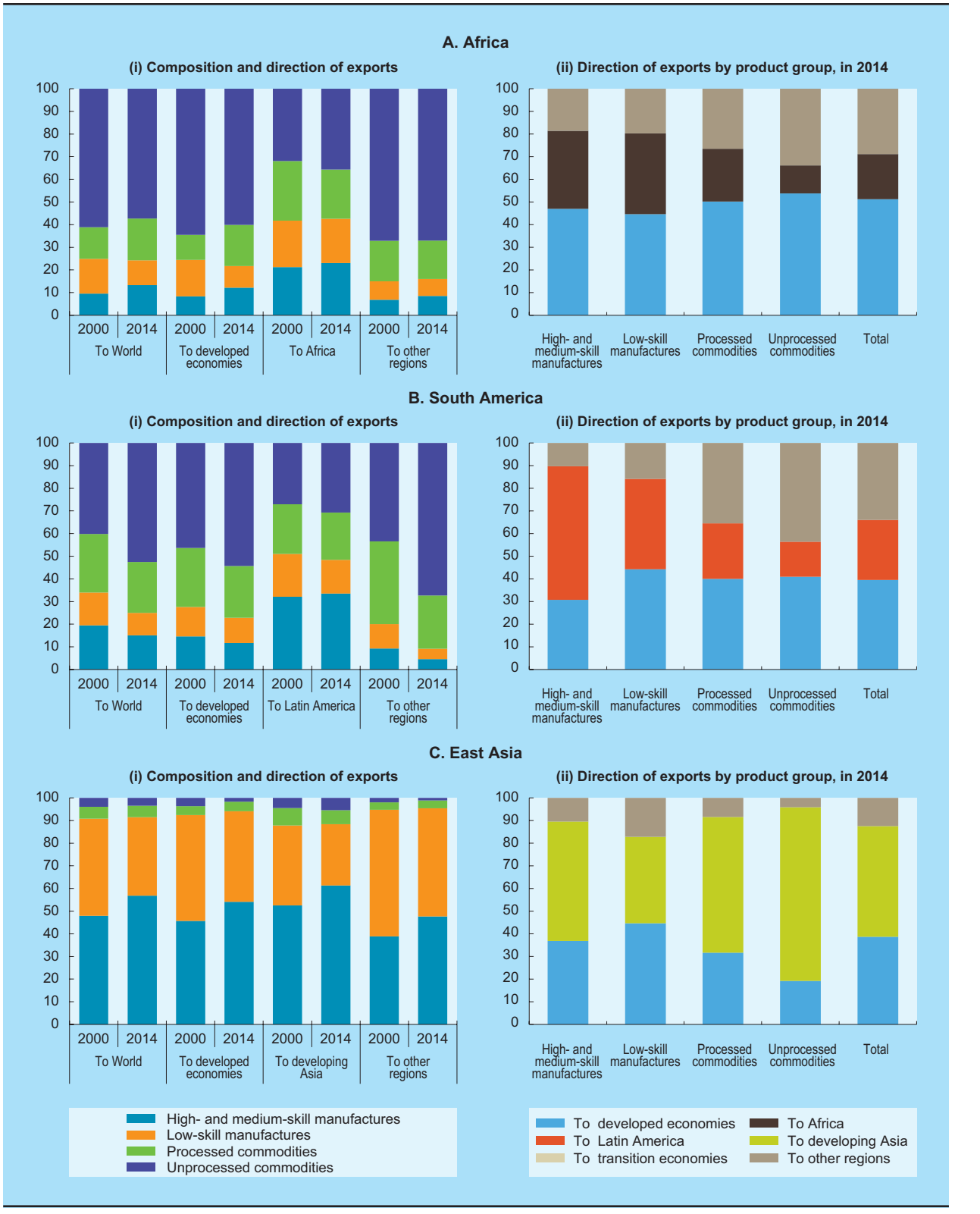
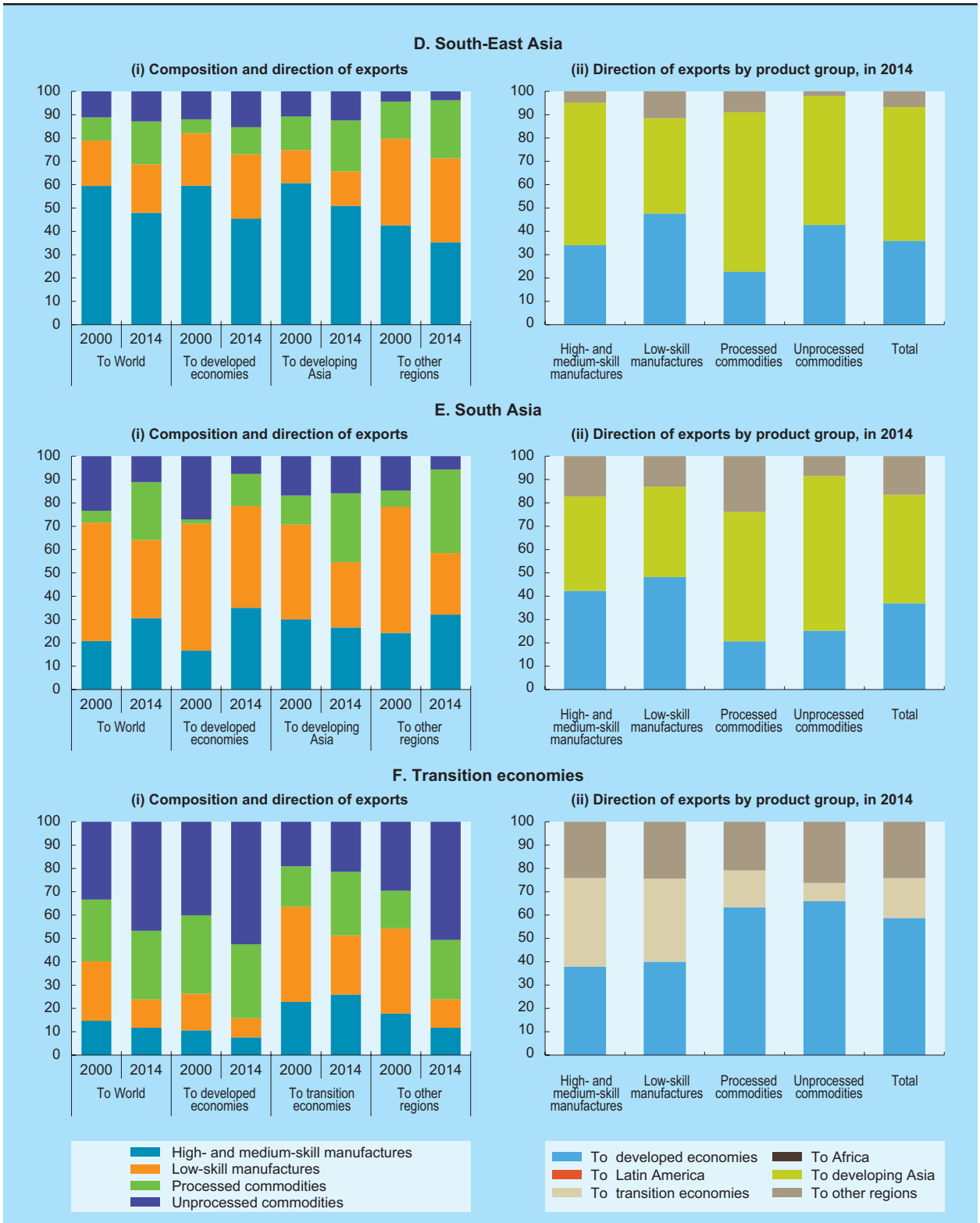


Chart 4.2 (concluded)

COMPOSITION AND DIRECTION OF EXPORTS, SELECTED REGIONS/GROUPS, 2000–2014

(Per cent)



Source: UNCTAD secretariat calculations, based on *UN Comtrade*.
Note: The classification is drawn from Wood and Mayer, 2001, and *TDR 2002*.

exports consists of unprocessed and processed commodities, almost two thirds of which go to developed countries' markets. By contrast, these economies provide more important markets for each other's manufactures (chart 4.2F).

2. Trade in manufactures

That developing countries have greatly increased their share in world trade of manufactures is a well-known and oft-cited phenomenon of the modern era: that share rose from about 10 per cent in 1980 to nearly 45 per cent by 2014.[8] This is certainly a promising shift in terms of the potential linkages between trade in manufactures and industrialization described above. However, the shift seems rather less encouraging when considered in a more disaggregated way, and relative to the (simultaneously changing) size of overall production.[9]

Tables 4.2 and 4.3 reveal a number of stylized patterns worth exploring, but the discussion here focuses on those of immediate relevance to the issues surrounding trade in manufactures and productivity-enhancing structural change which are discussed throughout this chapter.

For developed countries, the main trade partners for manufactures continue to be other developed countries, despite the tremendous increase in developing-country participation detailed above. In 2013, developed countries' intra-group trade constituted about 62 per cent of their total manufacturing trade with the world. Their trade with developing countries is dominated by trade with Asia,[10] which accounted for over half of their exports to developing countries, and three quarters of their imports from developing countries. Transition economies have been experiencing huge losses in their exports of manufactures over time, as well as large and increasing trade deficits in manufactures in line with the large decline in manufacturing activity in the region.

Developing countries started out with greater imports than exports of manufactures in the 1980s and 1990s, but also saw the largest increases of trade in manufactures as a share of GDP. Their main partners for trade in manufactures shifted from developed countries to other developing countries over the course of the 2000s, partly reflecting the decline of developed-country imports of manufactures as a share of GDP in the late 2000s. This decline and the relative increase in prominence of South-South trade substantiate concerns over the weakening of developed-country markets as a destination for developing-country exports. Thus, markets of the South might offer a substantive alternative for developing-country trade in manufactures, as underscored in chapter I.

As evidenced by the regional breakdown of Asia (i.e. East, South-East and South Asia), Latin America and the Caribbean, sub-Saharan Africa and West Asia and North Africa, aggregate developing-country patterns are driven by the weight of the Asian region. An analysis of directions of trade in manufactures by country groups and regions (tables 4.2 and 4.3) shows that Asia dominates, both in terms of changes in and levels of that trade. The increases in both South-North and South-South trade are almost entirely due to changes in the Asian region. These patterns are associated with the fact that most international production networks are not only regional in nature, but are also highly concentrated within the Asian region (*TDR 2014*).

West Asia and North Africa, sub-Saharan Africa, and Latin America and the Caribbean show different patterns of trade in manufactures than Asia. First, the former three regions exhibit a growing trade deficit over the years listed in the tables (determined by subtracting imports in table 4.3 from exports in table 4.2). Developed countries have been a more important destination and source for these regions than other developing countries, at least until the collapse of global trade following the financial crisis of 2007–2008. Overall, trade in manufactures accounts for a lower proportion of GDP in these regions than in Asia (a pattern that is more pronounced for exports than for imports), and a smaller proportion of that trade is intraregional.[11] Still, most of their exports of manufactures to developing countries are intraregional. On the other hand, their imports of manufactures are sourced more from developing Asia than from countries within their respective regions, and to a large extent these flows drive the trade deficits in manufactures.

To sum up, the rise of trade in manufactures from and among developing countries is attributable mainly to Asia. Therefore, aggregate analyses of developing-country trade should avoid generalization.

Table 4.2

EXPORTS OF MANUFACTURES AS A SHARE OF GDP, BY COUNTRY GROUP, 1980–2013

(Per cent)

Country group	*Trade partner*	*1980*	*1990*	*2000*	*2006*	*2013*	*Percentage point change*
Developed economies	Developed economies	6.2	7.0	8.4	9.4	8.8	2.6
	Transition economies	..	..	0.1	0.4	0.5	0.4
	Developing economies	3.3	2.4	2.9	3.6	4.4	1.1
	Asia	1.0	1.2	1.5	1.9	2.3	1.4
	Latin America and the Caribbean	0.7	0.4	0.8	0.8	1.0	0.3
	Sub-Saharan Africa	0.4	0.2	0.1	0.2	0.2	-0.2
	West Asia and North Africa	0.9	0.4	0.4	0.6	0.8	-0.1
	World	9.5	9.4	11.4	13.3	13.7	4.2
Transition economies	Developed economies	..	..	6.5	3.9	2.6	-3.9
	Transition economies	..	..	3.1	2.7	2.5	-0.6
	Developing economies	..	..	3.9	2.5	1.9	-2.0
	Asia	..	..	2.4	1.4	0.9	-1.5
	Latin America and the Caribbean	..	..	0.3	0.3	0.2	-0.1
	Sub-Saharan Africa	..	..	0.1	0.1	0.1	0.0
	West Asia and North Africa	..	..	1.0	0.8	0.6	-0.4
	World	..	..	13.5	9.1	7.0	-6.5
Developing economies	Developed economies	3.6	6.9	10.4	10.8	7.7	4.1
	Transition economies	..	..	0.1	0.4	0.5	0.4
	Developing economies	2.4	4.9	7.6	11.2	11.2	8.9
	Asia	1.3	3.6	5.8	8.5	8.1	6.8
	Latin America and the Caribbean	0.3	0.5	0.9	1.2	1.2	1.0
	Sub-Saharan Africa	0.2	0.2	0.3	0.4	0.6	0.4
	West Asia and North Africa	0.5	0.4	0.6	1.1	1.3	0.8
	World	6.0	11.7	18.2	22.5	19.4	13.4
Asia	Developed economies	6.8	11.5	14.8	15.0	9.7	2.9
	Transition economies	..	..	0.2	0.6	0.7	0.5
	Developing economies	4.1	8.4	12.9	17.8	15.8	11.7
	Asia	2.5	6.9	10.9	14.8	12.4	9.8
	Latin America and the Caribbean	0.2	0.4	0.8	1.1	1.3	1.0
	Sub-Saharan Africa	0.3	0.3	0.3	0.5	0.6	0.3
	West Asia and North Africa	0.8	0.6	0.8	1.4	1.5	0.6
	World	10.9	19.9	27.9	33.4	26.2	15.3
Latin America and the Caribbean	Developed economies	2.2	2.7	7.4	7.4	5.6	3.5
	Transition economies	..	..	0.0	0.0	0.0	0.0
	Developing economies	1.4	1.5	1.9	3.2	2.6	1.2
	Asia	0.3	0.3	0.2	0.6	0.6	0.2
	Latin America and the Caribbean	0.8	1.0	1.6	2.5	1.9	1.1
	Sub-Saharan Africa	0.1	0.1	0.0	0.1	0.1	0.0
	West Asia and North Africa	0.2	0.1	0.0	0.1	0.1	-0.1
	World	3.6	4.2	9.2	10.6	8.2	4.7
Sub-Saharan Africa	Developed economies	..	2.3	4.3	5.1	2.9	0.6
	Transition economies	..	..	0.0	0.0	0.0	0.0
	Developing economies	..	1.8	2.4	3.0	3.7	1.9
	Asia	..	0.6	0.7	0.8	0.8	0.2
	Latin America and the Caribbean	..	0.1	0.2	0.2	0.1	0.0
	Sub-Saharan Africa	..	0.9	1.5	1.8	2.5	1.6
	West Asia and North Africa	..	0.2	0.1	0.3	0.3	0.1
	World	..	4.1	6.7	8.1	6.6	2.5
West Asia and North Africa	Developed economies	..	1.4	2.7	3.2	3.0	1.6
	Transition economies	..	..	0.2	0.5	0.7	0.2
	Developing economies	..	1.5	2.0	3.7	6.3	4.8
	Asia	..	0.5	0.8	1.3	2.5	2.0
	Latin America and the Caribbean	..	0.0	0.0	0.1	0.2	0.2
	Sub-Saharan Africa	..	0.0	0.1	0.3	0.5	0.4
	West Asia and North Africa	..	0.7	1.0	2.1	3.2	2.5
	World	..	2.9	4.9	7.4	10.0	7.1

Source: UNCTAD secretariat calculations, based on *UN Comtrade* database (SITC categories 5–8 less 667 and 68); United Nations Statistics Division (UNSD), *Main Statistical Aggregates* database.

Note: Asia comprises East, South-East and South Asia; group members may vary across time depending on data reporting to *UN Comtrade*. Each year is a 3-year moving average based on (t-1), (t) and (t+1) with the following exceptions depending on data availability: 1980 figures for Latin America and the Caribbean refer to 1983–1985, and 1990 figures for sub-Saharan Africa refer to 1991–1993. World totals equal the sum of developed, developing and transition economy exports, and may differ slightly from *UN Comtrade* totals. Percentage point change refers to the difference between the latest and earliest period reported in that particular row.

Table 4.3

IMPORTS OF MANUFACTURES AS A SHARE OF GDP, BY COUNTRY GROUP, 1980–2013

(Per cent)

Country group	*Trade partner*	*1980*	*1990*	*2000*	*2006*	*2013*	*Percentage point change*
Developed economies	Developed economies	6.3	7.1	8.3	9.1	8.5	2.2
	Transition economies	..	..	0.1	0.2	0.2	0.1
	Developing economies	1.1	1.8	3.3	4.6	5.5	4.4
	Asia	0.7	1.2	2.4	3.5	4.2	3.6
	Latin America and the Caribbean	0.2	0.3	0.7	0.7	0.8	0.6
	Sub-Saharan Africa	0.1	0.1	0.1	0.1	0.1	0.0
	West Asia and North Africa	0.0	0.1	0.1	0.3	0.3	0.3
	World	7.4	8.9	11.7	13.9	14.1	6.7
Transition economies	Developed economies	..	..	6.4	7.5	6.9	0.5
	Transition economies	..	..	3.0	2.6	2.4	-0.5
	Developing economies	..	..	1.2	3.0	4.5	3.3
	Asia	..	..	0.8	2.5	3.9	3.0
	Latin America and the Caribbean	..	..	0.0	0.1	0.1	0.1
	Sub-Saharan Africa	..	..	0.0	0.0	0.0	0.0
	West Asia and North Africa	..	..	0.3	0.4	0.5	0.2
	World	..	..	11.8	14.5	15.2	3.4
Developing economies	Developed economies	10.5	8.8	10.4	9.6	6.9	-3.6
	Transition economies	..	..	0.2	0.3	0.2	0.0
	Developing economies	2.3	4.4	7.3	10.9	10.2	7.9
	Asia	1.7	3.5	6.3	9.4	8.8	7.0
	Latin America and the Caribbean	0.3	0.5	0.6	0.9	0.7	0.5
	Sub-Saharan Africa	0.1	0.1	0.1	0.2	0.2	0.1
	West Asia and North Africa	0.2	0.2	0.3	0.4	0.5	0.3
	World	12.8	13.3	18.0	20.8	17.4	4.5
Asia	Developed economies	11.0	12.2	11.9	10.8	6.8	-4.2
	Transition economies	..	..	0.3	0.3	0.2	-0.2
	Developing economies	3.1	7.2	11.1	15.1	11.8	8.7
	Asia	2.7	6.4	10.6	14.2	10.9	8.2
	Latin America and the Caribbean	0.1	0.3	0.2	0.4	0.4	0.3
	Sub-Saharan Africa	0.1	0.1	0.1	0.1	0.1	0.0
	West Asia and North Africa	0.1	0.2	0.2	0.4	0.4	0.3
	World	14.1	19.4	23.3	26.2	18.8	4.7
Latin America and the Caribbean	Developed economies	3.9	4.5	9.6	8.0	6.6	2.7
	Transition economies	..	..	0.1	0.1	0.1	0.0
	Developing economies	0.9	1.3	2.9	5.4	6.5	5.6
	Asia	0.1	0.3	1.2	3.0	4.3	4.2
	Latin America and the Caribbean	0.8	0.9	1.6	2.4	2.1	1.3
	Sub-Saharan Africa	0.0	0.0	0.0	0.0	0.0	0.0
	West Asia and North Africa	0.0	0.0	0.0	0.0	0.1	0.1
	World	4.8	5.7	12.6	13.6	13.2	8.4
Sub-Saharan Africa	Developed economies	..	7.0	6.7	6.7	4.9	-2.1
	Transition economies	..	..	0.1	0.1	0.1	0.0
	Developing economies	..	2.4	4.2	6.7	8.1	5.8
	Asia	..	1.4	2.1	3.8	5.0	3.5
	Latin America and the Caribbean	..	0.1	0.2	0.3	0.3	0.2
	Sub-Saharan Africa	..	0.7	1.5	2.1	2.1	1.5
	West Asia and North Africa	..	0.1	0.3	0.5	0.7	0.6
	World	..	9.4	11.0	13.6	13.2	3.8
West Asia and North Africa	Developed economies	..	7.5	7.9	8.7	8.8	1.3
	Transition economies	..	..	0.4	0.7	0.6	0.2
	Developing economies	..	2.3	3.7	6.3	9.7	7.4
	Asia	..	1.3	2.6	4.5	7.2	5.9
	Latin America and the Caribbean	..	0.1	0.1	0.2	0.3	0.1
	Sub-Saharan Africa	..	0.1	0.1	0.1	0.3	0.2
	West Asia and North Africa	..	0.6	1.0	1.5	1.9	1.3
	World	..	9.8	12.0	15.7	19.1	9.3

Source: As in table 4.2.

Note: Intraregional exports and imports are not exactly equal because the data are taken from different sources (importers versus exporters) and recorded at different prices (imports CIF, exports FOB).

Table 4.4

SHARES OF EXPORTS OF HIGH- AND MEDIUM-SKILL AND TECHNOLOGY-INTENSIVE MANUFACTURES IN TOTAL EXPORTS OF MANUFACTURES, BY COUNTRY GROUP, 1980–2013

(Per cent)

Country group	*Trade partner*	*1980*	*1990*	*2000*	*2006*	*2013*	*Percentage point change*
Developed economies	Developed economies	67.4	73.6	77.1	76.8	77.6	10.2
	Transition economies	..	..	70.5	76.6	78.7	8.1
	Developing economies	70.5	77.1	81.3	81.8	82.4	11.8
	Asia	69.7	78.8	84.5	83.4	83.7	14.0
	Latin America and the Caribbean	75.2	76.7	77.6	79.1	81.5	6.3
	Sub-Saharan Africa	69.0	73.3	76.2	81.4	79.6	10.7
	West Asia and North Africa	68.5	74.5	79.0	80.8	81.2	12.8
	World	68.6	74.1	78.0	77.8	78.7	10.2
Transition economies	Developed economies	..	..	45.1	38.2	49.2	4.1
	Transition economies	..	..	60.3	53.0	55.3	-4.9
	Developing economies	..	..	37.8	39.0	50.9	13.1
	Asia	..	..	38.9	44.9	59.2	20.3
	Latin America and the Caribbean	..	..	53.9	64.3	78.8	24.8
	Sub-Saharan Africa	..	..	32.7	30.2	54.9	22.2
	West Asia and North Africa	..	..	30.8	21.8	25.4	-5.5
	World	..	..	46.1	41.8	51.1	5.0
Developing economies	Developed economies	32.6	45.2	62.6	63.8	64.8	32.2
	Transition economies	..	..	43.3	48.6	54.3	11.0
	Developing economies	48.3	52.9	67.3	73.6	73.3	25.0
	Asia	55.6	55.2	71.0	78.3	78.4	22.8
	Latin America and the Caribbean	44.3	54.8	60.7	66.7	67.4	23.1
	Sub-Saharan Africa	35.8	37.4	47.7	51.4	52.3	16.5
	West Asia and North Africa	36.9	38.0	50.1	54.8	56.6	19.7
	World	37.4	48.2	63.9	67.9	69.1	31.7
Asia	Developed economies	32.8	44.8	60.5	62.8	62.5	29.7
	Transition economies	..	..	40.4	46.6	54.7	14.3
	Developing economies	47.2	52.9	67.8	74.9	74.1	26.9
	Asia	55.0	55.7	71.2	78.9	78.7	23.8
	Latin America and the Caribbean	39.2	45.5	53.9	62.8	64.1	24.9
	Sub-Saharan Africa	34.6	32.7	40.8	46.1	50.3	15.7
	West Asia and North Africa	31.9	34.9	48.8	54.3	57.6	25.8
	World	38.0	47.9	63.5	68.5	69.0	31.0
Latin America and the Caribbean	Developed economies	41.9	56.8	76.4	75.5	80.9	39.0
	Transition economies	..	..	..	..	..	
	Developing economies	52.3	51.3	65.9	68.9	73.0	20.8
	Asia	30.5	26.5	54.4	55.7	64.3	33.8
	Latin America and the Caribbean	63.1	60.4	67.5	70.7	74.2	11.1
	Sub-Saharan Africa	50.6	55.3	67.7	68.7	74.9	24.3
	West Asia and North Africa	47.8	31.7	58.6	75.0	82.4	34.6
	World	46.9	54.8	74.1	73.2	78.5	31.6
Sub-Saharan Africa	Developed economies	..	23.7	35.1	42.6	46.7	23.0
	Transition economies	..	..	..	..	..	
	Developing economies	..	43.6	53.9	53.7	52.3	8.7
	Asia	..	44.8	42.9	42.0	38.8	-6.0
	Latin America and the Caribbean	..	44.3	41.2	34.5	61.9	17.6
	Sub-Saharan Africa	..	49.9	59.7	58.3	55.1	5.1
	West Asia and North Africa	..	21.3	48.1	60.8	53.1	31.8
	World	..	30.3	41.5	47.3	49.2	19.0
West Asia and North Africa	Developed economies	..	23.9	32.4	45.2	49.8	25.9
	Transition economies	..	..	63.0	61.5	62.1	-0.9
	Developing economies	..	69.4	77.3	73.3	75.5	6.0
	Asia	..	72.8	48.6	69.3	62.4	-10.4
	Latin America and the Caribbean	..	61.4	57.3	64.9	57.6	-3.8
	Sub-Saharan Africa	..	40.8	49.8	56.1	49.0	8.2
	West Asia and North Africa	..	47.6	53.4	54.3	49.9	2.3
	World	..	42.9	45.5	53.8	58.7	15.8

Source: As in table 4.2.

Note: For the categories of manufactures of high- and medium-skill and technology intensive, see *TDR 2002*, annex 1 to chap. III; the categories are based on SITC, Rev. 2. See also note to table 4.2.

As noted in the last section, the technological content of trade may matter for sustained growth and production upgrading as much, or even more, than trade volume, if, indeed, what is exported matters. Table 4.4 is a first attempt to assess those dynamics (discussed in greater detail in the next section) in the same terms as tables 4.2 and 4.3. It is based on classifying goods by degree of manufacturing, and shows the proportion of exports of high- and medium-technology manufactures relative to total exports of manufactures. The discussion is limited to exports partly for brevity, but also because of the leading role exports play in driving upgrading. To gain a full understanding of these effects, table 4.4 should be considered in conjunction with table 4.2, because export structure needs to be combined with export volume to determine overall impact.

There was an overall increase in the technological intensity of exported manufactures over the period 1980–2013. For all developing regions, intraregional trade in goods seems to have been more technologically intensive than South-South trade in general, and developing-country exports to developed and transition economies seem also to have been technologically intensive, at least according to the classification used here.[12] For many developing and transition economies, however, even when the commodities exported are classified as being of medium or high technological intensity, there is not much of this type of manufacturing activity overall (table 4.2). Some type of dualism may be in evidence here as well: while there may be islands of success in exports of manufactures in a number of countries, the limited scale means that domestic linkages are unlikely to be strong enough to generate any of the spillovers or externalities sought from this type of trade – the problem of enclave production. Additionally, the processing of intermediate goods for export is also likely to be at work. With the rise of GVCs and the goods processing associated with them, the technological sophistication embodied in the goods exported may not coincide with the exporting country's contribution to them, an issue taken up in section E.

D. Structural transformation, productivity growth and trade

Structural transformation and the productivity growth associated with it can be speeded up by deeper participation in international trade. Such participation can change the pace and extent of industrialization, and raise productivity both within and across industries. But these relationships are neither simple nor assured. Trade liberalization, if reciprocal, does indeed open up export markets and facilitate access to the import of capital goods and intermediate products, but it also introduces a number of potential challenges for the industrialization process. Two of the most significant challenges are: (i) the prospect of increasing competition from industrial imports, which has been linked to premature deindustrialization and informalization across a number of countries; and (ii) increased competition in export markets in a context of global wage compression and weak global aggregate demand.

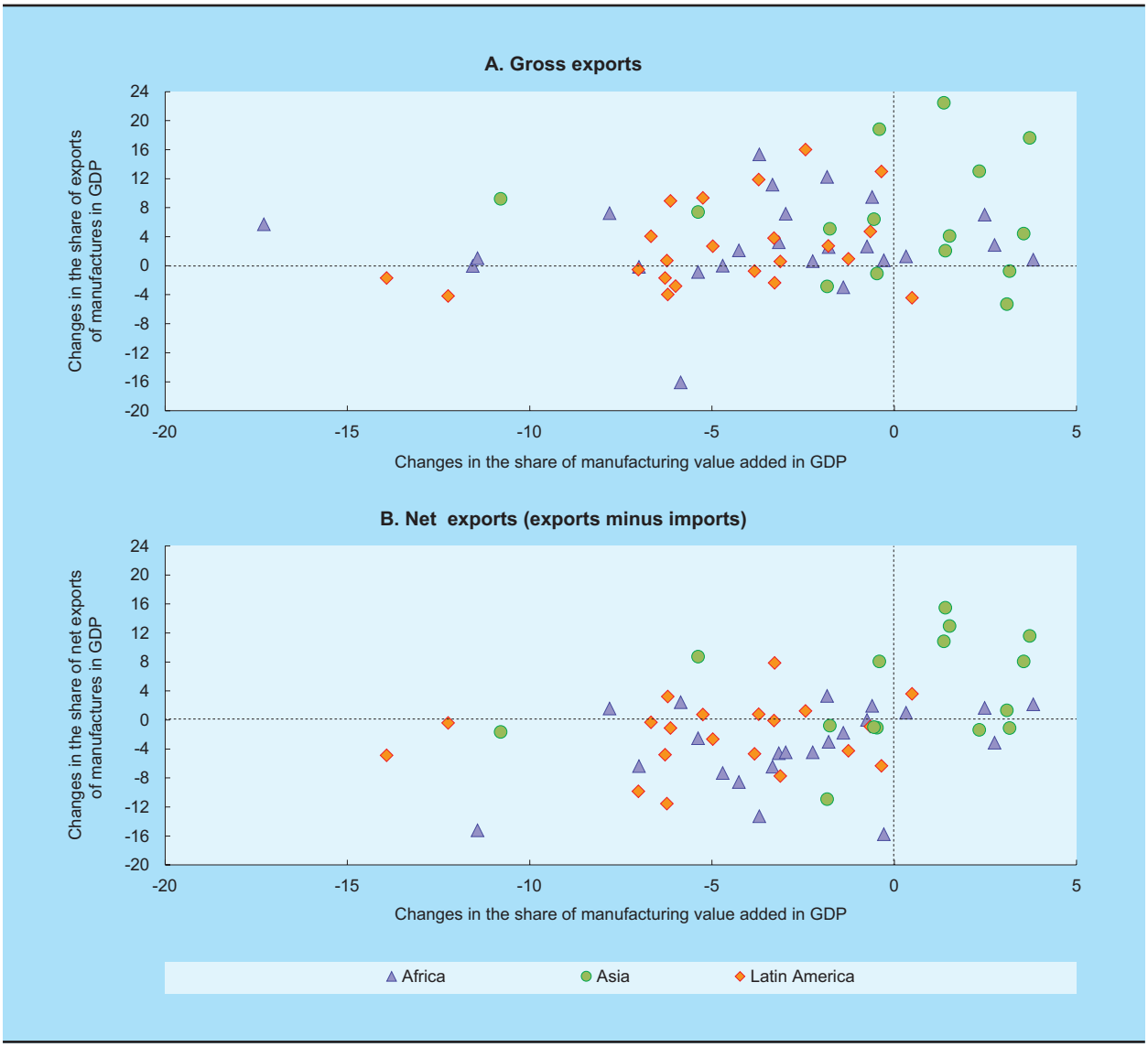
1. *Trade in manufactures, value added and structural transformation*

It might be expected, at the very least, that an increase in exports of manufactures would be associated with an increase in the share of manufacturing activities in an economy, and thus that the relationship between exports of manufactures and industrialization would be clearly positive. This is not necessarily

Chart 4.3

CHANGES IN THE SHARES OF EXPORTS OF MANUFACTURES AND MANUFACTURING VALUE ADDED IN GDP BETWEEN 1991–1994 AND 2011–2014, SELECTED COUNTRIES BY REGION

(Percentage point changes)



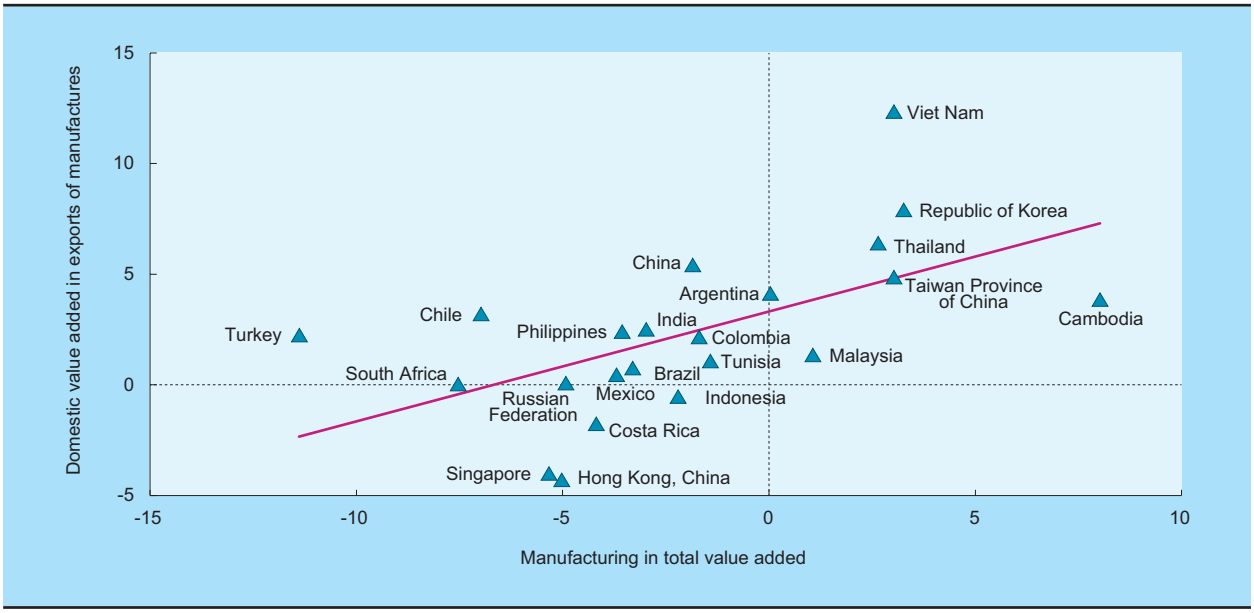
Source: UNCTAD secretariat calculations, based on *UN Comtrade*; and UNSD, *Main Statistical Aggregates* database.
Note: Change refers to the percentage point difference between average value for the two periods.

the case, however. This is illustrated in chart 4.3A, which presents percentage point changes in exports of manufactures against changes in manufacturing value added, both as shares of GDP, for a diverse group of developing countries over the course of nearly 20 years – between the early 1990s and the early 2010s. Most countries are in the upper left quadrant, indicating an increase in the total value of their exports of manufactures relative to GDP, but a decline in the share of manufacturing value added in GDP. There is no readily apparent regional pattern, since this applies to countries from all regions, though about two thirds of the countries in the upper right quadrant (experiencing an increase in both exports of manufactures and manufacturing value added as shares of GDP) are located in the Asia region.[13]

Chart 4.4

CHANGES IN DOMESTIC VALUE ADDED IN EXPORTS OF MANUFACTURES AND IN THE SHARE OF MANUFACTURING IN TOTAL VALUE ADDED, SELECTED ECONOMIES, 1995–2011

(Percentage point changes)



Source: UNCTAD secretariat calculations, based on OECD-WTO, *Trade in Value Added* (*TiVA*) database; and UNSD, *Main Statistical Aggregates* database.
Note: Change refers to the percentage point difference between current share values in 2011 and 1995. Line displays fitted values.

The lack of a clear relationship between exports of manufactures and value added might be partly a consequence of not controlling for what is happening with imports (see *TDR 2003* for an early discussion of these contradictions). Chart 4.3B, which illustrates changes in *net* exports of manufactures (exports minus imports) and manufacturing value added as a share of GDP over the same time period, confirms that imports help explain the weak correlation between changes in exports of manufactures and value added. This time, most countries are in the lower left quadrant, indicating that the decline in the share of manufacturing value added was accompanied by a decline in net exports. Among countries that experienced an increase in net exports of manufactures as a share of GDP, however, there is a fair amount of diversity in terms of changes in the share of manufacturing value added in GDP. Still, the overall correlation between the two series is strongly positive. Thus the relationship between exports of manufactures and structural change is contingent, at least partly, on increasing the *net* exports of manufactures. From an industrialization perspective, import competition can make it more challenging to boost domestic manufacturing, a point alluded to in some discussions of premature deindustrialization (e.g. Felipe et al., 2014; Rodrik, 2016), and reflected in the standard trade literature by the dominance of selection over increasing-returns effects within certain industries as a consequence of trade liberalization (that is, productivity rises because firms with higher productivity increase their industry shares, and not because getting larger increases productivity) (Harrison and Rodríguez-Clare, 2009).

A related problem with interpreting chart 4.3A is that total trade values do not accurately reflect domestic value added, because they include the values of foreign value added in imports that are eventually exported. Considering net exports as a rough way of dealing with this issue, chart 4.4 is more direct. It uses available data on domestic value added in exported manufactures and casts the same relationship as chart 4.3A (though the time period differs slightly as it depended on data availability), only now there is a clear positive association between the changes in the two series. As in previous charts, the upper right

quadrant is populated by Asian countries, confirming their particular relationship with trade and industrial performance.

2. Growth in labour productivity and trade in manufactures

Given the qualified picture of the connections between trade in manufactures and value added discussed above, it could be that the effects are experienced in a more economy-wide sense, boosting labour productivity overall rather than simply increasing the share of manufacturing value added. This is certainly one of the outcomes expected by the proponents of policies that combine export orientation with trade liberalization and specialization based on comparative advantage. It could also emerge from the learning and production linkages that become possible as the structure of production shifts, sometimes via the movement of traditional manufacturing activities into other sectors, especially manufacturing-related services.

In this view, it is expected that trade shares (measured as the total value of exports or imports, or the sum of the two, as a share of GDP) and labour productivity will move together; that is, the growth of one should be positively associated with the growth of the other. However, economically dynamic countries may also tend to trade more, and once the endogeneity of trade is adequately controlled for, other determinants of economic growth (e.g. investment, institutions and policy) can dominate the causal landscape (Rodriguez and Rodrik, 2001; Rodrik et al., 2004). Chart 4.5 relates the level of exports of manufactures as a share of GDP in the mid-1990s to aggregate labour productivity growth over the subsequent nearly 20 years. Assuming that trade and productivity move together, to tease out a causal relation from one to the other (exporting to labour productivity growth), the chart traces exports of manufactures using a broad definition (i.e. including processed commodities or resource-based manufactures) at the beginning of the period to see if larger exporters of manufactures (based on their exports as a share of GDP) achieved higher subsequent aggregate labour productivity growth, as theory would predict. As illustrated in the chart, the opposite happened: the larger exporters of manufactures had, on average, lower – not higher – subsequent labour productivity growth, at least in Africa and Latin America (the regression line is nearly horizontal for Asia).[14] Interestingly, the broader definition of manufactures yields somewhat stronger results than when using the narrower definition (though both are negative). This suggests that exports of manufactures using the broader definition have been poorer predictors of productivity growth than exports of manufactures using the narrow definition.

What could be driving this seemingly counter-intuitive relationship, and why does it occur in the African and Latin American regions, but not in the Asian region? One explanation has to do with the varying dynamics of structural change and productivity growth across countries. As noted above, development is partly about the shift in resources and labour from low productivity activities in traditional agriculture to higher productivity activities in modern manufacturing and services. When this shift occurs, aggregate productivity should increase. But when export orientation is paired with trade liberalization, and is accompanied by the sort of "industry rationalization" that results in higher industrial productivity because less productive firms exit the industry, newly unemployed or underemployed workers (not to mention new labour market entrants) have to turn to lower productivity work outside the manufacturing sector, thereby reducing an economy's aggregate productivity (McMillan and Rodrik, 2011).

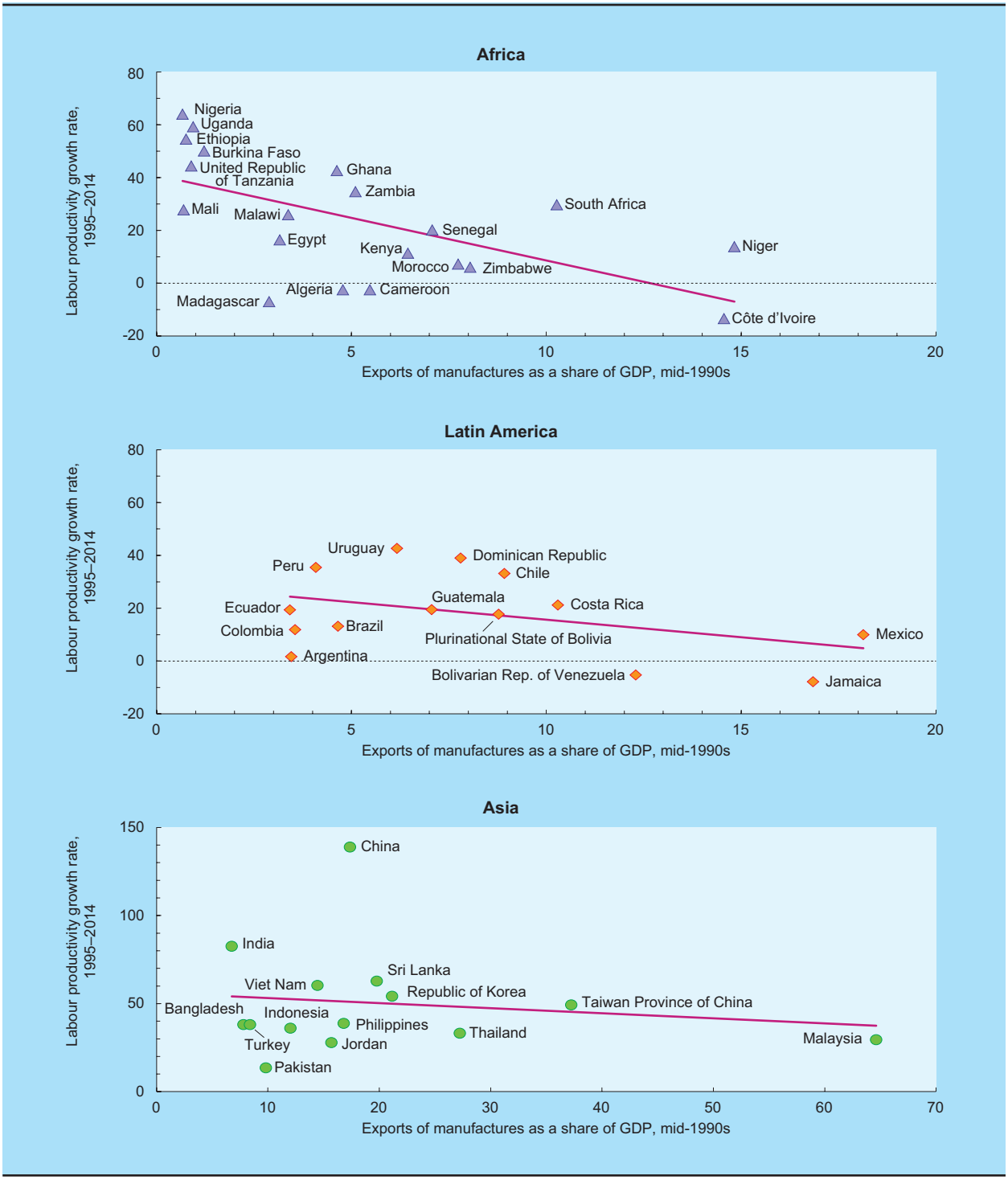
There is no uniform relationship between exports of manufactures on one hand, and productivity growth and industrialization on the other hand.

This can also occur when export-oriented manufacturing takes place in an enclave type of structure, where manufacturing inputs get increasingly outsourced from lower cost producers abroad that are part of international production networks, thus thinning linkages with the domestic economy. The effect can be positive for productivity at the firm or industry level, but overall production relative to total employment may decline. This productivity-reducing type of structural transformation has been occurring in Africa and Latin America, and, according to chart 4.5, is also

Chart 4.5

LABOUR PRODUCTIVITY GROWTH AND EXPORTS OF MANUFACTURES AS A SHARE OF GDP

(Per cent)



Source: UNCTAD secretariat calculations, based on *UN Comtrade*; UNSD, *Main Statistical Aggregates* database; and The Conference Board, *Total Economy Database*.

Note: Manufactures includes processed primary goods, drawing from Wood and Mayer, 2001, and Lall, 2000. Exports of manufactures as a share of GDP refer to the average shares in current value in 1994–1996. Labour productivity refers to output per person employed in 1990 dollars (converted at Geary Khamis purchasing power parity). The growth rate of labour productivity equals the natural log difference between average values in 2011–2014 and 1994–1996. Lines display fitted values.

associated with export-oriented manufacturing activity – most likely as a general proxy for trade exposure. The question therefore arises as to why Asia, which faces the same external trade dynamics as Africa and Latin America, did not suffer the same mixed fate. The answer lies in differences in domestic policy, and how these interact with and shape economic structure to determine the developmental impacts of global integration via trade.

3. Export sophistication and diversification

The results in charts 4.3, 4.4 and 4.5 point to a complex, if not ambiguous, role of trade in manufactures in generating industrialization and productivity growth. This section approaches this issue from a different angle, focusing on the important role of "export sophistication", rather than trade value, in determining the precise nature and direction of these relationships.

The notion of convergence is based on the premise that, although developing economies face a number of challenges to growing at sustained rates, they also benefit from some advantages: rather than having to pioneer new technologies, late-developing countries can imitate and import know-how from abroad. Growth is led by a combination of the mobilization of underutilized resources and "innovations inside-the-frontier", along with the introduction of goods already produced elsewhere in the industrial pipeline, which allows a progressive move up the value chain and the technological ladder. Furthermore, if they manage to significantly increase real investment in modern sectors, late-developing countries can reap productivity gains by shifting workers from underemployment in agriculture to higher productivity urban manufacturing, where those imported technologies are utilized on a sufficiently large scale to productively absorb a lot of labour. Export-oriented manufacturing is expected to magnify these possibilities, as discussed in section B above.

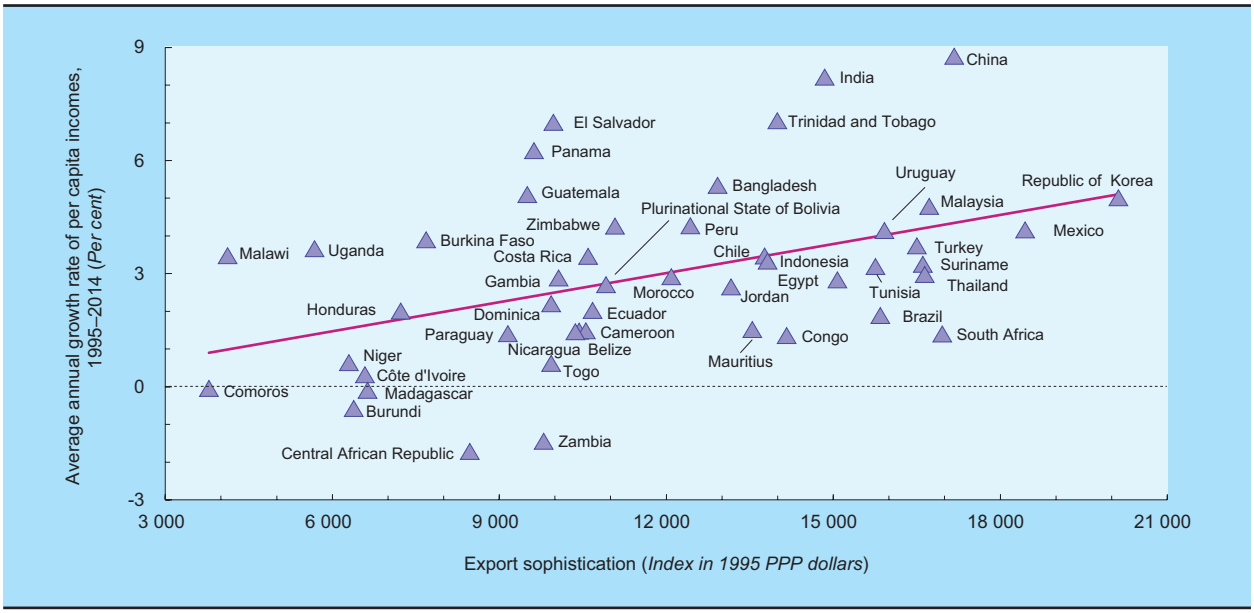
However, even when such forces exist, their effects cannot last forever. Most importantly, as middle-income levels are reached and the economy approaches the technological frontier, it needs to acquire capabilities to develop and patent new products, transitioning from relying less on imported technology and more on indigenous innovation. According to this logic, at middle levels of income, sustaining productivity-enhancing structural transformation and economic growth entails new challenges (see chapter II, box 2.1). In the end, it is the ability of a society to accumulate and combine the productive knowledge of its individuals that determines its capacity to diversify and produce goods that are progressively more sophisticated and competitive in international markets, and the production of which generates more positive spillovers in the domestic economy.

In any case, the rapid and persistent relative income growth (eventually leading to convergence) experienced by the Asian newly industrializing economies (NIEs) shows that it is possible to escape the "middle-income trap", if it exists. Labour productivity differentials were the key factor behind these success stories. Cole et al. (2005) find that Asian labour productivity jumped from 15 per cent to 54 per cent of the United States level during the second half of the twentieth century. In contrast, the labour productivity gap between Latin America and the United States remained unchanged or slightly narrowed until 1980, and thereafter it increased (chart 2.9). This impressive productivity growth in Asian countries was made possible by the progressive reallocation of labour towards more modern, higher productivity sectors. In the Republic of Korea and Taiwan Province of China, the share of labour engaged in manufacturing increased dramatically until the 1990s, alongside its continuously declining share in agriculture. Subsequently, labour shares in both agriculture and manufacturing fell, while the labour share in services increased, in line with the traditional sequence of productive structural transformation.

The Asian NIEs also crucially relied on the sequential nature of their transformation, which enabled them to progressively climb quality and sophistication ladders, eventually achieving productivity levels comparable to those of the traditional economic leaders (Palma, 2009). New production and export capacity were sequentially developed in industries such as iron, steel and electronics, using both skills and capabilities that could be transferred with relative ease from existing industries. At the same time, proactive policy measures were adopted to strengthen these connections. This strategic increase in high "connectivity" sectors allowed a gradual yet

Chart 4.6

RELATIONSHIP BETWEEN EXPORT SOPHISTICATION AND PER CAPITA INCOME GROWTH, SELECTED DEVELOPING ECONOMIES



Source: UNCTAD secretariat calculations, based on World Bank, *World Integrated Trade Solutions* (*WITS*) database and *World Development Indicators* database.

Note: Per capita incomes are in 1995 PPP dollars. Line displays fitted values.

systematic transition towards more sophisticated and higher value-added activities, especially those requiring similar technology and production techniques (Jankowska et al., 2012).

In evaluating the empirical relationship between economic growth and export sophistication, this section uses a different concept than that of table 4.4 to measure the technological or productivity content of exports. Rather than trying to determine the technological qualities embodied in a particular good (e.g. how much research and development (R&D) went into producing it, or the relative amounts of technology, labour and capital that are embedded in it), it uses a measure of export sophistication that simply infers from existing patterns of trade and the level of per capita income associated with exporting the product (Jarreau and Poncet, 2012; Fortunato and Razo, 2014).[15] The causal logic is that countries whose export baskets exceed the sophistication level typically associated with their per capita incomes also tend to grow faster (Hausmann et al., 2007 and 2011). Chart 4.6 uses a simple scatter plot to illustrate the relationship between this measure of export sophistication and per capita GDP growth for developing countries. The chart can be taken as a sort of export-sophistication analogue to chart 4.5. Although it does not focus on manufacturing per se, it addresses the more general question of the composition of exports and consequent GDP growth, which itself is linked to labour productivity growth.

Export sophistication can also have an indirect effect on economic growth via the spillovers and externalities it generates for a variety of domestic producers and workers (not all of whom are involved in exporting). During the 1980s and 1990s the prevailing view in academic and policy circles was that trade openness had a positive impact on income growth and industrialization (see, for example, Krueger, 1998). Multilateral institutions, such as the World Bank and the International Monetary Fund (IMF), regularly promoted trade liberalization, and even linked development assistance to the undertaking of liberalizing reforms. The evidence on which this view was built, however, is controversial, partly

because researchers and policy advisers often mistake trade volume for trade policy (Rodríguez and Rodrik, 2001). Furthermore, as noted above, even if a positive correlation between trade and growth exists (which was not the case in several developing regions in the 1980s and 1990s), disentangling the causality links is an extremely complex (and possibly tricky) exercise.

Interestingly, accounting for the composition of exports, particularly the level of sophistication of the exported products, helps explain the relationship between trade and economic growth by indicating that it is not how much a country exports, per se, that matters, but its composition. Moreover, it is not sufficient to target manufacturing alone. The question then becomes more about the domestic capabilities and processes that drive export sophistication performance, and how the structures of production can be shaped so as to maximize the potential developmental returns from trade in manufactures.

It is not how much a country exports, per se, that matters, but its composition, particularly the level of sophistication of the exported products.

While export sophistication is important, there are some limits to focusing exclusively on it as a definitive industrialization strategy. First, while high-income economies' exports can be used as a proxy for the economic structure developing economies should be aiming for, this is quite different from recommending that developing economies try to export the same goods developed economies are exporting now. Trade and industrial policy should not only aim to diversify exports and incorporate products with higher value added, advanced technology and qualified labour; it should also consider other factors, including the difficulty of competing with "first movers" in the markets they already supply.

More generally, the aim of industrial policy should not be export sophistication per se, but rather the underlying, systemic conditions that result in faster technological development and better export performance. Some argue that the results from econometric growth studies that use the export sophistication index (EXPY) are econometrically fragile, and that the role of export sophistication recedes once measures of investment are added to well-specified models (Lederman and Maloney, 2012). Deep and robust learning and production linkages do not arise without a wider, supportive economic base. In the final analysis, it could be that exporters excel relative to what their per capita incomes would predict because they are located in economies that invest considerable amounts in the right types of human and physical capital.

Industrial policy should aim at creating systemic conditions conducive to faster technological development and better export performance.

Also, the argument in favour of export sophistication (and its attendant prescriptions) is an exclusively supply-side one. As discussed throughout this chapter, policies have to account for the demand side as well. This necessitates grappling with the challenge of market demand and price movements. Combining high-tech production with low-cost labour is already a crowded field with considerable price competition, and it is very difficult for developing countries to break into markets for such goods as these are already dominated by developed countries (Lederman and Maloney, 2012). If developing countries collectively seek to climb the technological ladder all at the same time, the climb is likely to be steeper.

Moreover, export diversification, both in markets and products, remains essential for reducing vulnerability and sustaining growth. Today's low- and middle-income exporters exhibit a type of "hyperspecialization" that is more reminiscent of the concentration of production experienced by primary goods and natural-resource exporters in the past. In 2008, out of a classification comprising 238 different goods (excluding petroleum), the share of the single largest export item in total exports was 21 per cent; for the top 4 exports, the share was 45 per cent, and for the top 8 exports it was 58 per cent. For middle-income countries, the export shares of the top 1, 4 and 8 goods exported were 16, 37 and 49 per cent respectively. In the United States, the comparable shares were 5, 17 and 28 per cent respectively (Hanson, 2012: 56–57). This lack of export diversification adds to economic volatility, as an economy's fortunes are

tied to fewer products, and lack of diversification has been associated with the middle-income trap. Increasing South-South trade (particularly within the Latin American and African regions) can help alleviate market saturation pressures and volatility risk by expanding and diversifying export markets. But supporting the growth of domestic demand within developed and developing countries in order to sustain both better livelihoods and expanding markets is essential as well (see chapter VI).

E. Global value chains, industrial upgrading and structural transformation[16]

International production is substantially structured around GVCs that are coordinated by MNEs through networks of affiliates, contractual partners or arms' length suppliers (UNCTAD, 2013b; 2015a). Although such value chains are not a new feature of the global economy, their importance is reflected in the large volume of trade in intermediate goods, which amounted to 46 per cent of total merchandise trade in 2014. This share has remained fairly stable over the past couple of decades.[17] From GVCs' modest start in the clothing and electronics industries in the late 1960s, North-South exchanges within international production networks have now spread to many other industries. Moreover, in recent years, production networks have evolved to encompass multiple countries involved in different stages of the assembly process and with proliferating South-South linkages (UNCTAD, 2015b).

GVCs have made MNEs more – not less – important in guiding global distribution and relations of production.

Several factors have contributed to these transformations, including advances in technology that enable effective management of production networks involving multiple locations, the ongoing push towards trade and investment liberalization and a shift in corporate strategy to one that emphasizes the cost savings and flexibility afforded by outsourcing. Starting in the 1970s, MNEs have concentrated more and more on their "core competencies" such as R&D, design, marketing and branding. Manufacturing and, increasingly, other functions that were formerly considered core activities, such as input sourcing or logistics, have been gradually contracted out to suppliers and to countries that offer cost advantages (offshoring). In addition, MNEs have progressively moved away from direct forms of control over production (e.g. through foreign direct investment (FDI)) towards more indirect forms (i.e. outsourcing to independent suppliers). This has led to the emergence of buyer-driven value chains in labour-intensive consumer goods industries, such as apparel, footwear and toys, that are controlled by commercial capital (retailers and marketers such as Walmart, Nike and Starbucks), and not by industrial MNEs as in producer-driven value chains (Gereffi, 1999).

In recent years, however, outsourcing and producer-driven value chains are more common in capital- and technology-intensive industries such as automobiles, electronics and machinery. The underlying rationale for this reorientation is that intangible activities (R&D, design, marketing and branding) are less prone to competition, as they are based on unique resources and capabilities that other firms find difficult to acquire; they are therefore sources of superior returns (Kaplinsky, 2005). On the financial side, outsourcing creates higher profits, and because there is less need for reinvestment in production capacity, those profits are increasingly devoted to returning shareholder value. This dynamic is

becoming more and more prevalent in the current era, which is characterized by high profitability but little investment and an emphasis by financialization on turning profits into cash returns (see chapter V of this *Report*; and Milberg and Winkler, 2013). As a result, there has been a significant change in industrial organization, driven by MNEs across a variety of sectors, with a shift of focus away from internal scale economies via vertical integration towards external economies related to outsourcing (Gibbon and Ponte, 2005). However, this shift does not mean that MNEs in mining, manufacturing, services or retail have become less important in global economic activity; many of them have simply changed their roles from being predominantly global producers to becoming global coordinators and governors of GVCs. If anything, GVCs have made MNEs more – not less – important in guiding global distribution and relations of production.

GVCs are often considered an indication of the natural evolution of the global trading system and as a promising basis for further trade and investment liberalization (OECD, 2013, 2015; OECD et al., 2013; UNCTAD, 2013b; WTO et al., 2013). From a development perspective, GVCs would seem to present an attainable first step towards integrating into global trade and to industrialization. Rather than having to develop an entire product or break into an extremely competitive market on their own, countries can specialize in specific tasks or components of a multitude of value chains, starting at the relatively accessible bottom. However, despite these opportunities, as is the case for trade in manufactures in general, the evidence for a positive causal connection between GVC participation and industrialization is weak (*TDR 2014*). Chart 4.7 illustrates the association between changes in manufacturing value added as a share of GDP and changes in the import content of export-oriented manufactures (a common measure of backward participation in the GVC literature) between 1995 and 2011 for all developing countries for which data were available.

Much of the Asian region shows a clear and strong positive association between GVC participation and industrialization, while developing countries in other regions show the opposite relationship. Clearly, the positive contribution of GVCs to structural change in Asia does not necessarily apply to other regions. When increases in the foreign value added of exports occurs in a larger context of greater production and exports of manufactures (as in Cambodia and Viet Nam, for instance), GVC participation can complement industrialization and structural change.[18] However, when increasing backward participation in GVCs reflects a reduction of domestic sourcing in a context of weak export performance of manufactures, GVC participation may in fact run counter to the goals of industrialization and structural transformation, as evidenced by the negative slope of the fitted value line for other developing countries in chart 4.7.

The positive contribution of GVCs to structural change in Asia does not necessarily apply to other regions.

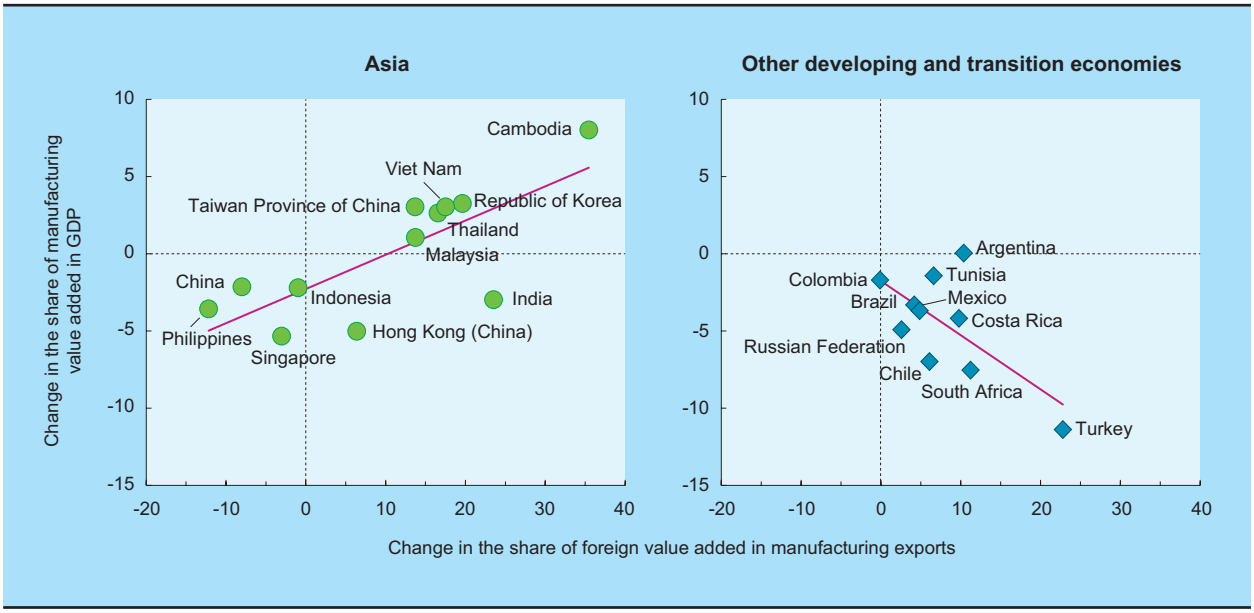
It is much more challenging to assess stylized patterns on forward participation in manufacturing (measured as the share of domestic value added in foreign export-oriented manufactures) and industrialization. Forward participation might be expected to be higher at both low and high levels of industrialization, the former because of supplying relatively unprocessed goods to foreign markets, and the latter because of shifting out of processing into the types of headquarter activities that accompany greater technological development (OECD, 2015). Taking the groups in chart 4.7, Asian countries show a strong negative correlation between changes in forward participation and manufacturing value added, while no similar relationship is discernible for the other countries.

Claims for how GVCs strengthen productivity or contribute to growth are largely based on conventional trade models, and the attendant benefits and policy prescriptions cited are associated with arguments in support of trade liberalization (see, for instance, OECD, 2013).[19] But from the vantage point of comparative advantage, trade and development, the particularities of GVC structures and the consequent distribution of power along the value chain require a more specific analysis. On the one hand, GVCs lower barriers to entry at the bottom of the value chain, making it easier for developing countries to break into global exports of manufactures than in the past. However, the conditions that ease access can also act as barriers to upgrading. More accessible parts of the value chain are associated with few

Chart 4.7

CHANGES IN THE SHARES OF FOREIGN VALUE ADDED IN MANUFACTURING EXPORTS AND OF MANUFACTURING VALUE ADDED IN GDP, 1995–2011

(Percentage point changes)



Source: UNCTAD secretariat calculations, based on OECD-WTO, *Trade in Value Added* database (accessed October 2015); and UNSD, *Main Statistical Aggregates* database.

Note: Shares taken in current values, changes refer to percentage point changes.

forward and backward linkages, limited institutional development, and little possibility for knowledge externalities in the wider economy, which can result in "thin industrialization" (Gereffi, 2014; *TDR 2014*). As noted in the UNCTAD Secretary-General's Report to UNCTAD XIV, "Those developing countries with limited productive capacities can remain trapped in, and competing for, the lowest value added activities at the bottom of regional and global value chains… with hampered potential to move up the value chain or to upgrade through technology transfer and learning. Many LDCs, landlocked developing countries and small island developing States belong to this group. Many middle-income countries, though, also face challenges in progressing upward in regional and global value chains" (UNCTAD, 2015a: 17).

Participation in GVCs also carries the risk of leading to specialization in only a very narrow strand of production with a concomitantly narrow technological base and overdependence on MNEs for GVC access (OECD et al., 2013). Such shallow integration also manifests itself in asymmetric power relations between lead firms and suppliers and in weak bargaining positions for developing countries. For example, the experiences of Mexico and Central American countries as assembly manufacturers have been likened to the creation of an enclave economy, with few domestic linkages (Gallagher and Zarsky, 2007; Dussel Peters, 2008). The same can be said about the electronics and automotive industries in Eastern and Central Europe (Plank and Staritz, 2013; Pavlinek, 2015; Pavlinek and Zenka, 2016). There has been significant "internal upgrading" within MNE affiliates, but it has involved very few spillovers to the domestic economy in the form of productivity improvements and imitation by domestic firms, partly due to limited linkages of MNEs with local firms and labour markets (Fons-Rosen et al., 2013; Paus, 2014). However, there is some evidence that spillovers increase where joint ventures operate as formalized linkages between local firms and MNEs (Ngoc Thuyen et al., 2014; Tian et al., 2015). Moving up the chain into more capital-intensive or higher value-added production is particularly challenging in such an environment, because it necessitates relationships with lead firms

at the top that are ultimately focused on maintaining their profitability and flexibility. Indeed, these firms sometimes intentionally use GVCs to induce and intensify competition among suppliers and countries for their own benefit (Levy, 2005; Ietto-Gillies, 2005; Phillips and Henderson, 2009).

Looking towards the future, the centres of economic power in GVCs may be getting more widely dispersed with the rise of large emerging economies. To an important extent, a number of these economies host larger suppliers, many of which have gained some market power relative to lead firms in the North. Recent strategies by lead MNEs include efforts to rationalize supply chains by paring down the number of suppliers that are now larger and higher up in the value chains in countries such as Brazil, China, India and Turkey. Those suppliers often have well-organized domestic supply channels and the potential to exercise greater bargaining power relative to their North-based MNE buyers (Gereffi, 2014). However, there is little evidence that the large suppliers have successfully transformed size into pricing power, and scale does not necessarily translate into an ability to increase value added per worker (Nolan, 2012; and section G below). For now, it is important to note that the governance structure of international production networks and the power of lead firms constrain the ability of even lead suppliers to achieve the sorts of price increases that could boost wages and improve labour standards (Milberg and Winkler, 2013).

Turning more towards regional markets in the South may offer an alternative. In response to the collapse in trade after the financial crisis of 2007–2008, a number of developing-country suppliers shifted their end markets from the North to the South in an effort to regionalize their supply chains. For instance, South African clothing manufacturers moved into other countries in sub-Saharan Africa such as Lesotho and Swaziland, leading to an expansion of the regional value chain led by South African retailers (Gereffi, 2014). But the shift to more regional markets could be associated with fewer upgrading opportunities and even greater competition, as demand in lower income countries tends to be linked with lower quality and less variety, and lower entry barriers mean more developing-country suppliers can participate. Moreover, MNEs could quickly catch up on local knowledge advantages once profitability emerges, as illustrated by the displacement of domestic firms in the Chinese mobile phone industry (Gereffi, 2014: 15; Brandt and Thun, 2011; OECD, 2013).

While GVCs may provide important opportunities for firms in developing countries to enter export markets for manufactures, increase production, employment and incomes, learn new capabilities and gain access to new technologies, there is little evidence that they have been instrumental in the development of a vibrant industrial sector over the past two decades. They are often based on low-value-added activities and low-cost labour, and, in most cases, have failed to establish a basis for more sophisticated domestic production. In this context, integration into GVCs should not be seen as "a panacea" for development, let alone as an alternative to a proactive industrial policy. Rather, they should be viewed as providing a "window of opportunity" (Phillips and Henderson, 2009: 60) that can support learning, upgrading and industrialization. However, they can also lead to lock-ins, enclaves and fallacies of composition (*TDR 2014*; UNCTAD, 2015b). Hence, some opportunities for upgrading and industrial development exist, but they generally take place in the context of asymmetric power relations between lead firms and supplier firms and countries. More broadly, the rise of GVCs has resulted in a consolidation of power and increasing appropriation of profits by lead firms that are still largely based in developed countries. This makes it more difficult for developing countries that pursue very similar export-oriented development strategies to increase bargaining power in value chains and upgrade their economies in the longer run (Starrs, 2014; UNECA, 2016).

> The conditions that ease access to international production networks may also act as barriers to upgrading and industrialization.

F. Gender, industrialization, trade and employment[20]

Despite widespread impressions to the contrary, export-led industrialization since the 1980s has been generally disappointing as a generator of broadly shared, high-wage employment (*TDR 2010*). One of the challenges is the popularity of the export-led growth and industrialization model itself: when many countries with similar comparative advantages increase their exports of manufactures, it drives down the prices of those goods and constrains the types of improvements in employment that such a strategy is intended to deliver. Even where productivity gains offer the potential for social upgrading, they may be used instead to lower prices and help maintain or increase global market shares rather than to raise wages. This pressure can be particularly strong in the context of GVCs, where the demanding sourcing policies of lead firms or first-tier suppliers manifest in the form of low wages and precarious labour arrangements involving temporary, contract and migrant labour (Barrientos et al., 2011; Locke, 2013). To the extent that wages do rise, the stylized fact is that there is an increase in the returns to skilled relative to unskilled work, driving a positive association between trade integration and wage inequality in developing countries (Felipe et al., 2014; Goldberg and Pavcnik, 2007). This is partly because of the technological changes brought about by trade integration, but also because of increased competitive pressures induced by expanding the global supply of low-skilled labour in a context of deficient global aggregate demand.

These competitive dynamics have been particularly problematic for countries in Africa and Latin America, where globalization has been associated with the movement of labour from high to low productivity production, including in the informal economy, as discussed above. Conversely, a number of Asian countries have been better able to leverage the opportunities created by exporting manufactures enabling a simultaneous increase in productivity and employment. Using gender as a lens through which to investigate the links between trade in manufactures and employment affords a more nuanced understanding of these dynamics, which are typically overlooked and yet important when analysing the distributive structures and effects of trade.

1. Export orientation and women's employment

Trade liberalization and global integration underlie the almost universally increased participation of women in the industrial labour force in the high growth or semi-industrialized economies over the past few decades. It is mainly a result of the tremendous growth of trade in manufactures and export processing in developing countries. Increases in women's wage employment have also occurred in exporters of non-traditional agricultural goods, such as designer fruits and vegetables or cut flowers, in sub-Saharan Africa and Central America, as well as in countries engaged in the more traditionally feminine aspects of the global services trade that involve lower paid and lower skilled work such as data entry and call centres (Seguino and Grown, 2006; UNCTAD, 2014a). Since labour costs are a crucial aspect of international competitiveness, exporters in labour-intensive sectors prefer to hire women both because women's wages are typically lower than those of men, and because employers perceive women as

> The positive association between trade integration and women's employment is strongest in labour-abundant, semi-industrialized countries ...

more productive in these types of jobs (Elson and Pearson, 1981). Foreign investors and firms looking for low-cost outsourcing platforms conform to the same pattern, at least on the lower rungs of the value-added ladder.

However, this positive association between trade integration and women's employment is strongest in labour-abundant, semi-industrialized countries. In primarily agricultural economies where women tend to be concentrated in import-competing agricultural sectors such as the production of food crops, whereas men are better situated to take advantage of export opportunities in cash crop production or natural resource extraction, women lose employment and income as a result of trade liberalization (Fontana, 2007; UNCTAD, 2013a, 2014b; UNCTAD and EIF, 2014). Also, in developing economies with less globally competitive manufacturing sectors, particularly in Africa, tariff reductions on labour-intensive imports have resulted in more job losses for women than for men (Adhikari and Yamamoto, 2006; Seguino and Grown, 2006).

Extending these dynamics to wages, conventional economic theory predicts that trade liberalization should increase women's wages and reduce the gender wage gap for two reasons. One is that the increased competition introduced by trade liberalization will make it more costly for domestic firms to discriminate, and hence they will tend to diminish gender wage discrimination. The second is based on conventional trade theory, which predicts that when developing countries with abundant labour endowments open up to trade, their exports of unskilled, labour-intensive goods will increase. Therefore, assuming that women constitute a disproportionate share of the unskilled labour force, trade liberalization should bring about convergence in men's and women's wages because it will raise the relative demand for women's labour. A number of empirical studies support these predictions, finding women's wages increasing relative to men's wages in a variety of country contexts.[21] However, there is also substantial evidence to the contrary, that gender wage gaps – both absolute measures of the gap and the proportion of the gap attributable to discrimination – have either persisted or widened as a result of trade and investment liberalization.[22]

> … However, women seem to lose their initial comparative advantages as industries upgrade, leading to a defeminization of employment in manufacturing.

These contradictory findings may have to do with the fact that women seem to lose their initial advantages as industries upgrade, leading to a defeminization of employment in manufacturing (Kucera and Tejani, 2014; Ghosh, 2007; Tejani and Milberg, 2010). Similar patterns have been found in high-income countries, where women's job losses in manufacturing have been directly linked to rising imports of manufactures (Kongar, 2007; Kucera and Milberg, 2007). Paired with the finding that trade liberalization has widened inequality in developing countries, partly because of increasing relative returns to skill, this defeminization raises questions about the potential of export-oriented manufacturing to serve as a platform for advancing gender wage equality.

That women supplied a deep pool of low-wage labour in the initial stages of export-led industrialization has been instrumental to its success (box 4.1). Gender-based wage gaps contributed to growth in semi-industrialized economies, especially in Asia, because they supported export competitiveness (Seguino, 2000). As discussed in section IV.B above, the development of many economies has been limited by the small size of their domestic markets (i.e. they are demand constrained) and by a lack of foreign exchange to purchase capital goods imports and foreign technology (balance-of-payments constraints). Lower wages of women who were segregated into labour-intensive export sectors helped enhance competitiveness and profitability, thus increasing investment and growth. This phenomenon has been termed the "feminization of foreign exchange earnings," referring to how women's wages crowded into export sectors can have the same salutary effect on trade performance as an exchange rate devaluation (Samarasinghe, 1998; Seguino, 2010). It also reveals how varying systems of inequality, not just between

> That women supplied a deep pool of low-wage labour in the initial stages of export-led industrialization has been instrumental to its success.

Box 4.1

GENDERED PATTERNS IN INDUSTRIAL EMPLOYMENT[a]

The chart in this box illustrates the average share of employment in industry as a percentage of total employment by gender and region (with high income economies grouped together) across three decades: the 1980s, 1990s and 2000s; the bottom panel is the ratio of the top two panels, women to men. Though there is considerable global variation, some commonalities also emerge. Industry is a much more important source of employment for men than for women, especially in the high-income countries group where the women-to-men ratio in the share of industrial employment is the lowest among all country groups across all three decades, falling to an average of just 0.33 in the 2000s. Most regions also experienced a decline in the share of industrial employment for both women and men over time, though this decline was faster for women than for men, as illustrated by the declining ratios in panel C. The exceptions to this pattern are the Middle East and North Africa group and South Asia. In the former group, the average share of male employment in industry rose from 28 per cent to 31 per cent between the 1990s and 2000s, while the share of women in industrial employment declined from 14 per cent to 10 per cent, in line with other regions. By contrast, South Asia was the only group that saw a rise in the share of women – a rise that even outstripped that of men. These changes were driven by large increases in women's industrial employment in Bangladesh, India and Nepal. And lastly, it is also important to note the relative significance of industrial employment for women in East Asia and the Pacific and selected countries from the Europe and Central Asia group in the chart below, especially during the 1980s. While these shares significantly declined in both regions over time, men maintained essentially the same share. The changing structure of trade and industrial structure in East Asia and the Pacific and the process of transition in Eastern Europe and Central Asia appear to have been the most obvious drivers of the decline in women's employment rates.

[a] It should be noted that although the analysis in this chapter focuses on manufacturing, because of the kind of data available this box refers to employment in industry, which also includes mining, construction and utilities – sectors that have higher shares of men's employment, though manufacturing is the largest sector. This means that the women-to-men ratio in industry is lower than that prevailing in manufacturing alone, but changes in industrial shares still tend to be driven by changes in manufacturing.

but also within countries, can determine the structural conditions for and distributional effects of a development strategy such as export-led industrialization.

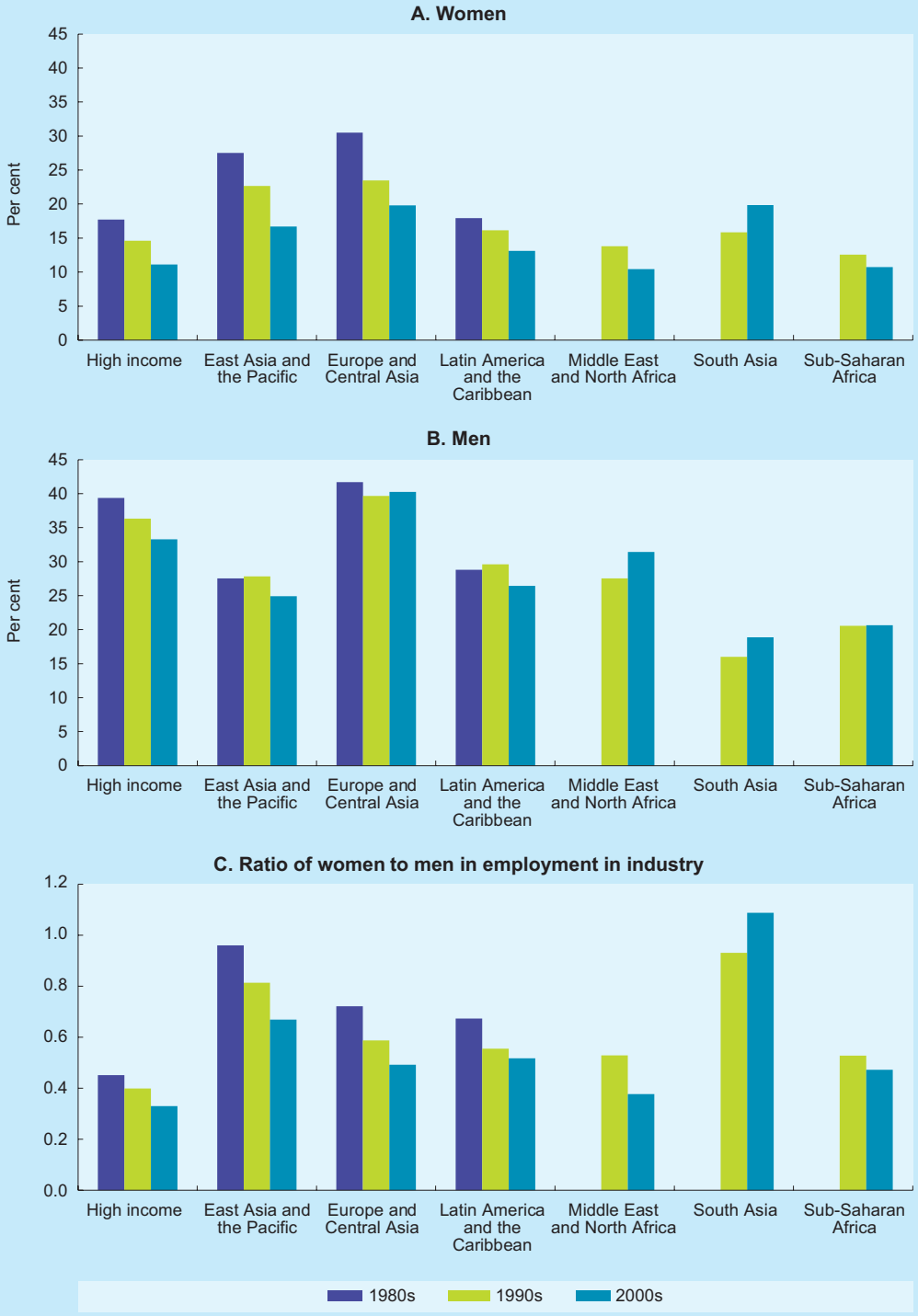
2. Employment elasticity of export-oriented manufacturing

While export of manufactures provides a potential route for fast-tracking industrialization and productivity-enhancing structural change, it must ultimately generate more employment at higher wages if it is to forge a sustainable and self-reinforcing high-road development path. This section evaluates the recent record of this relationship by assessing the responsiveness of employment by gender to the growth of exports in manufactures. Table 4.5 presents the elasticities of different categories of employment with respect to different categories of production by region for the period 1991–2014. The rows present the sector of employment: all employment (which includes agriculture, services and industry), industrial employment and services employment, and the sector of production (exports of manufactures versus industry in general). The columns disaggregate results by gender. The far right column presents median annual values by region for a number of the variables discussed to provide a better sense of the actual magnitudes involved.

The elasticities shown refer to the percentage changes in employment associated with a 1 per cent

Box 4.1 (concluded)

SHARE OF WOMEN'S AND MEN'S EMPLOYMENT IN INDUSTRY BY REGION, 1980s, 1990s AND 2000s



Source: UNCTAD secretariat calculations, based on World Bank, *World Development Indicators* database.

Note: Numbers for each decade refer to the average for that decade. Country samples for regional averages are consistent across time. Regional classifications are those of the World Bank. Data for the Europe and Central Asia group cover only the following countries: Croatia, Cyprus, Czech Republic, Estonia, Latvia, Lithuania, Poland, Romania, the Russian Federation, Slovakia, Slovenia and Turkey.

Table 4.5

RESPONSIVENESS OF EMPLOYMENT TO EXPORTS OF MANUFACTURES AND INDUSTRIAL GROWTH, BY GENDER, 1991–2014

(Per cent)

		Total employment	*Women's employment*	*Men's employment*	*Median annual values*	
Africa						
Elasticity of:	*Vis-à-vis:*				Total employment/population	64.6
Total employment	Exports of manufactures	0.18	0.20	0.18	Women's employment/population	57.4
Industrial employment	Industrial output	0.51	0.27	0.59	Men's employment/population	71.7
Industrial employment	Exports of manufactures	0.22	0.12	0.25	Growth in exports of manufactures	6.2
Services employment	Exports of manufactures	0.24	0.34	0.19	Industrial output growth	3.3
					Productivity growth	1.2
Asia						
Elasticity of:	*Vis-à-vis:*				Total employment/population	60.9
Total employment	Exports of manufactures	0.22	0.27	0.20	Women's employment/population	49.3
Industrial employment	Industrial output	0.42	0.29	0.44	Men's employment/population	77.7
Industrial employment	Exports of manufactures	0.23	0.13	0.26	Growth in exports of manufactures	8.6
Services employment	Exports of manufactures	0.40	0.44	0.35	Industrial output growth	6.2
					Productivity growth	3.6
Latin America and the Caribbean						
Elasticity of:	*Vis-à-vis:*				Total employment/population	58.3
Total employment	Exports of manufactures	0.21	0.29	0.17	Women's employment/population	42.9
Industrial employment	Industrial output	0.36	0.38	0.35	Men's employment/population	74.0
Industrial employment	Exports of manufactures	0.14	0.14	0.14	Growth in exports of manufactures	7.3
Services employment	Exports of manufactures	0.22	0.29	0.17	Industrial output growth	3.1
					Productivity growth	1.1

Source: UNCTAD secretariat calculations, based on International Labour Office (ILO), *Key Indicators of the Labour Market* database; World Bank, *World Development Indicators* (*WDI*) database; United Nations, *World Population Prospects: The 2015 Revision*; *UN Comtrade* database; UNSD, *Main Statistical Aggregates* database; and The Conference Board, *Total Economy Database*.

Note: Labour productivity growth was calculated by combining data on real value added from UNSD with *WDI* data on employment. Elasticities are based on the following regression model with country fixed effects: $logEmp_{it} = \alpha + \beta logX_{it} + \mu_i + \varepsilon_{it}$, where $logEmp_{it}$ and $logX_{it}$ refer to the logs of employment and the production variables respectively in country i and year t, and μ_i is the country fixed effect. All results are statistically significant at the 1 per cent level; country samples are consistent for all within group regressions.

change in exports or output. Beginning on the top left with Africa and moving right, a 1 per cent increase in exports of manufactures is associated with a 0.18 per cent increase in total employment, a 0.20 per cent increase in women's employment and a 0.18 per cent increase in men's employment. A 1 per cent increase in industrial output is associated with a 0.51 per cent increase in total industrial employment, a 0.27 per cent increase in women's industrial employment and a 0.59 per cent increase in men's industrial employment.[23] It is important to note that these results are (unweighted) average correlations by region, after controlling for a country's individual fixed effect.

Comparing regions, industrial expansion has had a larger impact on industrial employment than growth in exports of manufactures for both women and men, though the relative rise in employment is much larger for men's industrial employment in Africa, where, as noted above, the elasticity of men's industrial employment with respect to industrial output is 0.59, while the figure for exports of

manufactures is 0.25. Still, these differences have to be considered in conjunction with the extent of growth of industrial output versus exports of manufactures: the average growth rate of the latter was about twice as large as the former in Africa and in Latin America and the Caribbean, though in Asia industrial output largely kept up with the growth in exports of manufactures.

For women, one surprising result is that when exports of manufactures grew, the responsiveness of employment in services was much higher than in industry. For instance, a 1 per cent increase in exports of manufactures in Africa was associated with a 0.34 per cent increase in women's employment in services, but only a 0.12 per cent increase – one third as much – in their employment in industry. In Latin America and the Caribbean, a 1 per cent increase in exports of manufactures was associated with a 0.29 per cent increase in women's employment in services compared with a 0.14 per cent increase – about half as much – in industry. The gap was largest for women in Asia, with an employment elasticity of 0.44 in services and only 0.13 in industry. The same was also true for men across the different regions, but the gaps were considerably narrower (and not statistically significant in the case of Latin America and the Caribbean).[24]

In Africa and in Latin America and the Caribbean, the relatively large increase of women's employment in services, which is associated with the growth of exports of manufactures, has been accompanied by slow productivity growth, with median annual growth rates of 1.2 per cent in Africa and 1.1 per cent in Latin America and the Caribbean. This pairing suggests that the growth of trade in manufactures is more closely linked to the expansion of employment in low productivity services than to climbing up the value-added ladder – especially for women – and it reflects accounts of the connection between globalization and informalization (Bacchetta et al., 2009). The causal mechanism here is twofold. On the one hand, increased competitive pressures on export and domestic markets have induced more outsourcing and the proliferation of (often home-based) informal work, as documented in multiple studies of trade liberalization in Latin America (e.g. Acosta and Montes-Rojas, 2014; Reinecke, 2010). Such outsourced work would still be categorized as manufacturing. The point here is a more general one: increased competition in manufacturing, both at home and abroad, is associated with the informalization of work, both within and outside the manufacturing sector. On the other hand, lower cost access to more skill- and capital-intensive production technologies has both lowered the employment intensity of manufacturing and raised the relative demand for skilled labour. For many low-income countries in Africa, growth in exports of manufactures has not been accompanied by the same feminization of manufacturing as in other regions; instead, women have remained employed in subsistence agriculture or transitioned to low-productivity services, even as exports of manufactures have increased (UNCTAD, 2014a).

Table 4.6

ELASTICITY OF LABOUR SHARE IN TOTAL INCOME VIS-À-VIS THE WOMEN-TO-MEN EMPLOYMENT RATIO AND THE SHARE OF MANUFACTURES IN GDP, 1991–2014

	Ratio of women's to men's employment	*Exports of manufactures as a share of GDP*
Africa	*-0.02*	-0.32
Asia	*0.03*	-0.06
Latin America and the Caribbean	-0.17	-0.36

Source: As in table 4.5.
Note: All elasticities are significant at the 1 per cent level except for the two in italics.

Conversely, in Asia the services sector is expanding for both women and men in a context of high labour productivity growth, with an annual median value of 3.6 per cent. This seems to reflect dynamism in this sector as is expected in later stages of productivity-enhancing structural transformation.

Concerning the implications for inequality, table 4.6 presents results on the elasticity of labour's share of income with respect to both women's-to-men's employment ratios and the share of exports of manufactures in GDP. If women are systematically underpaid relative to men, or if their integration into the labour market reflects an industrial or trade structure that generates considerable surplus labour, one would expect a negative association between

women's relative employment rates and the labour share of income. By the same token, a negative association between exports of manufactures as a share of GDP and the labour share is also indicative of a low-road manufacturing export model or result. Looking at the employment results first, a 1 per cent increase in women's employment relative to that of men is associated with a 0.17 per cent decline in the labour share in Latin America and the Caribbean, but it is not statistically significant in either Africa or Asia. More telling is the elasticity of the labour share with respect to exports of manufactures as a share of GDP. A 1 per cent increase in this share is associated with a decline in the labour share of income in all three regions: -0.06 per cent in Asia, -0.36 per cent in Latin America and the Caribbean, and -0.32 per cent in Africa. These patterns are consistent with the ones suggested by employment elasticities: that growth in exports of manufactures has been associated more closely with the expansion of low productivity employment, particularly in services, than with the high productivity, modern manufacturing jobs that export-led industrialization strategies are expected to create. And these patterns are particularly pronounced when disaggregated by gender, confirming the importance of evaluating industrialization and trade from a gender-awareness perspective, as it is often women who bear the costs of the failures of export-led industrialization – a burden masked by limiting analyses to aggregated, gender-blind statistics.[25]

In Africa and in Latin America and the Caribbean, the growth of trade in manufactures is more closely linked to the expansion of employment in low productivity services than to climbing up the value-added ladder – especially for women.

The employment failures of export-led industrialization seriously compromise the model's potential for delivering on its promises, both on the supply and demand sides. On the supply side is the problem of increasingly low-productivity employment, which drags down an economy's overall productivity. On the demand side, stagnant incomes leave firms dependent on highly competitive external markets. Both problems could be addressed by raising global aggregate demand and alleviating the income inequality that drives it (*TDRs 2010, 2013, 2014*). Expanding domestic demand is also a promising approach from a gender equality perspective, because it would enable a rise in women's incomes and a decline in the gender wage gap without sacrificing economic growth due to a loss of global competitiveness (Seguino and Grown, 2006). Furthermore, given the association between women's incomes and spending on basic needs, there may be positive ripple effects for domestic production to the extent that demand shifts away from imports (Hoddinott et al., 1997).

G. The past and future of pricing power

As discussed in the next chapter, generating financial resources for investment is a key requirement for structural transformation. The export of manufactures provides opportunities for productivity growth and expectations that the profits and foreign exchange earnings from those exports will help finance investment and innovation – major benefits of the export-led industrialization model. However, given the highly competitive nature of export markets for manufactures, and the concentration of power at the top tiers of GVCs, it is not certain that developing countries have the pricing power or the ability to capture sufficient value from exporting their manufactures to set these beneficial feedback mechanisms in motion.

The question of whether developing countries, as a group, face a structural disadvantage in global

trade relations with developed countries underlies the Prebisch-Singer hypothesis referred to in section IV.B. That hypothesis is often considered in its simplest form, as a straightforward observation on terms-of-trade movements of primary commodities relative to manufactured goods; but its more important and interesting feature concerns the causal dynamics and associated policy implications.

Prebisch (1950) argued that the changing terms of trade reflected differences in market structure between the North and South, with the industrial markets of the North being more oligopolistic and the primary goods markets of the South highly competitive. Thus, industrial producers in the North could increase the relative prices of their manufactures, as their technical progress and productivity growth proceeded at a faster pace than in the South's primary commodity sectors. Relative prices of primary goods exports from the South would therefore decline, as would relative real incomes in the South. Hence, trade would become a vehicle for uneven development between the North and the South, and the changing terms of trade a reflection of the distribution of market and pricing power. This is a significant point from the perspective of modern trade relations, where concentration, both in terms of industries and higher value-added segments of GVCs, reflect exactly the sorts of differences in market structure (Northern oligopolies versus Southern competition) that troubled Prebisch more than half a century ago.

The changing terms of trade between the North and South reflect the changing distribution of market and pricing power between the two groups.

Singer (1950) agreed with Prebisch that changes in relative prices did not reflect those of relative productivities. According to Singer, the "fruits of technical progress" could be distributed either to producers as higher incomes or to consumers as lower prices, and monopoly power in manufacturing in the North favoured the former over the latter. Singer also emphasized differences in the income elasticities of demand, arguing that, since the income elasticity for manufactures is higher than that for primary commodities, as incomes increase, the relative demand for (and relative prices of) manufactures in the North will also increase.

Exporting manufactures is not associated with export values converging towards those of developed countries.

The natural policy prescription for developing countries to escape the structural disadvantages of trade was to pursue industrialization by promoting import substitution and developing domestic technological capabilities. In addition, export promotion, both to ease balance-of-payments constraints on development and to stimulate technological advancement, was seen as key to a push for sustained industrialization (Prebisch, 1964; Saiwing Ho, 2012), foreshadowing the successful export-led industrialization strategies of the East Asian NIEs.

Since the Prebisch-Singer hypothesis first emerged, developing countries have greatly increased their participation in global exports of manufactures. In light of the hypothesis, an important question to ask is whether the changing structure of developing-country exports has overcome some of the disadvantages that Prebisch and Singer (and many others since) warned against. To answer this question, table 4.7 lists estimated annual growth rates between 1980 and 2014 by country group for three merchandise terms-of-trade measures.[26] The net barter terms of trade (NBTT) is simply the unit price index for exports divided by the unit price index for imports. An increase in the NBTT indicates that a unit of exports is increasing in value relative to imports, reflecting the export of (relatively) higher value commodities. But high relative prices can also undermine competitiveness in markets where demand is particularly responsive to price changes and competition is intense. Thus table 4.7 also lists growth in the income terms of trade, which equals the NBTT times an index for export volume, indicating how scale can compensate for price in determining a country's capacity to import. The third column is an index for changes in the unit value of exports. It indicates whether changes in the NBTT are driven by changes in import prices (as might be the case at present, given the hike in global commodity prices since the early 2000s).

Table 4.7

ANNUAL GROWTH IN THE TERMS OF TRADE, BY COUNTRY GROUP, 1980–2014

(Per cent)

	Net barter terms of trade	*Income terms of trade*	*Export unit value index*
All countries			
Developed countries	0.0	5.1	2.5
Developing countries	-0.6	5.6	1.3
Africa	-0.7	3.4	2.3
Asia	-1.3	10.3	-1.7
Latin America and the Caribbean	0.3	5.4	2.2
Exporters of manufactures			
Developing countries	-1.1	6.2	0.5
Africa	-0.9	3.5	1.8
Asia	-1.5	10.4	-1.3
Latin America and the Caribbean	-0.9	3.6	1.4

Source: UNCTAD secretariat calculations, based on *UN Comtrade* database.

Note: Terms of trade refer to UNCTAD merchandise terms of trade data. Exporters of manufactures comprises countries whose mean share of manufacturing in merchandise exports for 1990–2014 was greater than 1/2. Growth rates were calculated by regressing the log of the terms of trade for each year and country on a common constant and time trend to get the annual rates of change reported in the table (fixed effects yield the same results). To control for effects of fuel prices, developing countries excludes West Asia (though Turkey is included).

Table 4.7 presents two sets of estimates. The first is based on the merchandise terms of trade for all countries in the specified group regardless of export structure (developed versus developing countries) or subgroup (developing Africa, Asia or Latin America and the Caribbean), while the second set is limited to those countries that are identified as exporters of manufactures. The developed-country group is not differentiated by export structure, in keeping with the North-South focus of the analysis.

Starting with all countries (regardless of whether they are exporters of manufactures or not), over the 34 years covered in the table, developed countries experienced no statistically significant change in their NBTTs, though they recorded the highest average annual growth rate in their export unit values of any group in the table, at 2.5 per cent. By contrast, developing countries saw an average annual decline of -0.6 per cent in their NBTT, though their export unit values grew at 1.3 per cent per year. At this aggregate level, then, the NBTT of developing countries relative to developed countries clearly diverge, driven by faster increases in import than export prices. There are differences between developing regions as well, with the African and Asian regions experiencing annual NBTT declines of -0.7 and -1.3 per cent respectively, and the Latin America and Caribbean region an annual increase of 0.3 per cent. This is somewhat surprising, as the performance of the Asian region in exports of manufactures might be expected to stand out in terms of NBTT growth, if indeed exporting manufactures is supposed to be associated with export values converging towards those of developed countries. However, the negative growth rate of export unit values of -1.7 per cent per year indicates the opposite. On the other hand, the increase in the annual NBTT growth rate in Latin America and the Caribbean was largely driven by the commodity price boom that began in the early 2000s. If the sample is limited to the period 1980–2002, the estimate for NBTT growth in Latin America and the Caribbean falls to -0.9 per cent per year.

Looking to the second set of estimates for exporters of manufactures reveals more about the dynamics driving the first set of estimates. Here, all regional groups display larger declines in NBTT growth than when all types of exporters are included. Developing countries as a whole show an annual decline of -1.1 per cent, with annual declines of the African, Asian and Latin American regions being -0.9, -1.5 and -0.9 per cent respectively. Thus, exporters of manufactures have fared worse, not better, than less manufacturing-oriented developing-country exporters; and manufacturing has taken on the features of primary commodities in the global trade regime as a source of structural disadvantage. The results on export unit values confirm this point, as Asian exporters of manufactures experienced the only reduction in the set (-1.3 per cent).

These patterns indicate that the prices of manufactures exported by developed countries, which have a higher technological content, behave differently from those exported by developing countries which have a more intensive content of low-skilled

labour (*TDR 2005*). This should not be surprising, given the extreme competitiveness of export markets for manufactures and the dangers posed by pressures stemming from the fallacy of composition, as discussed in this chapter. But it contradicts the frequent argument that exporting manufactures is desirable partly because it affords access to higher value added production. These results indicate that maintaining price competitiveness seems to dominate efforts to move into higher value added production. Even among the most successful exporters of manufactures in Asia, or where large GVC suppliers have gained some market power relative to lead firms in larger middle-income countries like China, there is scant evidence that they have been able to successfully transform their market power into pricing power (Milberg and Winkler, 2013).

Turning to the income terms-of-trade reveals another aspect of the story, as well as an explanation for Asia's success in its exports of manufactures, namely scale, not price. During the period 1980–2014, all regions experienced growth in their capacity to import based on total exports (price times volume), but the Asian region was a strong positive outlier. Considering exporters of manufactures only, the income terms of trade for developing countries as a whole increased at an average annual rate of 6.2 per cent, and for the Africa, Asia and Latin America and Caribbean regions the rates were 3.5, 10.4 and 3.6 per cent respectively. Asia was the only developing region to gain in terms-of-trade performance relative to developed countries, though this was attributable to volume, not price. Asia's outsized performance in terms of scale is linked to fallacy-of-composition pressures on prices; the export volumes that helped propel growth in Asia were at least partly responsible for its falling NBTT (*TDR 2005*).

Trade and investment policies should ensure that export-related incomes are used in ways that increase investment and rates of innovation.

Scale can compensate for (and drives) prices to some extent, but trade and investment policies have to carefully manage these resources to ensure that they are used in ways that increase investment and rates of innovation. But catching up or converging towards high-income countries ultimately requires higher incomes for producers *and* workers, and for this to happen, there need to be improvements in relative prices along with productivity, as well as higher shares of domestic value added in the context of GVCs. One of the more formidable development challenges in the current era of global trade is to find a way out of a situation where technical progress and productivity growth are effectively given away to global consumers because both market competition and concentration make it difficult to capture value added.

H. Conclusions

Targeting the growth of export-oriented manufactures or increasing participation in global value chains linked to manufacturing offer neither automatic nor straightforward pathways to industrialization and development. On the production side, both the composition of export-oriented manufactures – the more technologically intensive the better – and the share of domestic value added determine whether and to what extent exporting will induce structural change and productivity growth. Scale seems to matter as well, not least because of the need to absorb abundant supplies of labour into manufacturing in order to achieve aggregate productivity growth. Islands of manufacturing excellence are encouraging, but they are insufficient to generate the sort of economy-wide productive transformation necessary to achieve substantive industrialization. In order for trade to foster industrialization and structural transformation, it is necessary for developing countries to avoid the risks of being pulled towards specialization

in static comparative advantages, drawing productive resources away from efforts to increase technological intensity and diversify towards more dynamic industries.

Problems of distribution and accumulation that originate on the demand side of the economy also create obstacles to achieving export-led industrialization, and only rarely get the policy attention they deserve. The fallacy of composition – caused by an ever more crowded field of exporters pursuing the same export-led strategy – compresses price (and ultimately wage) growth, even for the most successful exporters of manufactures. Moving into more technologically intensive exports seems like a promising alternative, but the leap has to be large and sustained to outpace the many competitors vying for the same prize. This is an important point for understanding the promises and pitfalls of giving priority to export sophistication and its link with labour capabilities. With developing countries facing such highly competitive and fast-changing markets, it seems that cultivating capabilities and skills is more important than targeting particular products and hoping for the best.

The flip side of the fallacy of composition is the concentration of market and pricing power in a narrow band of MNEs. The rise of GVCs is both a cause and a consequence of this phenomenon. On the one hand, GVCs facilitate wider participation of developing countries in the global trade in manufactures, creating new avenues for industrialization. On the other hand, this wider participation and the associated competition facilitate the concentration of market power in developed-country MNEs, making it difficult for developing-country producers to increase and capture value added in economically consequential ways.

Deficient aggregate demand is at the heart of the fallacy of composition. Growth strategies based on wage compression and fiscal austerity weaken demand in the traditional developed-country markets for countries purusing export-led industrialization. Turning towards more regional markets of the South offers an alternative, as is already reflected in the changing geography of international trade. But while there has been considerable South-South coordination of production, demand in developing countries is uncertain. Regional production networks in Asia, where sequential movements into higher value added were punctuated by the shift of more basic production (and exports) to neighbours, underlie the "flying geese" nature of the Asian export-led industrialization model (Palma, 2009), as confirmed by the different statistical and developmental outcomes covered in this chapter for the region. These regional networks afforded opportunities for learning, production and income linkages through exporting in ways that generated dynamic capabilities to deal with ever changing markets. At the same time, domestic industries were protected from import competition as upgrading and learning proceeded, but not at the expense of (indeed, more typically to foster) export performance. Macroeconomic policies that ensured both stable and competitive real exchange rates supported both exporting and import substitution (see chapter VI for a discussion). On the demand side, the East Asian NIEs enjoyed access to the relatively open developed-country markets in the context of a more sparsely populated field of export competitors. Today, the demand and market conditions are substantially changed, not least because of greater export competition coming from countries trying to emulate earlier successes with export-led industrialization. Developing-country demand is a potential substitute, but requires that developing countries, especially large emerging economies, shift their emphasis from export-led industrialization to one aimed at boosting domestic consumption. This would generate demand for lower-income countries that are trying to access the developmental benefits from exports of manufactures, and further diversify markets and products at different levels of sophistication. Developed-country markets still serve as important destinations for selling more sophisticated goods, and provide critical opportunities for refining production, design and marketing capabilities.

Ultimately, for such a strategy to succeed, it must be recognized that part of managing capital accumulation and structural change requires an employment policy that ensures inclusive industrialization. One of the most formidable challenges presented by the relationship between globalization and industrialization in today's world is its failure to generate enough good jobs. This failure also tends to magnify existing gender inequalities, which is too often masked by gender-blind analyses of trade. Enhancing and utilizing the capabilities of both women and men on both the supply and demand sides of industrialization are essential for achieving, sustaining and sharing success. Chapter VI discusses the policy implications of these points in conjunction with the findings of other chapters.

Notes

1 The same may be said for some developed countries, but differs slightly in the context of advanced industrialization.

2 Historically, gender has played a role here as well. Because women are so frequently a new source of labour in the early phases of export-led industrialization, this transition often involves a shift of women's work from the unpaid household sector to the market, thus expanding market production and inducing the sort of fertility decline and increased investments in children that not only result in demographic shifts, but also contribute to development.

3 Technology and foreign exchange might of course come through foreign direct investment (FDI), but not necessarily. Drawing technological benefits from FDI requires intentional and broad-based industrial and technology transfer policies to reap the potential rewards. In addition, FDI has been generating rising income payments that have significantly reduced, and in some cases reversed, its contribution to the balance of payments (Akyüz, 2015).

4 This theoretical possibility reflects Jagdish Bhagwati's (1958) explanation of immiserizing growth.

5 In some regions (e.g. in Africa, Latin America and West Asia), this decline in recent years was due mostly to the fall in unit export prices, while in others (the rest of Asia) it resulted from a slowdown in the volume of exports; meanwhile, GDP in current dollars continued to grow rapidly – 11 per cent on average between 2009 and 2014 (*UNCTADstat*).

6 The classifications used in this subsection draw from Wood and Mayer (2001) who use the following main groups: manufactured goods (SITC Rev. 2 categories 5–9 less 667, 68, 941 and 971), unprocessed primary products (those that ISIC classifies, more narrowly than SITC, as agricultural and mineral goods in the state they leave the farm or the mine) and processed primary goods (which SITC classifies as primary products but ISIC classifies as manufactures, as they are produced in factories using large inputs of local raw material).

7 For example, in sub-Saharan Africa, crude oil is the main exported product, mostly sent to extraregional markets, and refined oil is the main imported good (Moussa, 2016). Expanding the production of refined oil, for example, or manufactured products would greatly enlarge the scope for intraregional trade.

8 Unless otherwise specified, trade in manufactures refers to SITC Rev. 2 categories 5–8 less 667 and 68.

9 There is, of course, a significant variation across countries within regions, as discussed later in this chapter. At this stage, it is useful to consider broad regional patterns, as they are in themselves distinctive and instructive.

10 Excluding West Asia.

11 In the Latin America and Caribbean region, Mexico is a significant driver of trade with developed countries, and therefore tends to depress measures of intraregional trade in manufactures. Taking Mexico out of the group, trade within this region has been a little less than one third of its total trade in manufactures since the 2000s, as opposed to about one fifth of its total trade in manufactures if Mexico is included.

12 This is particularly the case for the Latin America and Caribbean region, which shows very high shares of high- and medium-technology goods in its exports of manufactures. Much of this is due to Mexico. If Mexico were excluded from this group, the latter's high- and medium-technology export shares for 2013 would be as follows: to developed economies, 56.6 per cent; to developing economies, 69.1 per cent; to Asia, 48.6 per cent; to Latin America and the Caribbean, 71.8 per cent; to sub-Saharan Africa, 73.3 per cent; and to the World, 64.6 per cent.

13 These are primarily East and South-East Asian countries.

14 Trade shares could be acting as a statistical proxy for income, implying that the negative association is more a reflection of convergence dynamics (i.e. higher income countries tend to grow more slowly than lower income countries) than trade. This might be the case for countries in Asia, but not for countries in Africa and Latin America, as indicated by regression analysis that includes real per capita GDP in 1995 as well as the share of exports of manufactures in GDP.

15 This is the so called export sophistication index proposed by Hausmann et al. (2007). According to this index, a product is more sophisticated the higher the average income of its exporters; that is, a high (low)

level of sophistication indicates that the product is mainly exported by rich (poor) countries. This definition is only a first proxy, as some raw materials (e.g. crude oil) are considered sophisticated goods because they are mostly exported by countries with a high per capita income.

16 This section on GVCs draws largely from Staritz, 2016, and Braunstein and Houston, 2016.

17 This proportion is based on classifying UN Comtrade data by broad economic categories.

18 In China, for example, more domestic sourcing of manufacturing inputs is part of efforts to turn away from export processing and reach for better economic performance.

19 For more discussion of the policy implications of this point, see *TDR 2014*: 104.

20 This section draws largely on Braunstein (2012) and Braunstein and Houston (2016).

21 See Black and Brainerd, 2004; Juhn et al., 2014; Oostendorp, 2009; Tzannatos, 1999; and Wood, 1991.

22 See Berik et al., 2004; Busse and Spielmann, 2006; Braunstein and Brenner, 2007; Dominguez-Villalobos and Brown-Grossman, 2010; and Menon and van der Meulen Rodgers, 2009.

23 Women's employment elasticities tend to be higher than men's in general, partly because women's employment participation is lower; thus when the pattern presents as opposite (i.e. when men's employment elasticity exceeds that of women), it is a significant result.

24 One possibility to consider is the outsourcing of activities previously done in manufacturing to services as a potential driver of the higher responsiveness of services employment. Tregenna (2010) has done a close analysis of this question for South Africa for the period 1997–2007, and finds services employment growth to have been driven by cleaners and security guards, with these activities having been outsourced from manufacturing and from the public sector to private services. According to Tregenna, this suggests that the services sector is less dynamic than previously thought, and that there is a natural limit to this growth once the jobs have been fully outsourced. Furthermore, the pay is lower in private services than for the same jobs in manufacturing or in the public sector, which indicates a loss in job quality.

25 UNCTAD has commissioned a number of country case studies that underline the importance of evaluating trade policy from a gender-awareness perspective. For a summary overview, see UNCTAD, 2014a.

26 This analysis was inspired by that of Sarkar and Singer (1991), who discuss similar findings for the 1970–1987 period.

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Chapter V

PROFITS, INVESTMENT AND STRUCTURAL CHANGE

A. Introduction

Adequate investment finance to priority sectors is essential for achieving structural transformation. It helps enhance a virtuous circle of rapid productivity growth, more and better paid jobs, higher household incomes and expanded markets – both at home and abroad – leading in turn to higher levels of investment, and thus helping to further boost productivity. As discussed in previous chapters of this *Report*, investment in industrial capacity appears to play a catalysing and sustaining role in this process.

All countries seeking to climb the development ladder face the challenge of finding the right mix of macroeconomic and other policies that ensure adequate financing for much-needed investments. Resolving this challenge is crucial, since historical evidence suggests that a steady rise in the minimum level of investment is necessary to launch and sustain efforts aimed at catch-up industrialization (chapter II).

In the corporate sector, a significant proportion of financing for capital formation derives from "internal" resources (i.e. retained profits), notwithstanding the greater weight of banks and other financial institutions in intermediating savings and investments in recent years. The relationship between profits and investment seems to have been strongest, and thus associated with a dynamic profit-investment nexus, where the manufacturing sector was expanding (Ros, 2000). This was the case for developed Western economies, both during their own industrialization processes as well as during their post-war recoveries, and for East Asia, when it was undergoing rapid industrialization beginning in Japan in the 1950s, followed by the first-tier newly industrializing economies in the 1960s and China from the 1980s. It also applied to more short-lived success stories, such as Brazil in the 1960s and 1970s.

Adequate finance is essential for structural transformation; it can support a virtuous circle of rapid growth, more jobs, higher incomes and thus higher investment levels.

Yet the link between profits and investment is neither spontaneous nor direct. It can be weakened by competing claims on profits by shareholders and stakeholders. In larger firms – especially public companies – owners and managers (as well as other stakeholders) may pursue different objectives and strategies that influence the use of profits.

The relationship between profits and investment has been weakening since the 1980s, most notably in several developed economies, including the United States, where record profits registered at

the aggregate level have been coexisting with weak investment rates. This has coincided with changes in the way corporations seek to safeguard or generate higher profits – by focusing primarily on cost-cutting, oligopoly rents, outsourcing and delocalization as the main strategies. On some counts, this phenomenon of "profiting without producing" (Lapavitsas, 2013) has given rise to a post-financial-crisis world of "profits without prosperity" (Lazonick, 2013), and has contributed, in part, to deepening concerns about the trend towards "secular stagnation". Such a situation is thus attributable less to demographic and technological pressures and more to macroeconomic developments, including growing market power, worsening income distribution and insufficient levels of global demand.

Productive investment seems to have been affected by a shortening of time horizons as well as by inadequate financing mechanisms.

The decoupling of profits and investment has also coincided with changes in corporate governance that tie managerial decision-making more closely to shareholder interests at the expense of other stakeholders, arguably weakening the commitment of financial resources to longer investment horizons and biasing investment patterns towards sectors and activities that promise quick returns.

While these developments have been quite pronounced in developed countries, the emergence of similar trends can be observed in developing countries as well, though with regional variations. The share of profits in gross domestic product (GDP) has been rising, while capital accumulation across different regions of the developing world has been slowing down following a period of recovery during most of the 2000s. At the same time, financial activities and financial globalization – whether measured by a larger share of financial services in GDP, more open capital accounts, growing cross-border capital flows, the internationalization of the banking system and/or the rise of shadow banking – have also been on an upward trend in developing countries.

Debt and equity finance (which constitute "external finance" from a firm's point of view) are other important sources of financing for productive investment, in addition to retained profits (i.e. "internal finance"). Financial globalization was widely expected to help boost productive investment and growth in developing economies (see chapter II). And it has undoubtedly increased the geographical reach of capital, creating new investment opportunities for firms and wealth owners, as well as providing new sources of funding for public and private investment. However, as discussed in previous *TDR*s, while some areas of the global economy have been inundated with capital, others have continued to suffer from capital scarcity. More worryingly, in countries that received significant capital inflows, those flows proved to be highly unstable, and productive investment did not increase significantly (*TDR 2014*). Unfavourable macroeconomic conditions, associated with unstable capital flows, appear to have been a major deterrent to private investment, even when corporate profitability was high and thus not in itself a constraint on capital accumulation. Productive investment also seems to have been affected by a shortening of time horizons on the part of both private and public actors, as well as by inadequate financing mechanisms.

The contemporary investment environment thus presents two paradoxes: profit shares have been rising but have not necessarily translated into higher investment rates; and the rapid development of deeper and more sophisticated financial markets has increased firms' access to domestic and international finance, but has failed to boost real investment.

This chapter discusses possible reasons for these paradoxes. In particular, it explores to what extent, and for what reasons the profit-investment nexus has been weakening, and with what consequences. Section B revisits this nexus and briefly discusses the stylized trajectories of its evolution over time in both developed and developing economies under conditions of increasing macroeconomic and firm-level financialization processes. Section C describes changes in corporate strategies since the early 1980s that have weakened the profit-investment nexus in developed economies. Section D explores the most significant trends in corporate behaviour in large developing economies using firm-level data over the past 20 years. It finds that the profit-investment nexus is weakening in many large developing countries, as in developed countries. Section E suggests three areas – macro, financial and fiscal – in which policy

action may help reinvigorate real investment and promote an economic and institutional environment conducive to structural transformation in developing countries. Section F concludes.

B. The profit-investment nexus revisited

Developing countries will, in most instances, require substantially higher rates of investment than their current levels if they are to boost manufacturing in order to achieve rapid economic transformation (see chapter III). Indeed, UNCTAD has consistently emphasized that rapid economic transformation requires adequate financing of investment in industrial plants and equipment and in physical infrastructure. Crucially, this requires proactive policies to develop appropriate capacities of the banking system to create credit and provide liquidity, and more generally to foster the establishment of a robust "profit-investment nexus" (*TDR 1997*, chaps. IV and V; *TDR 2008*, chap. IV; UNCTAD, 2012: 10, 46 and 104–106).

Dynamic interactions between profits and investment arise because profits are simultaneously an incentive, a source and an outcome of investment.

Essentially, the nexus is the result of "the dynamic interactions between profits and investment which arise because profits are simultaneously an incentive for investment, a source of investment and an outcome of investment" (Akyüz and Gore, 1996: 461). Expectations of strong profits encourage firms to invest, and, if such profits are realized, they increase firms' capacity to finance future investments out of retained earnings. An essential implication for developing economies is that investment activity is not determined by a given level of pre-existing savings, as the Solow growth theory and its modern-day successors would suggest; indeed, savings may be low simply because investment is low (Hirschman, 1958). Rather, the prospect of expanding demand, and of a consequent increase in profits, is a key driver of investment.

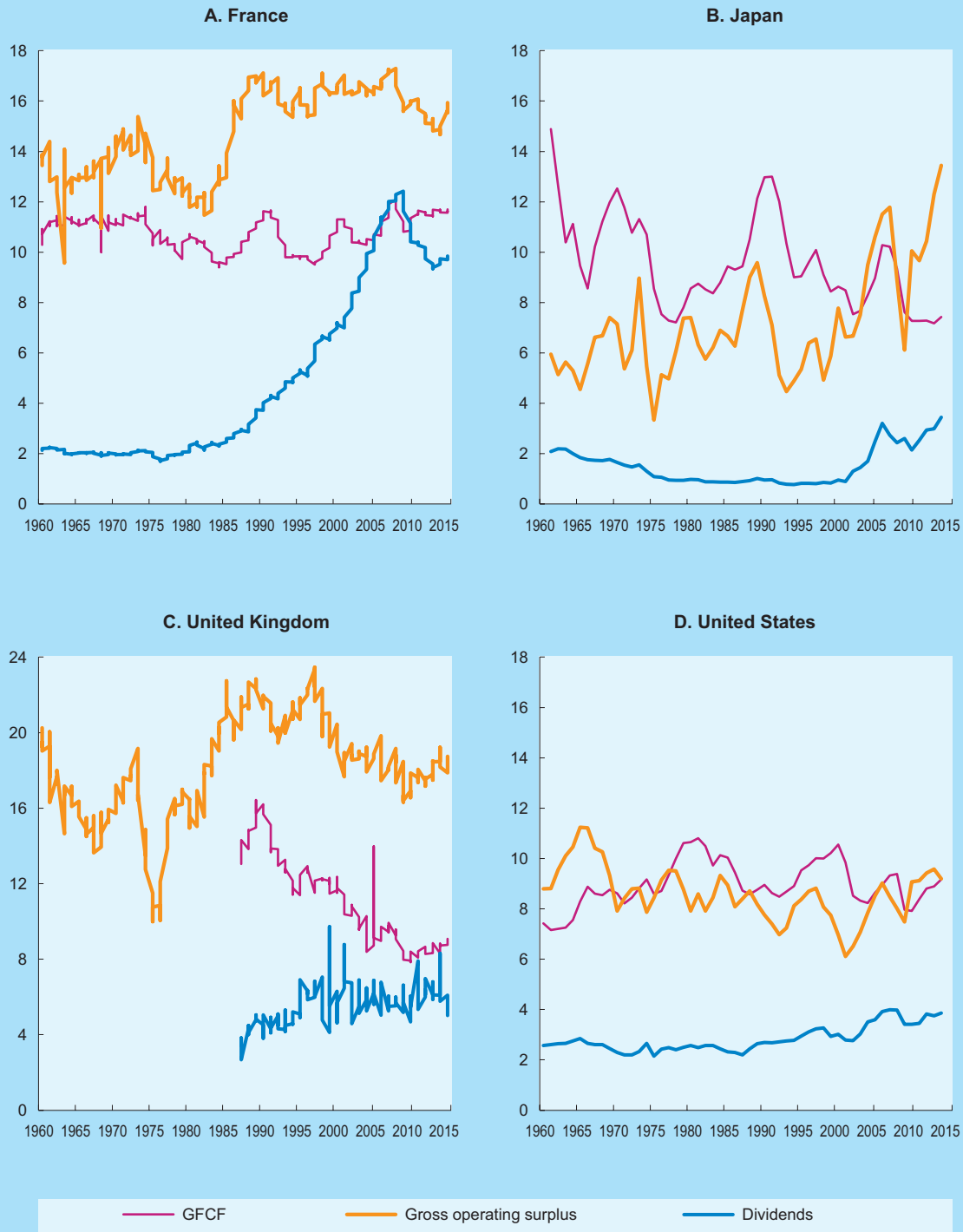
This also applies at the international level: a core tenet of the "savings-gap" theory is that insufficient domestic savings in poorer economies need to be compensated for by accessing "foreign savings" or capital inflows in order to achieve productive capital accumulation. But if it is increased investment activity, induced by expectations of realizing profits in growing markets, that creates and expands firms' capacity to finance new investments out of retained earnings, the causality works the other way round as well. Thus, in order to build entrepreneurial capacities and finance structural transformation, developing countries have a greater need to access international markets for exports, rather than relying excessively on foreign savings. The latter maybe volatile and may also finance consumption or asset bubbles rather than additional investment in productive capacity.

Importantly, earlier *Trade and Development Reports* (*TDR*s *1996, 1997* and *2008*) made it clear that a dynamic profit-investment nexus as the basis for self-sustaining capital accumulation in later developers cannot be expected to emerge spontaneously; it requires institutional innovation and proactive policy intervention. An indispensable ingredient for the emergence of a thriving entrepreneurial class and for dynamic innovation-driven development is credit and liquidity provision by the banking system, whose primary task should be to channel such ex-ante financing to productive investors (Schumpeter, 1934/2008). However, a modern banking and financial system that provides credit and liquidity is not

Chart 5.1

PROFITS, INVESTMENTS AND DIVIDEND DISTRIBUTION OF NON-FINANCIAL CORPORATIONS, SELECTED COUNTRIES, 1960–2015

(Per cent of GDP)



Source: UNCTAD secretariat calculations, based on national statistics.
Note: GFCF = gross fixed capital formation.

a sufficient condition in and of itself for a high rate of capital accumulation. In addition, a range of government policies is needed to accelerate the process of capital accumulation and induce private firms to reinvest retained profits in productive sectors and activities. Such policies include designing financing instruments that allow access to temporary rents and help increase profits of dynamic firms over and above what they could achieve without public intervention (see section E). This strategy was first used by policymakers in the United States as they sought to achieve an independent and industrial future following the break with British rule (Cohen and DeLong, 2016), and it was repeated, with local adaptations, by subsequent industrializing economies.

The period of rapid economic growth in developed countries between the early 1950s and the late 1970s also saw profits and investment broadly move in tandem in France, Japan, the United Kingdom and the United States (chart 5.1). Retained earnings from corporate profits represented an important source of savings, which financed capital accumulation that helped the adoption of new technologies and spurred productivity growth. This, in turn, generated higher incomes, which then led to more profits and therefore savings, thereby creating an investment-profit dynamic.

Identifying feasible and appropriate measures to support a profit-investment nexus in developing countries is a major challenge for policymakers in the present-day context of increasing integration of production into global value chains and greater international capital mobility. To meet this challenge, policymakers need to take into account the weakening of the profit-investment nexus due to a number of trends in investment and profit behaviour in developed economies. Since the 1980s, and more markedly since the 2000s, corporate profits have been rising faster than capital expenditures which, apart from cyclical fluctuations (chart 5.1), have remained almost stagnant (chart 5.2). This naturally raises the following questions: why is the corporate sector not reinvesting its profits to expand productive activity, and where are these resources being targeted?

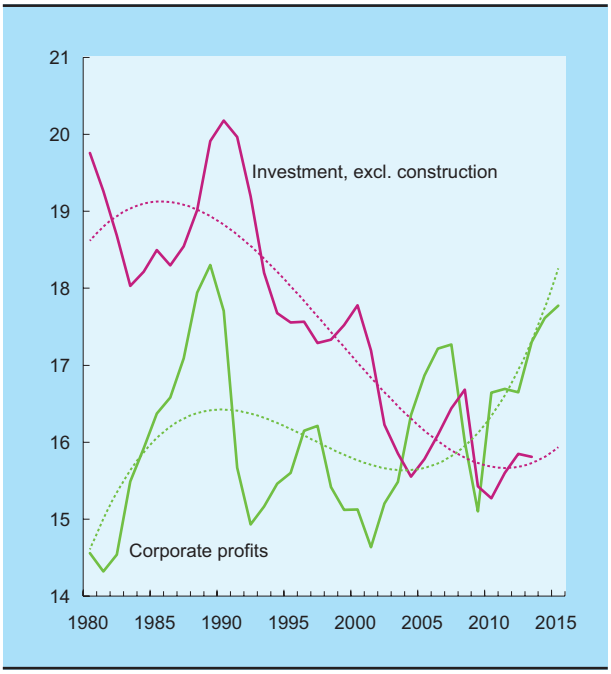
Arguably, after the 2008–2009 global crisis, firms used retained profits to strengthen their balance sheets. In this sense, the slowdown of corporate investment reflects deleveraging efforts. In countries such as Japan, the United Kingdom and the United States, the corporate sector as a whole exhibited net saving surpluses that helped improve firms' net financial positions and finance the rest of the economy (Gruber and Kamin, 2015). However, the reduced use of retained earnings to finance real investment cannot be explained only by efforts to repair corporate balance sheets after the crisis. Since the 1980s, there has been an increasing tendency for companies to channel their profits to shareholders either in the form of dividend distribution or share repurchase. Given that dividend distribution remained robust after the 2008–2009 crisis, the slowdown in investment cannot be attributed solely to the need to repair companies' balance sheets.

The profit-investment nexus appears to have weakened in many larger developing countries as well (see section D). However, both the reasons for and the extent of this weakening seem to differ

Chart 5.2

CORPORATE PROFITS AND INVESTMENT (EXCL. CONSTRUCTION), 1980–2015

(Per cent of GDP)



Source: UNCTAD secretariat calculations, based on data from Oxford Economics; and OECD, *National Accounts*.
Note: Chart shows average values for France, Germany, Japan, the United Kingdom and the United States.

between developed and developing economies, given their very different productive structures, levels of international competitiveness and their respective degrees of policy and regulatory controls over their integration into the global economy.

Strengthening the profit-investment nexus and its capacity to sustain the capital accumulation needed for structural transformation is a complex task involving multiple determinants. Those determinants include the global economic environment, institutional, technological and structural change and, as mentioned, the emergence of a supportive domestic banking and financial system, as well as an appropriate industrial policy regime (see chapter II). To better grasp the importance of establishing a functioning profit-investment nexus for successful structural transformation, it is useful to consider the changing dynamics of this nexus over time. In the early stages of structural change, the profit-investment nexus is weak: opportunities to generate profits for reinvestment – outside extractive industry enclaves – remain limited, since poor economies are characterized by small manufacturing sectors, low productivity levels, high production costs and concomitant low levels of industrial and international competitiveness. The institutional, regulatory and policy frameworks required to support a virtuous circle of high profit expectations, the realization of profits in the markets, the expansion of productive capacity, subsequent further increases in market demand and renewed high profit expectations, do not exist at this stage. This initial lack of a *dynamic* relationship between profits and investment is characteristic of a situation in which the share of investment financed out of retained profits ("internal finance") is high relative to "external finance", in particular debt financing. In fact, retained profits are typically the main source of investment finance in many poor developing economies (table 5.1).[1] However, rather than a self-sustaining, dynamic profit-investment relationship, this merely reflects firms' limited access to external sources of finance at this stage. As a result, overall profits remain low, with firms unable to generate by themselves increases in their rates of profit that can finance a sustained process of capital accumulation. Policy intervention to establish a self-sustaining profit-investment nexus is therefore essential.

The relationship between profits and investment has weakened since the 1980s, most notably in developed countries.

Over time, and as the ability to combine internal with external sources for financing private investment projects increases, the profit-investment nexus will strengthen. Concomitant increases in the level of industrial and international competitiveness will, at least in part, reflect a strong empirical relationship between the growth rate of output in the manufacturing sector and manufacturing productivity growth, which in turn will require access to export markets – the so-called profit-investment-export nexus (*TDR 1997* and UNCTAD, 2012).

There is no *a priori* reason to assume that at an advanced stage of industrial competitiveness the profit-investment nexus will weaken. But it is reasonable to assume that any additional strengthening of that nexus is bound to flatten out once high levels of industrial competitiveness are reached: institutional and policy innovations are not likely to grow at a constant or increasing rate forever. Thus, once core institutional and policy capabilities are in place to establish and promote the profit-investment nexus, additional improvements will be more piecemeal.

This said, the growing role of external financing of productive investment as the profit-investment nexus strengthens poses formidable policy challenges of its own. In the early stages of economic development and transformation, the main challenges include increasing firms' access to long-term bank lending, and developing a domestic banking and financial system capable of channelling credit to productive investment projects. Public intervention to address market failures due to information asymmetries is particularly important. Once a dynamic profit-investment nexus is in place, the challenge is to ensure that large firms' use of external finance is aligned with society's wider interests, served by the expansion of productive investments.

A dynamic profit-investment nexus does not emerge spontaneously; it requires institutional innovation and proactive policy intervention.

Table 5.1

FIRMS' SOURCES OF INVESTMENT FINANCE AND CONSTRAINTS ON THEIR ACCESS TO EXTERNAL FINANCE, BY SIZE OF FIRM, SELECTED COUNTRY GROUPS, 2008–2015

	Number of countries	Number of firms	Shares of investment finance in total investments					Proportion of firms identifying access to finance as a major constraint
			Internal	Equity or stock sales	Banks	Supplier credit	Other sources	
			Average values (Per cent)					
Developed countries, OECD members								
All firms	13	5 948	65.5	2.9	18.9	3.6	9.1	11.6
Large firms	13	877	62.9	3.5	20.5	4.7	8.4	9.1
Medium-sized firms	13	1 550	61.6	3.4	21.0	3.9	10.1	12.3
Small firms	13	3 521	67.3	2.7	17.8	3.3	8.9	12.1
Developed countries, non-OECD								
All firms	5	1 710	71.8	5.1	14.2	4.3	4.6	21.2
Large firms	5	201	76.1	3.4	12.9	5.1	2.5	20.8
Medium-sized firms	5	485	69.6	4.7	16.7	5.0	4.0	18.4
Small firms	5	1 024	73.3	5.3	12.7	3.9	4.8	22.2
Transition economies								
All firms	17	9 994	74.1	6.4	12.0	3.9	3.6	17.7
Large firms	17	1 211	72.5	4.2	16.8	4.3	2.2	20.1
Medium-sized firms	17	3 404	76.5	4.6	13.4	2.8	2.7	18.0
Small firms	17	5 379	73.6	7.3	10.8	4.3	4.0	17.0
Africa								
All firms	49	23 228	76.7	3.7	10.0	4.2	5.4	39.9
Large firms	49	2 902	72.4	3.3	15.5	5.0	3.8	28.5
Medium-sized firms	49	6 958	75.0	4.0	11.0	4.9	5.1	36.4
Small firms	49	13 368	79.4	3.6	8.1	3.5	5.4	41.9
Latin American and the Caribbean								
All firms	31	14 433	63.5	4.3	20.2	7.3	4.7	30.4
Large firms	31	3 601	63.0	3.8	23.4	7.0	2.8	20.6
Medium-sized firms	31	5 332	62.3	4.2	20.8	8.4	4.3	29.0
Small firms	31	5 500	64.2	5.0	18.4	6.8	5.6	31.7
East Asia								
All firms	3	3 593	76.4	4.2	12.0	2.5	4.9	15.6
Large firms	3	1 140	82.8	5.0	11.6	0.2	0.4	4.6
Medium-sized firms	3	1 311	74.2	4.2	14.5	1.7	5.4	18.6
Small firms	3	1 142	76.8	4.0	9.2	4.0	6.0	14.0
South-East Asia								
All firms	9	7 270	71.7	4.0	16.3	2.7	5.3	16.1
Large firms	9	2 224	68.7	6.8	16.7	3.5	4.3	12.1
Medium-sized firms	9	2 753	67.1	4.2	19.6	4.3	4.8	20.1
Small firms	9	2 293	73.0	4.0	14.4	2.2	6.4	16.2
South Asia								
All firms	6	13 061	72.1	6.5	16.6	1.2	3.6	23.0
Large firms	6	3 121	69.3	3.6	23.9	1.2	2.0	20.8
Medium-sized firms	6	5 428	62.9	8.1	24.7	1.1	3.2	18.1
Small firms	6	4 512	76.8	4.9	12.8	1.3	4.2	26.0
West Asia								
All firms	6	4 371	73.8	2.9	15.4	3.9	4.0	38.9
Large firms	6	681	78.2	1.4	15.6	2.7	2.1	35.2
Medium-sized firms	6	1 399	72.7	2.4	17.7	3.1	4.1	34.5
Small firms	6	2 291	74.9	3.1	14.5	3.8	3.7	41.3

Source: UNCTAD secretariat calculations, based on World Bank, *Enterprise Survey* database.
Note: Small firms = less than 20 employees; medium-sized firms = 20–99 employees; large firms = more than 99 employees.

The weakening of the profit-investment nexus has been observed primarily in developed economies, where the growing dominance of finance and shareholder power first emerged. Importantly, this may not simply be a product of an emerging post-industrial economy; it reflects, in part, policy choices, including financial deregulation. Clearly, for developed economies and their corporations, financialization is a major explanation. Epstein (2015) provides a generic definition of financialization as "the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies." More specifically, the remainder of this chapter differentiates between the macroeconomic aspects of financial globalization and the microeconomic process of the financialization of corporate strategies. Financial globalization refers to the macroeconomic process of the rapid integration of a domestic financial and banking system into international financial markets and the growing size of the financial sector relative to the rest of the economy. Financialization of corporate strategies refers to the fast expanding role of financial actors in corporate decision-making and ownership, as well as to an increase in financial activities of non-financial corporations.

For developing economies, the central question is to what extent both financial globalization and the financialization of corporate strategies have affected their prospects for establishing a functioning profit-investment nexus and ensuring that they use their policy space to promote industrial activities and structural change.

C. Corporate strategies: Refocusing and financialization

Over the past few decades, the world economy has undergone significant transformations. The opening up of new markets through trade and capital account liberalization, the mushrooming of cross-border capital flows and mounting levels of private and public debt, as well as the revolution in information and communication technologies (ICTs) have marked a shift towards finance-driven globalization and financialized investment strategies. Consequently, short-term position-taking and the use of financial instruments for trading have become increasingly important corporate practices diverting firms' focus from the production and trading of tangible goods with long-term profitability horizons. This is with the largely passive support of, and relative independence from, the money and financial markets (Minsky, 1993; Foroohar, 2016).

At the corporate level, this shift towards financialized investment strategies is often associated with the rise of so-called "shareholder primacy", referring to the growing power of shareholders in managerial decisions. Despite general recognition of their effectiveness in raising capital for large investment projects, "open" corporations (i.e. firms whose shares are publicly traded and are not controlled by a small group of investors) were initially considered an obstacle to, rather than a vehicle for, shareholder primacy, due to the separation of ownership from control (Berle and Means, 1932/1968). This began to change in the 1960s with the growing notion that control over corporations by capital markets – in particular the role played by equity markets in facilitating mergers and acquisitions of firms, sometimes through hostile corporate takeovers[2] – would promote shareholder primacy (Manne, 1962) and improve the allocation of capital. Supported by further developments in the economic theory of the firm,[3] maximizing shareholder value gradually became the established objective of corporate governance. This in turn prompted two major developments: market metrics, such as a target for return on equity, became central to corporate investment strategies (Davis, 2009; Ireland, 2009); and shareholders came to be seen as the main risk-bearers (or principals) vis-à-vis the managers (or agents). To align the interests of managers with those

of the principals, managerial performance (and pay) increasingly became tied to the short-term financial performance of "open" corporations (Lazonick and O'Sullivan, 2000). This encouraged a greater focus on short-term horizons of strategic decision-making (Useem, 1999; Stout, 2012), cost management and financial engineering, and invited asset stripping through mergers and acquisitions, buyouts and demergers (Krippner, 2005; Froud et al., 2002).

More recently, the rise of "shareholder capitalism" has been further strengthened by three interrelated developments: the fragmentation of productive processes in global value chains (see also chapter IV), a refocusing of the activities of large conglomerates around their "core business", and an increasing emphasis of institutional investors and professional asset managers on shareholder value. All these factors have contributed to a change in investment behaviour and a weakening of the profit-investment nexus.

The first of these developments was the result of advances in technology, including improvements in transport and logistics, and the deregulation of trade and investment flows, both of which allowed the fragmentation of production into discrete activities. Large corporations built business networks involving intragroup affiliates across multiple locations and independent external suppliers, often based overseas (OECD et al., 2013). Consequently, the global economy became increasingly structured around global value chains, and more deeply integrated and interdependent (*TDR 2002*; and chapter IV of this *Report*).

The second and closely related trend has been corporate refocusing. Since the 1980s, the historical trend of vertical integration and diversification of large conglomerates has been reversed (Markides, 1992; Milberg, 2008). This refocusing of corporate strategies was a response to changing patterns of competition following the growing globalization of markets for goods and services. Enlarged markets meant more business opportunities, but also stronger competitive pressures to reduce costs. The growing reliance on outsourcing and subcontracting in productive processes was part of employers' efforts to cut costs. Reducing labour costs was one of the objectives, but not the only one. Many corporations divested entire lines of business or were broken up following hostile takeovers and leveraged buyouts (Liebeskind and Opler, 1992).[4] Such internal breakups were motivated by the need to enhance managerial efficiency through cost reductions in response to the growing complexity of intra-firm organization, and by what came to be considered "excessive" diversification (Weston et al., 1990). Corporate restructuring was thus primarily designed to increase company profitability and the market value of a firm (Jensen, 1989).[5]

Since the 1970s, but even more so over the last 20 years, institutional investors have substantially increased their ownership of public equity shares.

The third shift in the corporate landscape is the growing influence of institutional investors and professional asset managers in management decisions.[6] Since the 1970s, but even more so in the last 20 years, institutional investors have owned an increasing proportion of public equity shares. The subsequent decline in the participation of individual stockholders has been noticeable in developed countries. In the mid-1960s, individual investors held 84 per cent of all publicly listed stocks in the United States compared with only 40 per cent in 2013. This share was even smaller in Japan, at 18 per cent in 2011. And in the United Kingdom, the proportion of public equity detained by individual investors fell from 54 per cent in the 1960s to only 11 per cent in the 2010s (Çelik and Isaksson, 2014). According to UNCTAD (2016), the predominant shareholders in over half of the top 100 multinational enterprises (MNEs) are financial institutions.

The decoupling of profits and investment has coincided with changes in corporate governance that tie managerial decision-making to shareholder interests at the expense of other stakeholders.

Corporate managers have relied on a range of practices to enhance financial returns to meet the expectations of asset managers and other shareholders. Among the most common practices has been the growing use of firms' earnings for dividend distribution and stock

buybacks.[7] The latter increases stock prices to the benefit of shareholders and top managers. Managers are often offered stock options, for example as part of compensation packages.[8] More aggressive mechanisms to increase returns have become quite common, such as mergers and acquisitions through leveraging, often followed by asset restructuring involving the sale or spin-off of non-core business activities within the corporate portfolio. Thus, strategic "refocusing" and the rise of shareholder power (including changing the way it is exerted) constitute a major shift in management policies from one of "retain and reinvest" to that of "downsize and distribute" (Lazonick, 2013).

Corporations in developed countries have been increasingly using profits to pay dividends and to repurchase shares.

Reflecting these changes in corporate governance, the Organisation for Economic Co-operation and Development (OECD) updated its well-known *Principles of Corporate Governance*, first published in 1999, with an emphasis on safeguarding shareholder interests. Subsequent revisions of the OECD Principles in 2004 and 2015 have become a core reference for sound corporate governance and have highlighted areas of major failure. These include criticism of executive remuneration schemes, seen as failing to protect companies from excessive risk-taking (particularly common in a number of financial services companies) and as hurting the longer term interests of stakeholders (Kirkpatrick, 2009). Similarly, the guidelines reflect widespread concerns over the short-termism of some types of hedge funds operating as institutional investors, due to their exceedingly short investment horizons and speculative investment strategies (Çelik and Isaksson, 2014).

The globalization of corporate activity, the refocusing of corporate strategies and greater shareholder power were widely welcomed on the grounds that these would enhance economic efficiency and increase production. It was argued that the fragmentation of the production process into separate activities in different locations would facilitate a stronger focus on comparative advantages and a more efficient division of labour than would have been possible prior to the ICT revolution. Moreover, it was believed that corporate refocusing would improve firms' results by helping reduce "excessive" diversification. Last but not least, as mentioned above, the growing role of institutional investors and professional asset managers in corporate decision-making was seen as promoting efficient corporate governance and solving "agency problems" arising from the separation of ownership from control.

A common belief among the supporters of such changes was that capital markets would intermediate efficiently between agents with funding needs and those with funding capacities (Friedman, 1970; Brav et al., 2008; Greenwood and Schor, 2009). Therefore, payouts by companies to their shareholders would not threaten the availability of resources for investment, since any project expected to be profitable would easily find interested investors in the global capital markets. It was argued that financial globalization would help organize the productive system around global value chains, with financial intermediaries ensuring the smooth reallocation of surpluses from different activities to their most efficient uses. Investment financing would not be compromised; on the contrary, it would be improved by a weakening of the profit-investment nexus at the company level, since external financing would allocate capital even more efficiently.

However, critics of this optimistic view highlight the potentially harmful effects of the financialization of corporate strategies, as it diverts resources away from real investment and innovation, and therefore also adversely affects employment generation. They argue that pressures to generate short-term financial gains in the stock markets and the threat of hostile takeovers when profitability declines, or threatens to decline, are likely to dissuade managers from taking on projects with a longer term profitability horizon. Empirical work establishing a link between the financialization of corporate strategies and adverse impacts on fixed capital formation has drawn both on macroeconomic data (Stockhammer, 2004; van Treeck, 2007) and firm-level data (Tori and Onaran, 2015).[9]

Others have pointed out that the rise of "shareholder primacy" and the concomitant focus on short-termism have been at the expense of investment in R&D (Lazonick and O'Sullivan, 2000), and have been instrumental in the deterioration of income

distribution in developed economies. Increased payout ratios for large corporations, through dividend increases and share buybacks, as well as fast-rising pay for top executives, including through financial performance schemes such as stock options and awards, have directly contributed to the redistribution of wealth to shareholders and corporate management. Perhaps more importantly, MNEs have been major drivers of a race to the bottom in labour market regulation and corporate taxation policies in developed economies over the past few decades. As Lazonick and O'Sullivan (2000) have argued, the maximization of shareholder value, which has become the dominant consideration in corporate governance and decision-making, has undermined labour and welfare rights, eroded employment opportunities and led to a rise in various forms of precarious employment. Moreover, while the growing use of tax havens and complex methods of tax avoidance were justified on the grounds of firms' fiduciary duty to maximize shareholder value (Milberg, 2008; Froud et al., 2002), it has reduced States' financial capacity to provide and maintain adequate infrastructure. From this perspective, shareholder primacy, rather than ensuring optimal resource allocation, has contributed to the emergence and persistence of growing macroeconomic imbalances, both nationally and globally.

Overall, it seems clear that these changes in corporate strategies are closely related to increases in corporate profitability, achieved through a growing focus on core business, the internationalization of corporate activities, and the growing market power of MNEs in particular. At the macroeconomic level, shareholder primacy, together with wider processes of financial globalization and integration, have likely contributed to worsening income distributions within countries, along with the erosion of tax bases and weakening aggregate demand. In addition, increasing uncertainty in developed economies has undermined their ability to provide a lead in bringing about the political and economic stabilization necessary to facilitate industrial and structural transformation in developing economies. At the same time, recent policy choices in the major developed economies in favour of fiscal austerity and a persistent decline in public investment have also deterred more vigorous corporate investment.

D. The corporate investment environment in developing countries

While there has been growing interest in trends relating to the profit-investment nexus in developed countries, little attention has been paid to those trends in developing countries.[10] To fulfil this gap, this section seeks to provide some idea of the nexus trends in developing countries by combining macroeconomic investment and profit data from national accounts with more detailed information from firms' financial statements.[11]

Investment trajectories have varied widely in different developing regions, whereas profit shares in national incomes have increased in nearly all regions since the early 1990s.

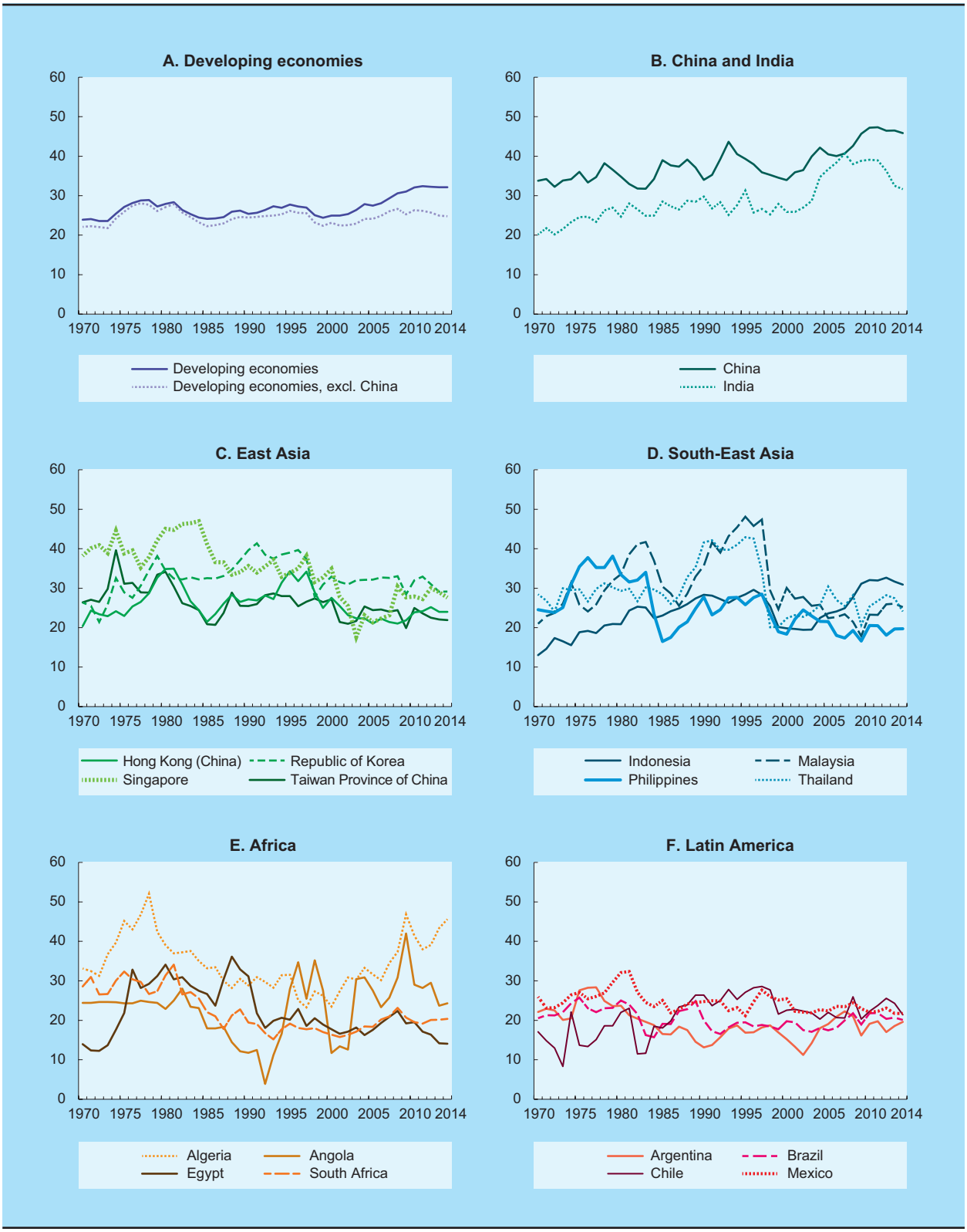
At the macroeconomic level, trends in investment shares for selected developing economies reveal diverse trajectories of capital accumulation since 1970 (chart 5.3). In line with rising incomes, the share of investment in GDP grew in China and India from the early 1970s, albeit much more rapidly in the former (5.3B). Whereas in China higher investment supported industrialization and urbanization, in India it was primarily concentrated in the services sector, covering communication services, trade, tourism and information technology for finance, and to some extent also resource extraction.

The East and South-East Asian economies saw a fall in investment shares from the very high levels of 35–40 per cent of GDP registered in the mid-1990s,

Chart 5.3

INVESTMENT IN SELECTED ECONOMIES AND COUNTRY GROUPS, 1970–2014

(Per cent of GDP)



Source: UNCTAD secretariat calculations, based on *UNCTADstat*.

just prior to the 1997 East Asian financial crisis (chart 5.3C and D). Those high investment shares reflected, at least in part, high-risk lending and overinvestment, largely in real estate. Following the crisis, investment gradually recovered in most of the countries in these two subregions, stabilizing at 25–30 per cent of GDP. This is above the level of 25 per cent that UNCTAD (*TDR 2003*) considers the minimum required for sustained growth, and it helps explain the solid GDP growth performance of these economies.

Investment shares in large African countries have been highly volatile over the past 40 years (chart 5.3E). In the larger economies of Latin America (chart 5.3F), with the exception of Chile, those shares have been falling moderately. In both regions, this has been mainly the result of an economic environment characterized by large financial and terms-of-trade shocks, frequent macroeconomic crises and policy shifts away from previous industrialization strategies guided by developmental States. In the 2000s, real investment increased in the context of a more favourable environment, although in most countries investment shares did not reach the peaks of the mid-1970s. This upward inflection in investment helped underpin economic growth in many developing countries. In Africa, Latin America and parts of Asia, the growth in real investment was driven by the commodity boom of the 2000s. In many commodity exporters, a positive impact on government revenues enabled expansionary policy stances, including increased public investment in social and physical infrastructure projects. In only a few countries, did this process stimulate private investment to support the expansion of capacities in natural-resource-based industries, as well as in processing and other industries.

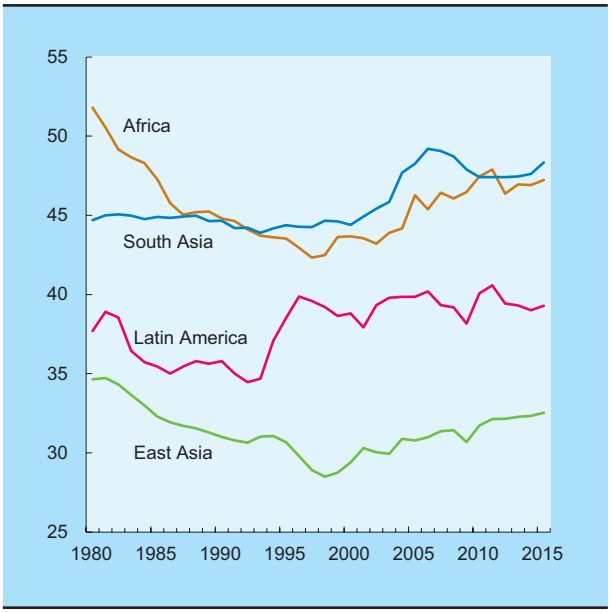
Meanwhile, the share of profits in national income increased in virtually all developing regions between 1990 and 2015 (chart 5.4). This overall trend was only partially reversed in the 2000s in Africa and, more strongly, in South America, as a result of improved labour market conditions and distributional policies that increased the wage share (*TDR*s *2012* and *2014*).

These varying investment trajectories, on the one hand, and a general trend of rising profit shares, on the other, would suggest that the relationship between profits and investment may be weakening in many developing countries. In addition, rising trends in debt financing at the corporate level since 2010 have failed to translate into investment in high productivity sectors, adding to macroeconomic vulnerabilities (see subsection D.3).

Chart 5.4

GROSS OPERATING SURPLUS, BY REGION/SUBREGION, 1980–2015

(Per cent of GDP)



Source: UNCTAD secretariat calculations, based on UNSD, *National Accounts*; ILO estimates from *Global Wage Reports*; OECD, *National Accounts*; European Commission, *AMECO* database; Economic Commission for Africa; and Economic Commission for Latin America and the Caribbean.

1. Challenging macroeconomic conditions for private investment

In almost all developing countries, including those that witnessed stagnating or declining investment rates, financial intermediation has gained prominence, particularly in the past 15 years or so. This can be evidenced by different financial market measures, such as domestic credit provided by the financial sector, the size of assets of insurance companies and mutual funds, and stock market capitalization (table 5.2). While some growth in the share of financial activities in GDP can be expected as an economy develops, this phenomenon has accelerated

Table 5.2

SIZE OF THE FINANCIAL SYSTEM, SELECTED INDICATORS AND ECONOMIES

(Per cent of GDP)

	Domestic credit by the financial sector		Stock market capitalization		Stocks traded – total value		Insurance companies' assets		Mutual funds' assets	
	(Average values)						(End of year)			
	1996–2000	2011–2014	1989–1992	2011–2014	1992–1995	2011–2014	2000	2013	2000	2013
Africa										
Angola	5.0	15.6	..	..	..	..	6.5	1.6	..	..
Egypt	82.7	79.7	5.0	21.7	..	6.6	4.1	2.8	1.1	4.6
Morocco	70.5	111.4	3.6	52.7	3.5	2.9	16.1	18.7	9.0	26.4
Nigeria	14.6	21.7	4.4	12.1	0.2	1.1	1.2	1.7	..	..
South Africa	140.8	180.0	108.4	235.5	7.8	66.8	38.5	62.1	12.7	40.7
Developing Asia										
China	108.6	155.0	2.4	47.2	10.6	86.3	7.4	12.2	12.4	5.1
Hong Kong, China	145.5	216.8	118.7	1 055.7	85.9	486.6	11.6	53.8	181.4	470.6
India	59.3	41.1	12.5	65.3	1.7	33.3	12.1	17.9	2.9	5.6
Indonesia	46.6	76.2	4.5	44.0	6.5	10.7	2.2	3.7	..	..
Malaysia	151.3	133.3	105.3	142.9	34.1	42.3	17.4	21.2	12.1	34.0
Philippines	65.4	52.6	20.4	84.3	16.4	14.4	5.6	7.8	0.1	1.7
Republic of Korea	60.5	156.8	34.4	90.0	45.4	120.8	30.2	58.2	19.7	21.9
Singapore	75.4	105.1	94.3	243.0	91.8	86.8	27.9	43.7	..	..
Thailand	156.6	158.1	31.5	90.3	55.4	69.5	8.4	20.2	1.2	3.7
Viet Nam	25.0	109.3	..	21.4	..	7.8	3.4	3.8	..	..
Latin America										
Argentina	32.2	30.6	5.4	8.3	21.0	0.4	2.6	3.1	2.6	2.3
Brazil	64.1	100.5	3.6	43.3	9.6	30.5	3.4	10.4	25.2	49.7
Chile	65.5	114.6	44.6	103.0	8.8	15.8	15.7	20.2	6.1	13.8
Colombia	38.8	68.9	5.3	55.8	2.0	6.6	2.6	6.0	0.2	0.1
Mexico	31.7	47.9	17.4	39.5	11.3	10.4	2.8	5.8	3.4	10.1
Peru	23.1	21.1	2.6	45.1	6.4	2.2	2.1	5.2	2.6	3.0
Venezuela, Bol. Rep. of	17.6	48.0	11.0	..	1.6	..	1.6	3.1	..	..
Other										
Russian Federation	32.1	45.9	..	35.0	..	10.0	2.7	1.7	0.1	0.2
Turkey	34.2	79.6	6.6	29.2	22.4	45.9	1.6	3.6	1.2	1.7
Developed countries										
France	98.4	146.4	27.4	69.3	12.0	40.3	70.1	105.3	54.4	56.0
Germany	133.7	149.2	18.2	42.5	23.9	33.9	50.5	62.7	40.7	52.8
Japan	293.0	356.6	103.1	75.6	20.0	114.5	42.7	87.8	9.1	15.8
United Kingdom	116.7	186.0	58.7	111.0	37.3	70.3	99.5	94.2	24.1	46.9
United States	186.5	238.6	83.5	127.7	51.5	211.0	38.8	43.6	61.3	91.1

Source: UNCTAD secretariat calculations, based on World Bank, *World Development Indicators* database.

with the increasing integration of countries into global financial markets. Such integration has led to greater complexity in financial transactions and instruments, and has enabled the participation of foreign players in different domestic markets, including stock exchanges and corporate bond markets (*TDR 2015*; Akyüz, 2015).

In many developing countries, declining and volatile investment rates have been associated with

an environment characterized by macroeconomic instability and uncertainty, reflected in growing financial and trade imbalances. For many years UNCTAD has emphasized that volatile international capital flows in the wake of external financial liberalization have been a major source of this instability. Previous *TDR*s have shown that financial flows can be quite large, and are often driven by policy decisions in developed source economies rather than by demand factors in recipient developing countries. These procyclical flows tend to generate financial asset bubbles and currency appreciations, mispricing investments and therefore sending the wrong signals for capital allocation. At the corporate level, their greater use makes companies more vulnerable to the vicissitudes of international finance. The often sudden reversal of such flows can cause massive exchange rate depreciations and inflationary pressures in the recipient countries, resulting in procyclical monetary and fiscal tightening (*TDR 2014*: 123–124). Consequent negative impacts on aggregate demand, coupled with growing uncertainty, further discourage domestic investment.

Procyclical capital flows are not reliable sources of long-term development financing.

A prime example of a surge in financial inflows driven by policymaking in developed economies is that associated with quantitative easing (QE) in recent years. Since late 2008, major central banks (the United States Federal Reserve, the Bank of England, the Bank of Japan and later the European Central Bank) embarked on unconventional monetary policy programmes to stimulate investment, mainly by encouraging banks and other financial institutions to increase their lending. Central banks not only targeted overnight interest rates to bring them to near-zero levels, but they also engaged in large-scale asset purchases to lower long-term yields and improve financial conditions for borrowers.

Several rounds of such asset purchase programmes over the past seven years increased central bank balance sheets to multiples of their original size and resulted in a flood of cheap credit inundating international financial markets.

A considerable proportion of these cheap funds ended up as liabilities on the balance sheets of corporations in emerging market economies, either as banking debt or as corporate bond debt (Lo Duca et al., 2014). McCauley et al. (2015) estimate that between 2009 and 2014 overseas credit provided through bank loans and bonds amounted to $9.8 trillion. Around $7 trillion are thought to have fuelled the expansion of dollar credits in emerging market economies (Wheatley and Kynge, 2015; Palma, 2015). QE cash reached corporate balance sheets in those economies through a number of channels. First, asset purchases by central banks, by driving down yields on financial assets in their countries, prompted asset managers and their clients to look for higher yield investment opportunities overseas, such as corporate bond offerings in the emerging market economies.

Second, central banks also bought government bonds and asset-backed securities from commercial banks, and the latter went on to lend to other financial institutions, including hedge funds with high-risk investment strategies aimed at leveraging the cash (borrowing additional funds on the basis of the cash obtained) to exploit interest rate differentials or arbitrage in the currency markets (so-called "carry trade"). This, in turn, increased pressures on nominal exchange rates in emerging economies and pushed their central banks to absorb the surge of financial inflows by accumulating foreign exchange reserves. As only part of the foreign exchange purchases could be "sterilized" at reasonable costs, interventions by the central banks could not entirely prevent liquidity from growing rapidly in domestic markets and from fueling domestic asset bubbles. Finally, QE cash also found its way to emerging economies through FDI of the less productive kind, in particular in the form of intra-company loans. These loans accounted for about 40 per cent of FDI in countries such as Brazil and China in 2014 (Chui et al., 2016; Wheatley and Kynge, 2015).

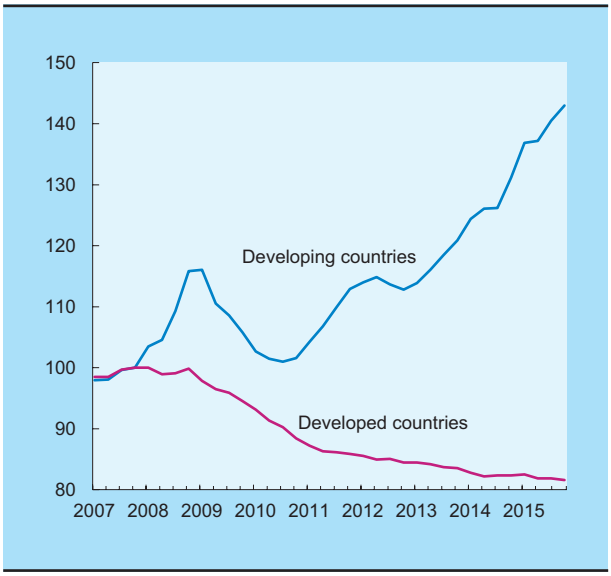
Weakened global demand as a result of low levels of corporate investment and worsening income distribution harm developing-country exports and prospects for investment.

It is difficult to gauge how much of the original and leveraged QE funds were used for productive as

Chart 5.5

DEBT SERVICE-TO-INCOME RATIO OF THE PRIVATE NON-FINANCIAL SECTOR OF DEVELOPING AND DEVELOPED COUNTRIES, 2007–2015

(Index numbers, 2007 Q4 = 100)



Source: UNCTAD secretariat calculations, based on Bank for International Settlements, Debt service ratio statistics.

Note: Chart shows average values for France, Germany, Japan, the United Kingdom and the United States (developed countries) and for Brazil, China, India, Indonesia, Mexico, Malaysia, the Russian Federation, South Africa, Thailand and Turkey (developing countries).

opposed to speculative purposes. Given the flood of cash and cheap credit from developed economies, emerging market corporations adopted a range of investment strategies. Some profited from speculative activities, such as carry trade (Caballero et al., 2015), while others invested in productive projects, and many hedged against growing risk by acquiring overseas subsidiaries and financial vehicles to access foreign currency and financial assets. However, once the Federal Reserve ended its asset purchase programmes in 2014, emerging market corporations ended up with substantial excess capacities and rising debt servicing costs (see chart 5.5 and subsection D.3 below).

Over and above wider macroeconomic instability and volatile capital flows, real capital accumulation in many developing economies may also be hampered by the financialization of corporate strategies in developed economies, essentially through three indirect routes. First, weakened global demand as a result of relatively low levels of corporate investment and worsening income distribution can harm developing-country exports and therefore the profitability of investments. Second, MNEs and their subsidiaries may not reinvest their profits, or at least a large proportion of those profits, in their host country, choosing instead to reward foreign shareholders in a third economy. While this may be justifiable from the point of view of profit and investment strategies at the corporate level, profit repatriation is likely to have a negative impact on national development strategies aimed at promoting the expansion and diversification of productive sectors in the host country as well as on that country's balance of payments (Akyüz, 2015).

Third, private investment may slow down if there are changes in domestic development strategies involving a withdrawal of proactive strategic guidance and a reduction in public investment. Private investment tends to benefit from sectoral policies that provide an indication of government priorities and facilitate the development of new activities. These include procurement policies that support and/or protect the creation of backward and forward linkages, and financial policies implemented through public and development banks or other sources of long-term finance (see chapter VI). Public investment is an important component of aggregate demand, and therefore directly affects the conditions under which the private sector operates and generates returns. It also tends to "crowd in" private investment, particularly when capital constraints prevail and existing resources are not fully utilized. Moreover, long-term public investment planning as part of a country's development strategy provides an indication of areas in which new investment opportunities for the private sector may arise in the future.

Data from the OECD *Sectoral Transactions and Balance Sheets* show that public investment as a share of GDP declined between 1980 and 2012 for developing countries as a whole, although a recovery can be observed in most developing regions and in the transition economies after 2005 (*TDR 2011*, chap. II). The overall decline, which was mostly due to growing fiscal constraints in these countries, discouraged private investment on both the demand and supply sides through the mechanisms described above. Confronted with competing claims on public resources, many governments faced strong obstacles to increasing revenues through tax reforms or other means. In Africa, Latin America and parts of Asia,

the debt crises that started in the early 1980s, and the fiscal adjustments that followed, reduced public revenues and investment. In particular, governments that were under pressure from international institutions to adopt fiscal austerity measures and from financial markets for debt repayments reacted by delaying, above all, public investment expenditures. These trends were partially reversed in the early 2000s when economic recovery, higher fiscal revenues and larger policy space enabled a significant recovery of public investment in many developing countries.

The accumulation of financial assets by large firms in developing countries suggests that investment is not necessarily constrained by a paucity of resources, but rather, by weak prospects for profitable real investment.

On the revenue side, there has been disappointing growth of tax revenues in many countries. Section E below suggests that tax erosion due to tax avoidance and evasion – both of which are a reflection of the financialization of corporate strategies – is one reason for such a poor performance.

2. *Microeconomic trends: Incipient corporate financialization in developing countries?*

Balance sheet data from non-financial firms listed on the stock exchanges of large developing economies show that the investment-profit ratio in such firms fell over the period 1995–2014 (table 5.3). There are some indications that the increasing financialization of corporate strategies in developing countries along with the growing role of financial intermediation in the productive process may have contributed to this decline.

The rise of corporate indebtedness in emerging market economies since the 2000s has been the result of large surges in liquidity in international markets rather than improved profitability.

First of all, the total amount of dividend distribution in the subgroup of firms that regularly distribute dividends (i.e. at least once every two years) has risen, although not in all the countries considered. Dividend payouts increased despite broad stability of profitability as measured by the return on equity. It should be emphasized that this subgroup is relatively small, covering only 23 per cent of the companies in the firm-level database. In developing countries, pressures to create shareholder value are probably still weak, as their ownership structure differs considerably from that of their counterparts in developed countries (such as the United Kingdom and the United States). In many developing countries, large private shareholders are often wealthy families, and ownership concentration is generally higher than in developed countries (Claessens and Yurtoglu, 2013). Moreover, listed companies are often part of larger business groups and conglomerates. In these ownership configurations, management practices are less likely to be dominated by the interests of institutional investors or by executives guided by compensation schemes linked to the share value of the firm.

Second, balance sheet data show that firms are accumulating financial assets, in some cases even faster than corporate debt (table 5.3). This indicates that investment by large companies is not necesarily constrained by the availability of resources, but arguably by a lack of aggregate demand and appropriate incentives to engage in long-term (risky) projects in the real sectors. One relevant aspect is that corporations with access to international markets have greater portfolio investment choices. With liberalization, firms can seek financial returns by exploiting interest rate differentials of foreign and domestic markets. The result is that in times when ample liquidity is available, firms often borrow abroad, not necessarily to invest in real assets but sometimes to engage in financial speculation.[12] This is observed in a recent study by Caballero et al. (2015), who found that non-financial firms in 18 emerging market economies were largely involved in carry trade activities over the period 2000–2014.[13] Bruno and Shin (2015) also found evidence of carry trade activities being undertaken by non-financial firms in 47 emerging market economies over a similar period. Companies conduct carry trades on the premise that

Table 5.3

NON-FINANCIAL CORPORATIONS: INVESTMENT AND SELECTED FINANCIAL INDICATORS, 1995–2014

(Average value for the period, per cent)

	Investment-to-profits *(Aggregate ratios)*			***Investment-to-capital stock*** *(Median values)*		
	1995–2002	*2003–2008*	*2009–2014*	*1995–2002*	*2003–2008*	*2009–2014*
Argentina	121.2	91.9	104.9	11.9	9.2	17.5
Brazil	178.2	104.3	79.8	14.1	19.1	18.0
Chile	107.2	109.5	92.7	11.3	9.6	9.1
China	131.1	164.9	105.7	14.2	16.3	16.4
India	122.0	127.5	114.3	20.7	25.7	19.4
Indonesia	109.8	89.4	81.0	16.2	10.7	15.6
Malaysia	88.8	72.3	55.3	11.2	7.8	8.2
Mexico	98.2	92.4	89.2	10.3	10.5	11.4
Republic of Korea	287.8	103.6	106.8	14.3	11.2	10.6
Russian Federation	217.7	134.0	83.2	26.8	10.4	10.6
South Africa	83.3	73.4	65.8	23.5	29.9	19.6
Thailand	84.6	71.5	58.9	10.5	13.0	13.3
Turkey	138.9	73.1	69.1	54.1	13.3	14.0
	Dividends-to-profits *(Median values)*[a]			***Return on equity*** *(Median values)*		
	1995–2002	*2003–2008*	*2009–2014*	*1995–2002*	*2003–2008*	*2009–2014*
Argentina	40.1	19.1	45.8	4.6	6.8	10.1
Brazil	49.2	48.7	45.8	4.6	11.9	9.6
Chile	52.8	59.2	51.4	8.8	8.5	8.3
China	32.4	33.3	40.1	6.5	6.8	8.2
India	28.9	28.7	24.3	14.7	18.5	11.0
Indonesia	25.9	31.4	33.0	6.1	6.7	10.4
Malaysia	23.8	23.8	19.7	7.1	6.6	6.8
Mexico	28.6	36.8	35.4	10.4	10.9	9.1
Republic of Korea	22.2	28.2	26.8	4.3	7.1	5.9
Russian Federation	9.0	26.9	94.0	6.9	5.8	6.8
South Africa	33.8	41.4	44.2	14.2	20.2	11.9
Thailand	38.7	53.6	54.5	4.8	11.6	10.8
Turkey	45.9	36.0	54.7	20.1	7.8	6.0
	Financial assets-to-total assets *(Aggregate ratios)*			***Financial assets-to-debt*** *(Aggregate ratios)*		
	1995–2002	*2003–2008*	*2009–2014*	*1995–2002*	*2003–2008*	*2009–2014*
Argentina	3.9	7.1	8.6	11.7	26.2	37.9
Brazil	7.1	11.1	11.4	27.9	37.6	35.8
Chile	4.0	5.9	6.5	12.0	19.0	22.7
China	12.9	11.6	12.2	41.9	41.8	38.9
India	4.6	8.7	10.5	13.5	31.0	30.1
Indonesia	10.7	11.1	12.3	21.1	29.1	38.9
Malaysia	6.9	10.9	11.2	15.3	36.6	37.7
Mexico	10.9	13.0	15.0	32.4	42.6	51.6
Republic of Korea	7.9	9.4	10.3	29.6	34.0	33.2
Russian Federation	9.5	12.6	21.0	26.8	45.6	116.0
South Africa	10.4	10.0	9.5	65.3	47.6	42.2
Thailand	7.0	9.0	9.7	13.1	24.6	29.3
Turkey	18.6	13.3	14.6	73.5	53.2	46.5

Source: UNCTAD secretariat calculations, based on Thomson Reuters, *Worldscope* database.

Note: Capital stock = property, plant and equipment; investment = capital expenditures (additions to fixed assets); profits = net income before extraordinary items/preferred dividends.

a Refers only to the subgroup of firms that distributed annual dividends at least 10 times between 1995 and 2014.

Table 5.4

NON-FINANCIAL CORPORATIONS: DEBT INDICATORS AND LEVERAGE RATIOS, 1995–2014

(Aggregate ratio, average value for the period, per cent)

	Debt-to-total sales				Debt-to-fixed assets			
	1995–2002	2003–2009	2010–2014	2014	1995–2002	2003–2009	2010–2014	2014
Argentina	71.8	46.2	27.7	28.8	48.5	43.8	41.5	41.0
Brazil	53.5	47.4	59.1	66.8	45.3	67.0	76.5	82.5
Chile	95.0	54.2	57.4	61.4	52.1	53.6	71.8	73.5
China	64.6	37.2	39.8	44.6	59.0	53.7	75.4	81.1
India	46.4	34.9	48.6	51.3	71.4	67.0	87.2	94.5
Indonesia	111.2	50.5	40.8	44.8	105.6	76.7	73.7	78.6
Malaysia	81.6	59.2	54.8	60.5	77.3	69.2	69.5	71.9
Mexico	47.0	39.9	46.5	55.7	45.8	56.9	78.4	86.5
Republic of Korea	50.5	30.8	30.8	32.1	104.2	71.5	78.3	76.8
Russian Federation	111.0	77.7	58.6	53.6	4.0	30.0	17.2	12.4
South Africa	14.8	20.7	25.4	29.3	42.0	46.0	48.1	52.9
Thailand	103.9	38.2	32.5	35.3	119.1	75.5	78.1	83.9
Turkey	22.9	27.7	36.6	33.1	80.9	83.4	106.6	86.9
	Debt-to-equity				**Interest expenses-to-total sales**			
	1995–2002	2003–2009	2010–2014	2014	1995–2002	2003–2009	2010–2014	2014
Argentina	66.1	54.0	57.5	64.6	7.8	4.2	3.3	4.7
Brazil	57.5	74.6	75.5	96.9	9.3	5.8	4.2	4.5
Chile	96.7	75.9	87.2	86.6	7.2	3.9	3.1	4.1
China	66.2	66.9	92.9	98.5	4.3	1.7	1.8	2.5
India	83.6	72.5	97.9	109.9	4.6	2.4	3.1	3.5
Indonesia	235.5	107.9	75.4	81.1	11.8	3.3	2.9	3.1
Malaysia	89.3	71.6	62.0	63.2	5.1	3.2	2.6	2.6
Mexico	56.5	68.3	80.7	97.7	6.5	3.5	3.1	3.3
Republic of Korea	219.8	92.7	76.7	71.9	4.7	1.5	1.3	1.2
Russian Federation	150.6	95.4	53.5	44.9	5.1	2.8	2.0	1.8
South Africa	35.1	45.0	47.1	49.8	1.8	2.1	2.1	2.3
Thailand	222.5	85.4	75.8	76.0	8.2	1.9	1.4	1.5
Turkey	72.4	64.1	79.8	68.2	6.0	2.1	1.8	2.0

Source: UNCTAD secretariat calculations, based on Thomson Reuters, *Worldscope* database.

changes in the financial environment will occur gradually, and that the exchange rate will be more stable than interest rate differentials. However, this strategy can become a significant source of risk for such companies if there are abrupt changes in the exchange rate.

Third, a major feature of the changing corporate environment in developing countries is the notable increase in non-financial corporate debt since 2010, both in absolute terms and as measured by the ratio of debt to sales and to operating income (table 5.4). According to IMF estimates, the corporate debt of non-financial corporations in major emerging economies increased from about $4 trillion in 2004 to $11 trillion in 2010, and to well over $18 trillion in 2014 (IMF, 2015). For non-financial corporations in the 13 developing countries analysed in this chapter, the total increase in the dollar value of their debt amounted to over 40 per cent between 2010 and 2014.

Box 5.1

CHINESE NON-FINANCIAL CORPORATE DEBT ON THE RISE

In response to the 2008–2009 financial crisis, China launched a stimulus programme that involved a huge increase in debt-fuelled investment to offset the weakening of external demand. Chinese firms as well as local government entities borrowed from both banks and non-bank institutions, including the shadow banking system (see *TDR 2015*). Some larger firms also tapped external sources – often via subsidiaries in offshore financial centres – taking advantage of low global interest rates (Avdjiev et al., 2014). Despite the rise in that source of funding, China's external debt remains very small (about 10 per cent of GDP).

The increase in China's corporate debt has attracted much attention. That debt increased by over 30 percentage points since 2009 to reach about 170 per cent of GDP in 2015. China's total debt, including government and household debt, was about 250 per cent of GDP in 2015 (Yao et al., 2016).[a] At around $17 trillion, China's total non-financial corporate debt as a percentage of GDP is currently one of the highest in the world. State-owned enterprises (SOEs) are the biggest borrowers, with claims amounting to 99 per cent of GDP. The real estate and construction sector, and to a lesser extent the mining and utilities sectors, account for most of the increase in the debt (IMF, 2015).

Such an upsurge in borrowing following the global financial crisis allowed Chinese companies to maintain their investments, despite the fall in corporate profits and the consequent fewer internal resources for finance. As a result, the corporate sector as a whole has become more leveraged. Chinese firms' leverage – measured by the ratio of total liabilities to total equity – is not the highest, on average, when compared with that of firms in other developing countries (table 5.4); indeed, the median leverage ratio has even been decreasing. However, leverage has significantly increased at the tail end of the distribution of firms: the median value of the debt-to-equity ratio for the top 20 firms (as measured by market capitalization) grew by 15 percentage points, to 52 per cent between 2007 and 2014, whereas for all firms the median ratio fell below 40 per cent. Among firms, the increase in corporate leverage is largely concentrated in SOEs, and in the real estate sector more broadly (Chivakul and Lam, 2015).

Rising debt and leverage could pose risks to China's rapid economic growth and financial stability. There is a general decline of profitability, as shown, among other indicators, by the increase in the ratio of interest expenses to total sales (table 5.3). SOEs' aggregate profits as a percentage of GDP fell from 6.5 per cent in 2007 to 3.4 per cent in 2015 (Yao et al., 2016).

Firms' non-performing debt has been rising recently, and many payment incidents involving SOEs' bonds were reported in the first semester of 2016. While corporate bond yields in China are still well below historical averages, spreads widened in the first half of 2016. Among lenders, the most heavily exposed to

The ratio of corporate debt to GDP also increased in many developing and emerging economies, in particular after the global financial crisis. In Brazil, India and Mexico, this ratio has been growing steadily over the past 20 years, whereas in the other major developing economies (e.g. Indonesia, Republic of Korea, and Thailand) the recent increase in their debt burden followed a period of decline. The debt dynamics of Chinese corporations, particularly the State-owned enterprises, have recently become a source of concern (box 5.1). Companies in many of these countries have been relying more on debt than on equity as a funding source (table 5.4).

Non-financial corporations in most of these economies have also increasingly relied on bond financing in international financial markets, and on cross-border bank lending. This shift has taken place under highly favourable financing conditions, including the fast expansion of liquidity driven by the QE programmes discussed in subsection D.1. A growing concern is that the rise of corporate indebtedness,

Box 5.1 (concluded)

corporate debt stress are the domestic banks (which hold 55 per cent of total non-financial debt), followed by creditors through shadow banking channels (23 per cent) and corporate bondholders (8 per cent).

Since most of Chinese debt is internal, it is unlikely that debt stress in China would directly impact international markets. Moreover, even though China's trade surplus has been shrinking, it still has a large current account surplus, making it a net creditor to the rest of the world. Therefore, the probability of a fully-fledged external crisis, including a currency crisis, is very low. However, a debt crisis could have adverse effects on China's income growth, and, given the size of the Chinese economy, on the global economy. Should corporate debt and local government debt turn into significant amounts of non-performing loans, the situation could have serious repercussions on international financial markets. At the domestic level, debt payment incidents will eventually have an adverse impact on banks' balance sheets and place some financial institutions in precarious positions. Even if the authorities were to rescue banks in difficulty and prevent a financial crash, debt restructuring and asset write-offs would jeopardize the country's economic growth.

Chinese officials have expressed concern that such excessive borrowing could threaten the stability of China's financial system. The authorities are encouraging bond-to-equity swaps, whereby banks would write off struggling companies' debts in return for taking equity stakes in them, and more generally they are trying to achieve crisis-free debt restructuring through a gradual approach. They seem willing not only to shut down companies in industries struggling with overcapacity, but also to provide support to some SOEs through capital injections.

The current fragilities call for a cautious approach when undertaking financial deregulation policies. The financial sector in China remains a relatively closed system and is supported by captive savings from the private sector, in which government-influenced financial institutions lend to government-backed firms. There is a risk that further opening up of the capital account would give Chinese savers more channels to diversify their portfolios by investing overseas. Another risk is that domestic capital markets and corporate liberalization would scale back the implicit State guarantees that provide backing for financial institutions and firms (Yao et al., 2016). It seems that the Chinese authorities are undertaking a careful sequencing, giving priority to defusing the risk of a debt crisis before introducing further financial deregulation. Indeed, deregulation could be destabilizing in the near term making a potential restructuring of part of the corporate debt more difficult to manage.

[a] In a speech in June 2016, a top official from the IMF cited IMF estimates that suggested China's total debt was lower, at around 225 per cent of GDP (see: https://www.imf.org/external/np/speeches/2016/061016.htm).

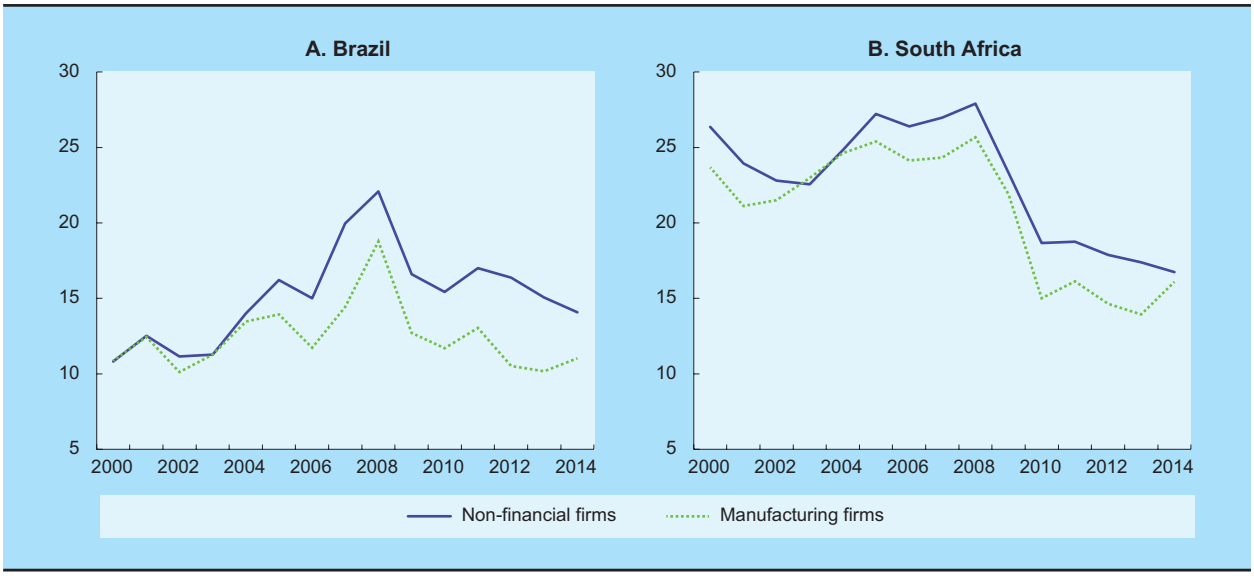
driven primarily by the greater availability of liquidity in international markets rather than by firms' own profitability, has been reflected in the recent rise in the ratio of interest expenditures to total sales of firms (though the Republic of Korea and Malaysia are exceptions, as shown in table 5.4). This poses significant potential risks to these firms, as it has made them more vulnerable to interest rate changes and external shocks. In addition, greater borrowing in foreign currency is also creating currency mismatches for firms engaged in non-tradable activities, thus threatening economic stability (Chui et al., 2016). Exposure to exchange rate risk is particularly high for companies in the non-tradable sector, as their revenues, which are in local currencies, do not provide natural hedges against such risks (IMF, 2015).

Chart 5.5 above presents the debt servicing ratios (DSR) of non-financial corporations in large developing and emerging economies between end 2007 and end 2015. DSRs reflect the share of (sectoral) income used to service debt, and are

Chart 5.6

INVESTMENT AS A PROPORTION OF TOTAL CAPITAL STOCK OF NON-FINANCIAL AND MANUFACTURING FIRMS IN BRAZIL AND SOUTH AFRICA, 2000–2014

(Per cent)



Source: UNCTAD secretariat calculations, based on Thomson Reuters *Worldscope* database.

generally considered to be a reliable warning indicator of impending financial crises.

3. *Structural transformation and finance for investment: Sectoral patterns of (financialized) investment*

From the point of view of structural transformation and catch-up industrialization in developing economies, a core issue concerns the use of available finance, whether internally or externally sourced.

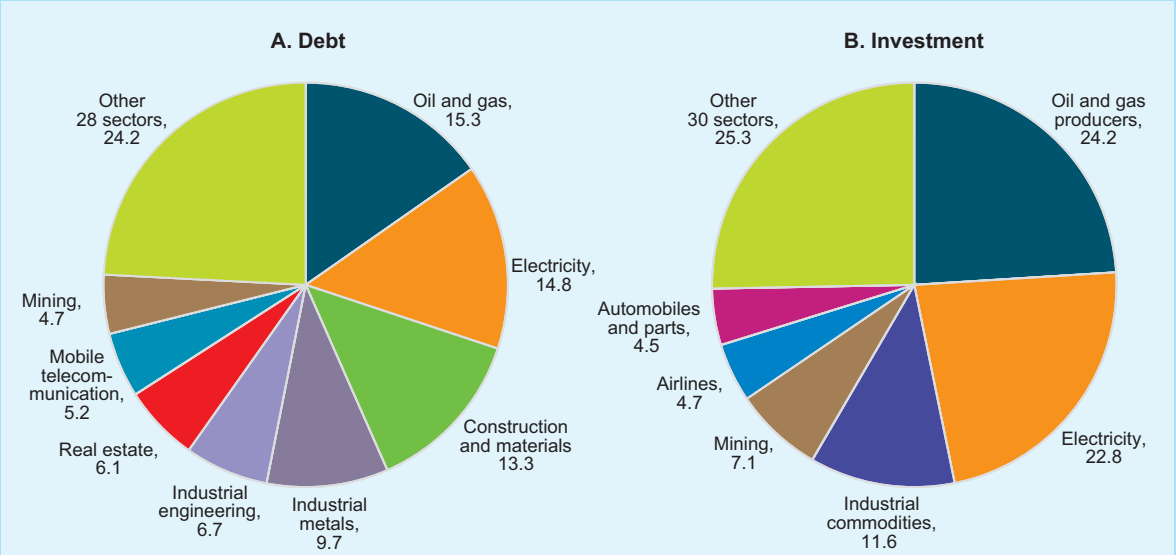
As mentioned in subsection D.1 of this chapter, despite an overall weakening of the profit-investment ratio in recent years, the 2000s were initially marked by an increase in investment rates in many developing economies. The commodity boom, which helped boost public investment programmes, played out differently in the various countries (see also chapter III, section E), as did the dynamics of their structural transformation processes. In China and the Republic of Korea, the manufacturing sector grew robustly in the 2000s, against a backdrop of technological upgrading and productivity gains. Manufacturing also rose significantly (above 4 per cent per year) in Argentina, India, Indonesia, Thailand and Turkey between 2003 and 2011, in some cases recovering from steep contractions prior to that period. In contrast, the share of manufacturing declined in Brazil, Chile, Mexico, the Russian Federation and South Africa, with manufacturing value added growing at rather slow rates in real terms.

For Brazil, firm-level data show that, although overall investment rates picked up in the 2000s, manufacturing firms recorded a much more modest increase in investment. While the rate of capital accumulation in manufacturing firms was similar to that of other non-financial firms until 2003, this begun to change from 2004 onwards, with investment in manufacturing firms falling behind by 5.5 percentage points in 2007 and by 3.3 percentage points in 2008. From 2009, both types of firms showed declining rates, while maintaining a gap of 4 percentage points, on average, until 2014 (chart 5.6). Slower investment

Chart 5.7

SECTORAL CONTRIBUTION TO THE INCREASE IN THE NOMINAL VALUE OF TOTAL DEBT AND CAPITAL STOCK BETWEEN 2010 AND 2014

(Per cent)



Source: UNCTAD secretariat calculations, based on Thomson Reuters *Worldscope* database.
Note: Chart shows aggregate data for the following countries: Argentina, Brazil, China, Chile, India, Indonesia, Malaysia, Mexico, the Republic of Korea, the Russian Federation, South Africa, Thailand and Turkey. The nominal value is in dollars.

growth in Brazilian manufacturing firms may be due to a sharp decline in the ratio of profit to fixed capital, from 26 per cent in 2004 to 14 per cent in 2008, a steeper decline compared with that of the larger universe of non-financial firms over the same period (from 24 per cent to 20 per cent). This slump in profitability was possible linked to a sharp nominal appreciation of the exchange rate during this period,[14] which eroded international competitiveness. Consequently, the worst affected were manufacturing industries that had a high exposure to international competition.

In South Africa, a divergence of investment rates between manufacturing and other non-financial firms also emerged from 2004 onwards, albeit to a lesser extent than in Brazil. The gap remained in the range of 2–2.5 percentage points until 2009, when both rates collapsed in the wake of the global financial crisis (chart 5.6). Unlike the profit rates of firms in Brazil, those of South African firms, especially manufacturing firms, increased between 2004 and 2008.

Another question concerns the extent to which large international capital inflows and the concomitant rise in corporate indebtedness across major developing and emerging economies, discussed in the preceding section, has helped or hindered the financing of productive investment activities since 2010. Palma (2015), for example, argues that the surge of cheap finance in the wake of QE programmes ended up financing primarily economic activities that do not enhance productive capacities (such as residential construction), as well as budget deficits and capital flight.

From a sectoral perspective, most of the increase in developing countries' corporate debt – 75 per cent – is attributable to companies in very few sectors: oil and gas, electricity, construction, industrial metals, automobiles (including trucks), real estate, mobile telecommunications and mining. Data show that these are also the sectors with the highest growth rates of investment (chart 5.7).

However, the patterns differ among countries. For example, in the Russian Federation, and to a lesser extent in Brazil, increases in both corporate debt and investment are highest in the oil and gas sector. Indeed, that sector accounts for most of the increase in the Russian Federation. In China, corporate debt rose fastest in construction, electricity, oil and gas, and real estate, whereas investment increased primarily in oil and gas, electricity and mining, but also in services. In other developing economies leveraged investment was more diversified, as it also targeted industrial goods (automobiles, consumer electronics and chemicals) in the Republic of Korea and the services sector (mobile telecommunications, media and retail) in Mexico, for example.

Cheap finance in the wake of quantitative easing programmes ended up financing activities that do not enhance productive capacities.

Despite some heterogeneity in sectoral patterns and range, it is clear that easy access to cheap finance and debt-financing did not favour sectors situated close to the technological frontier and that had the greatest potential to contribute to overall productivity growth. Instead, leveraging and investment remained overwhelmingly concentrated in cyclical and natural-resource sectors. These sectors are particularly sensitive to changes in global growth and commodity price fluctuations, and are more prone to adding to macroeconomic and financial risks than to supporting structural transformation.

E. Reinvigorating investment in developing countries

Economic growth and development are generally accompanied by the expansion of domestic financial systems and the diversification of sources of financing for investment. Despite this, internal finance, based mainly on retained profits, remains the main source of investment finance for companies in developed and developing countries alike (as shown in table 5.1 above). The weakening of the profit-investment nexus is therefore a reason for concern in countries at all levels of development, but in particular for countries that are aiming at accelerating a sustained process of structural transformation. Addressing this problem requires action on multiple fronts.

1. *Tackling global financial instability and corporate financialization*

Reinforcing the profit-investment nexus requires first of all, a decided and coordinated effort by policymakers in developed economies to stabilize global financial markets and stimulate aggregate demand so as to create more favourable macroeconomic conditions for investment and growth, especially in developing countries. So far, post-crisis policy responses in the source (developed) countries have focused far too much on extensive monetary accommodation, in particular through QE programmes.

It is by now clear that this overreliance on monetary policy in most European economies, combined with fiscal austerity, has not only failed to boost aggregate demand and output, but has also contributed to growing instabilities in the international financial markets and the renewed build-up of financial imbalances in many developing and emerging economies. Abundant cheap credit suddenly flooding these economies has supported asset price increases and increased exchange rate volatility, fuelling financial booms and busts, rather than facilitating sustained and productive capital accumulation.

The international policy coordination necessary to put in place global macroeconomic conditions

conducive to a sustained global recovery (discussed in chapter I) and to productive and long-term investment in developing economies has been lacking so far. However, increasing pressures from recently fast-growing financial imbalances across a wide range of economies may prompt a reassessment of the current policy approach.

Meanwhile, in the absence of international policy coordination to deliver public goods such as global financial stability, developing-country policymakers should adopt national and regional policy measures aimed at reducing the effects of global instability on their economies. A measure long advocated by previous *TDR*s has been capital account management to reduce speculative capital inflows and protect markets from excessive volatility, so as to create a macroeconomic environment that is supportive of productive investment and sustained productivity growth.

Moreover, national governments can influence the behaviour of non-financial corporations by providing them with incentives to invest, while discouraging the kind of financialization practices that hamper productive investment. Pro-investment incentives, such as preferential tax treatment for retained profits and special depreciation allowances, might encourage corporations to reinvest their profits rather than distribute them (*TDR 2008*: 124).

Current policy approaches to promote private investment are not generally geared towards establishing strong direct links between tax benefits for corporate profits and the use of those profits for reinvestment. An example is the widespread use of often substantial tax exemptions on profits for firms engaged in export-oriented activities without imposing any conditionality on the future use of those profits. It may be worth considering offering such tax benefits only for the reinvested share of profits, rather than exempting all profits derived from export-oriented activities.

Pro-investment incentives, such as preferential tax treatment for retained profits, might encourage corporations to reinvest their profits rather than distribute them.

In addition, governments could use fiscal policy instruments to discourage financialization, such as reducing tax incentives for debt financing to encourage companies to give priority to equity finance instead (Aglietta and Brand, 2015).

Measures should also target banks and other financial institutions. The new liquidity requirements adopted under Basel III, including by many emerging economies, require banks to increase the amounts of highly liquid assets they hold in order to withstand short-term outflows. Although this regulation addresses a major shortcoming of internationally active banks in that they rely too much on short-term wholesale funding, in simpler banking systems based on deposit funding, it may result in an excessive reduction of maturity transformation and of available long-term finance (see *TDR 2015*, chap. IV).

Developing-country governments may therefore be advised to give priority to implementing prudential regulations and credit policies that promote the long-term financing of targeted productive activities (*TDR 2015*). Currently, many countries count on major institutional investors, such as insurance companies, pension funds, mutual funds and sovereign wealth funds (SWFs), for long-term financing. This is, however, fraught with difficulties since there is no guarantee that savings deposited with institutional investors of this type will not also be drawn into "managing money" for short-term gains, in particular in the context of fierce competition with hedge funds and other speculative funds (*TDR 2015*, chap. VI). To counter this tendency, new capital market regulations could be designed to change the incentive structure for major institutional investors and asset managers. For example, regulators could require such investors to acquire a given proportion of their shares in primary markets (i.e. to acquire newly issued bonds and stocks that increase firms' equity). In addition, they could require asset managers with long-term

Governments should consider prudential regulation and credit policies for long-term financing of priority productive activities.

liabilities to hold a proportion of their total assets for a prescribed minimum period (Favereau, 2009).

Such measures would induce the adoption of a longer term horizon, thereby helping to reinvigorate the financing of investments at the macroeconomic level and promote a profit-investment nexus at the firm level. They could also help reverse the financialization trends in corporate strategies that have been observed over the past two decades.

2. Establishing a functioning profit-investment nexus in the context of catch-up development

Much as developing-country corporate investment strategies matter to these countries' longer-term prospects for structural transformation, and are directly subject to the vagaries of capital flows and exchange rate pressures emanating from policy-making in developed economies (see box 5.2), the vast majority of small and medium-sized firms in developing countries operate domestically with little, if any, access to international financial markets. As table 5.1 shows, access to bank loans, let alone capital market financing, remains a major barrier to productive investment in poorer economies.

Strengthening the profit-investment nexus for such firms is all the more important. The experience of the Republic of Korea in this regard provides a valuable lesson, even though its success has been contingent on specific historical and global economic factors that cannot be replicated. The country adopted a two-pronged strategy to promote a functioning profit-investment nexus for its local firms. First, successive governments targeted both the demand and supply sides of firms. On the demand side, the strategy aimed at securing international markets for its goods through competitive pricing via centralized management of low real interest and exchange rates. On the supply side, the State safeguarded adequate levels of profitability in potentially competitive economic activities at the international level by closely monitoring domestic competition to avoid destructive impacts and by providing support for technological upgrading and innovation. Second, the State also supported the profit-investment nexus indirectly through financial repression (i.e. the targeted allocation of monetary resources to priority sectors), while also aligning credit and liquidity provision closely with the changing external investment environment.

Today's developing countries face a more uphill task in this regard: the integration of economies as well as firms into global financial markets through capital account liberalization and the proliferation of international production chains are considerably more advanced than was the case when the Republic of Korea embarked on its catch-up industrialization.

An important corollary is that the financing needs of developing-country firms have become significantly affected by more complex organizational and production requirements, reflecting their exposure to highly internationalized production processes. This requires them to continuously improve quality and ensure price-competitiveness to secure and maintain their position in global value chains. While appropriate credit creation and liquidity provision by central banks remains essential for establishing a functioning profit-investment nexus, as does the channelling of finance to priority sectors via development banking, fine-tuned financing tools to encourage skills development should play an important role as well.

External financing and support by the State for entrepreneurs through long learning and gestation periods can take many forms, including facilitating access to inputs, and providing support to firms in sectors with the greatest potential to contribute to economy-wide productivity growth, including through preferential credit allocation, tariff policies, subsidies and tax reductions. It also includes financing collaborative technology learning centres to increase learning-by-doing skills. Successful experiences suggest that the main policy objective of any combination of such financing instruments ought to be rapid productivity growth. Which specific policy package may achieve this largely depends on the local, regional and national characteristics of firm, sectoral and market structures, prevailing State-business relationships and wider macroeconomic factors, such as stabilizing the exchange rate at a competitive level. The design of financing policies for industrial development therefore needs to be coordinated with wider industrial policy schemes that focus mainly on inducing entrepreneurs to increase productivity through learning-by-doing (Khan, 2009 and 2013).

Box 5.2

CREATING A DEVELOPMENT-ORIENTED FINANCIAL SYSTEM: THE ROLE OF THE CENTRAL BANK OF THE REPUBLIC OF KOREA

The key role played by the central bank of the Republic of Korea, the Bank of Korea, in the country's rapid growth and economic transformation provides an interesting lesson. The financial system instituted by the Government was designed to provide financial resources for rapid economic development. This system included not only development banks and specialized banks, but also commercial banks, which were nationalized in the early 1960s. All these institutions contributed to development both directly, by providing policy loans, and indirectly by providing resources for development. Specialized banks undertook on-lending operations. The mainstay of this system was the country's central bank, which played the critical role of provider of liquidity and guarantees.

A key feature of the Republic of Korea's financial system was the guarantee scheme, created in the 1960s to facilitate borrowing abroad to support indigenous technology and industrial development as opposed to relying on foreign technology and firms (Vittas and Cho, 1996; Cho and Kim, 1995). The Korea Development Bank (KDB) could borrow overseas and provide guarantees for foreign borrowing by the country's firms. Specifically, firms wishing to borrow abroad obtained approval from the Economic Planning Board, which was ratified by the National Assembly. Thereafter, the Bank of Korea issued a guarantee to the foreign lender and the KDB issued a guarantee to the central bank. Thus, while the borrower was committed to repaying the loan and carrying the exchange risk, the cost of the external loan was reduced due to the KDB, and especially the Bank of Korea, warranting the operations (Cole and Park, 1983).

The Republic of Korea's development finance system was therefore well coordinated, with the Bank of Korea working closely with commercial banks, development banks and specialized financial institutions to support an agreed development strategy. Policy-based loans accounted for about 50 per cent of the total credit available in the economy during the 1970s, and 30 per cent in the 1980s (Cho and Kim, 1995).

Clearly, today's candidates for catch-up industrial development are more constrained by international regulations to which they have signed up, which render similar subsidy schemes illegal under WTO and OECD rules. Nevertheless, within the policy space still available to them, their central banks can play an important role in supporting structural transformation (*TDR 2013*).

A central message for policymakers is therefore that there is no single optimal financial policy package for the promotion of structural change and industrialization that can be easily emulated. Rather, developing countries need to use their policy space to develop their own national and local sets of financing instruments and channels to support structural transformation. Although internal finance from retained profits still accounts for a large share of total investment finance, particularly in developing economies, rapid productivity growth can be sustained only if increased access to external sources of finance is available. By definition, innovative firms and startups cannot generally rely on past profits, and previous development experiences show that the share of internal finance decreases for fast-growing firms, as they require increasing amounts of finance to sustain rapid capital accumulation. Moreover, expansion strategies based on enhancing market shares tend to erode profit margins (Singh, 1997).

In principle, such external funding can come from both capital markets and the banking system, but as pointed out above, despite accelerated integration into global financial markets, capital markets still only account for a small share in the total financing of developing-country firms, albeit with variations across developing regions. Capital markets play a greater role in firms financing strategies in East Asia (table 5.2), whereas bank-based finance remains the

main source of external financing for developing-country firms across all other regions. Nonetheless, deposit-taking banks, which dominate banking systems in developing countries, typically provide mainly short-term loans to finance firms' working capital and other short-term operations, in addition to trade finance. Countries aiming to accelerate growth and structural transformation will therefore need to find ways to support the development of a banking system capable of delivering long-term finance for development.

Central banks should play a crucial role in this respect (*TDR*s *2008, 2013*). They can act as providers of liquidity, guarantees and other instruments to induce commercial banks to increase credit, including for productive investment projects (as the central bank of the Republic of Korea, see box 5.2). The provision of public guarantees can help commercial banks overcome lending barriers arising from uncertainties about expected returns and informational asymmetries. Such public guarantees will, however, need to be extended with caution to avoid a build-up of contingent liabilities on public balance sheets that can be costly in the event of a wide financial meltdown. Liquidity provision is also vital to help commercial banks cope with loan requests in times of short-term financial distress. More generally, through their financial policies, central banks can influence the direction of credit to firms undertaking productive investments for activities that are considered strategically important to the process of structural change overall, or to firms and sectors facing specific financing constraints, such as small and medium-sized enterprises and startups.

Thus, the process of structural transformation can greatly benefit from a diversified financial system that includes development banks. The latter differ from deposit-taking institutions in that they have a different liability structure based on more diversified funding and less short-term lending; and, critically, they have a specific mandate to support development-oriented projects.

A standard argument as to why development banks should be promoted is that such banks can compensate for the drawbacks of deposit-based financial institutions that are often geared towards short-term lending. A major drawback is that these institutions usually lack sufficient funding for economic transformation, which a central bank can help reduce, albeit only partially, through the kind of financial policies outlined above. Economic transformation typically involves large-scale projects that require long-term finance, and thus implies risks that commercial banks are unwilling to undertake, even with central bank support. In addition, while many large-scale projects generate positive externalities, and therefore social returns, their private returns may not be very high. Development banks can also provide finance to new firms and to those investing in innovation, which do not have a track record in terms of payments or performance – some of the criteria that traditional banks use when making decisions on loans.

Progressive tax erosion is an important factor behind declining public investment. A major cause is the increasing aptitude of large corporations and high-net worth individuals to avoid and/or evade taxes.

These are market failures that development banks can help overcome. Fundamentally, though, development banks can be instrumental not just in addressing market failures, such as the lack of provision of long-term financing due to high risks and uncertainties, but in supporting a proactive development strategy.[15] Indeed, past country experiences show that development banks did play such a role: they were not only able to remove bottlenecks, but also had the capacity to anticipate future needs arising from rapid and transformative development (Hermann, 2010).[16]

3. Combating tax avoidance, evasion and capital flight

Public investment in basic infrastructure, for example, remains essential to structural transformation. This raises the issue of fiscal space, since most forms of public sector support to structural transformation and industrialization constitute a burden on the public budget. On the other hand, successful boosting of industrial capacity and employment creation will generate public revenues, provided that administrative capacities for tax collection and

enforcement are sufficient and used appropriately. Moreover, as public investment normally complements and provides incentives to private investment, expanding public investment is a powerful means of triggering a virtuous circle of investment, income generation and growth.

Therefore, to achieve structural transformation, it will be necessary to reverse the steady decline in public investment witnessed both in developed and developing countries over the past decades. One important factor explaining this decline is the progressive erosion of the State's capacity to collect taxes to meet growing needs for government spending. A major cause of this tax erosion has been the increasing aptitude of large corporations and high-net-worth individuals (HNWIs) to avoid and/or evade taxes.[17]

Financial globalization has been at the heart of the growing phenomenon of tax avoidance and/or evasion. In the past few decades, it has allowed the emergence of a highly sophisticated offshore service industry, comprising international banks, law firms and very large accounting firms. Using tax havens as loci – part of its "modus operandi" – this industry provides professional services to assist conglomerates in the design of tax planning schemes with the ultimate goal of minimizing tax payments on a consolidated basis.[18] These banks and firms are what the literature calls "enablers". Critically, they assist companies and HNWIs in the transfer of funds from high to low tax jurisdictions (or to so-called tax havens, where taxes are either extremely low or even non-existent) to avoid or evade taxes where the funds originate (Gaggero et al., 2016).[19]

In the case of a conglomerate, the transfer of funds usually takes place between its own affiliates, through various mechanisms, a major one being transfer mispricing. This involves the transfer of goods and services between affiliates of the same company (intra-firm transactions) where the price does not reflect the true value of the underlying assets. The purpose is to shift profits from high to low tax jurisdictions, and deductions and losses to high tax jurisdictions. This practice, which is one among many that several large international corporations are deploying in their strategies to enhance profits, exacerbates the growing divergence between profits and investments highlighted in this chapter.[20]

Although it is difficult to make accurate estimates of revenue losses from tax avoidance and/or evasion, estimates reported in the past several years suggest that such losses are sizeable. This gives some idea of the challenges confronting developing countries in their efforts to enhance their capacity for collecting tax revenues to finance their development and economic transformation.

A number of attempts have been made in recent years to tackle international tax leakages. Most of these have been undertaken at the global level, given the international nature of the challenge, although regional, bilateral and national initiatives have also been reported (*TDR 2014*, chap. VI).

The OECD's *Report to G20 Development Working Group on the Impact of BEPS [base erosion and profit shifting]*[21] *in Low-Income Countries* highlights the fact that the poorer countries have the most to lose from BEPS, since corporate income tax constitutes a large proportion of their total revenues: nearly 16 per cent, on average, in 2012 in the low- and lower-middle-income countries, compared with less than 9 per cent, on average, in the high-income countries (OECD, 2014a). Thus, tackling BEPS is of vital importance for helping developing countries improve their capacity to increase their tax revenues as part of the broader challenge of domestic resource mobilization. According to the OECD report, the most important issues confronting these countries regarding BEPS include excessive payments to foreign affiliated companies in the form of interest, service charges, management fees and royalties; pressures to provide tax incentives; firms' profit shifting through corporate restructuring; and affiliates' use of techniques to obtain treaty benefits. These countries therefore face multiple challenges to resolve these problems, such as their lack of necessary legislative measures, and insufficient information and capacity to implement complex rules and challenge the MNEs (OECD, 2014b).

Poorer countries need to improve their capacity to increase their tax revenues as part of the broader challenge of domestic resource mobilization.

Notwithstanding these limitations, actions at the national level in developing countries have generated

concrete results. Examples include an increase in tax revenue in Kenya by $33 million between 2012 and 2013 as a result of a training programme on advance transfer pricing; and transfer pricing adjustments of $110 million in Viet Nam in 2013, following an increase in audits conducted by the tax authorities, as part of actions to enforce the country's transfer pricing rules (OECD, 2014b). These examples do not preclude actions at the international level, much to the contrary; but they show that measures taken by developing countries can be effective in addressing the issue. What is also needed is for these countries to adapt the rules drawn internationally to their national context, in line with their own resources and implementation capacity. The need for adapting international rules also implies that the participation of developing countries in the design of international standards and rules to reduce tax erosion from BEPS and other practices is all the more important in their efforts to counter tax erosion.

F. Conclusions

Structural change and higher rates of capital accumulation are impossible without adequate access to sources of finance. This is all the more relevant if, as has increasingly been the case, there is a steady rise in the minimum level of investment required to successfully launch an industrialization drive. A functioning profit-investment nexus is as vital for successful catch-up strategies and their continued financing as it was in early industrialization experiences.

However, a number of current global trends militate against a strong profit-investment nexus, and, in particular, against establishing a strong nexus in developing economies. Easier access to finance in the wake of capital account liberalization and financial market deregulation has not translated into increased financing for long-term investment for upgrading production capacities, especially in manufacturing. What is more, an excess supply of credit finance is not generally conducive to improved capital allocation among sectors, and may favour sectors with lower labour productivity, such as services, as well as lending to households.

Moreover, the financialization of corporate strategies and the rise of shareholder primacy in developed economies may have contributed to the worsening of income distribution and a deflationary bias through slower growth of global demand. A major feature of this trend has been that a growing share of corporate profits, rather than being used for corporate reinvestment, is being used for purposes such as dividend payments and equity repurchases. This ultimately strengthens the role of financial intermediaries in capital allocation, which in turn contributes to economic instability and financial imbalances. This is because permanent revaluations provide frequent opportunities for investors to revise their financial commitments, and thus undermine long-term expectations. Real investment therefore becomes excessively dependent on the expectations of asset managers, and corporate strategies generally are turning more and more towards short-term, profit-seeking activities.

In order to establish and strengthen the profit-investment nexus, it is necessary to find ways of ensuring that private finance is once again used for productive purposes, in developed as well as developing countries. For large corporations, this requires, above all, reigning in the extreme short-termism that has come to dominate corporate decision-making by changing relevant incentive structures. This chapter has explored a number of options to help foster long-term investment strategies and support the use of long-term funding vehicles through regulatory and tax-related measures.

While the financialization of corporate strategies in developing and emerging economies has played a growing role in recent years – driven at least in part by policy changes in developed economies – it is

important to remember that corporations in these economies have less complex ownership structures. In addition, these firms are generally starved of external finance and have lower capacity to generate profits. Whereas the main challenge is to induce large corporations is to redirect their existing resources to productive purposes, the main policy task with regard to smaller firms is to facilitate their access to sources of external finance. Such access should be tailored to their specific needs in order to kick-start or enhance a virtuous circle of profit-investment dynamics and self-sustaining capital accumulation.

Establishing a strong profit-investment nexus requires substantial institutional and policy initiatives and change, including the creation or deepening of the banking system, ensuring it has appropriate capacities for long-term credit provision, along with proactive industrial policies. Developing-country governments should design policies aimed at directly supporting their own process of catching up and structural transformation. Furthermore, governments can improve the macroeconomic environment through public investment on an appropriate scale to support infrastructural development and rapid economic transformation, thereby helping to increase private sector profitability. It is therefore vital to counteract current tendencies that diminish the State's investment capacities, including through taxation reforms both at the national and at the international levels. National initiatives in this regard are indispensable for the promotion of industrialization in developing economies. However, these alone are insufficient. For developing countries to achieve successful structural transformation, much deeper reforms of the international financial and monetary system will also be necessary, aimed at delivering financial stability and reliable sources of development finance.

Notes

1 The World Bank's Enterprise Surveys reveal that, on average, more than 70 per cent of investment is financed internally in developing countries. The pattern of financing in the corporate sector varies substantially, both among different sized firms and among regional groups of countries. External financing is generally more prevalent among larger firms, whereas small firms rely more on retained earnings. In Africa, limited access to bank credit is a particularly severe constraint.

2 A hostile takeover is the acquisition of a company by another when management of the targeted company is not in accordance with the deal.

3 These conceptualized the corporate form either as a mere "nexus of contracts" (Jensen and Meckling, 1976) or as a "collection of assets" (Grossman and Hart, 1986). Corporations and firms therefore came to be viewed not as economic organizations with control structures and market power, but as voluntary contractual arrangements between owners of resources and as portfolios of assets with different rates of returns that could and should be traded to ensure maximum returns (Ireland, 1999).

4 A leveraged buyout is the acquisition of a company through borrowed resources. Its purpose is to allow the acquiring company to make large acquisitions without committing much of its own capital.

5 Indeed, restructuring also served the purpose of paying out shareholders through stock repurchases financed by the sale of assets (Krier, 2005).

6 Institutional investors are financial institutions that accept funds from third parties for investment not in their own name but on such parties' behalf.

7 The practice of buybacks has increased phenomenally over the years, particularly in the United States. In 1981–1982, companies listed on the S&P500 index used less than 4 per cent of their net income to repurchase shares, compared with almost 89 per cent in 2007. Buybacks have been particularly common among leading United States companies, many of which operate in the ICT and pharmaceutical industries. For example, in the 2000s,

stock repurchases by Microsoft accounted for 89 per cent of its net income, by IBM for 91 per cent, by CISCO Systems for 130 per cent, and by Pfizer for 51 per cent. A proportion of these repurchases could have been spent, for example on research and development (R&D), but instead they amounted to 0.6–1.7 times their R&D expenditures between them. While cash-rich companies have undertaken massive buybacks, those with international operations have tended to keep cash offshore to avoid corporate taxes, and have, instead, taken on debt for the purpose of buybacks (Lazonick, 2013).

8 In the United States, exercised stock options accounted for 22 per cent of the average earnings of the top 100 chief executive officers (CEOs) in 1972, increasing to 63 per cent in the second half of the 1990s (Crotty, 2003).

9 Focusing on European Union countries, Tori and Onaran (2015) highlight a number of stylized facts that show a declining investment-to-profit ratio, a growing ratio of financial assets to total assets, rising financial payments and incomes, and stagnant investment rates. They suggest that financialization has hit the manufacturing sector in the United Kingdom particularly hard. But Kliman and Williams (2014) provide an analytical and empirical critique of arguments that link financialization directly to a slowdown in real capital accumulation, using the United States as a case study.

10 One possible reason is the lack of available data, as developing countries do not generally release a full set of integrated macroeconomic data about financial positions, and flows and stocks of assets and liabilities of households, government, firms and the rest of the world.

11 The analysis is based on data from the balance sheets and income statements of 6,600 non-financial corporations of 13 developing economies – Argentina, Brazil, Chile, China, India, Indonesia, Malaysia, Mexico, the Republic of Korea, the Russian Federation, South Africa, Thailand and Turkey – obtained from Thompson Reuters *Worldscope* database.

12 Demir (2009) shows empirically that this was indeed the case in Argentina, Mexico and Turkey, three emerging economies that promoted aggressive external financial liberalization in the 1980s (late 1970s in Argentina) and early 1990s. In all three countries, investment equations were estimated using firm level data which showed that the interest rate differential variable had a negative and significant impact on fixed investment levels between the early 1990s and early 2000s. Equations that used the share of financial assets in total assets as a dependent variable showed that the interest rate differential variable had a positive impact on financial assets.

13 As possible explanations for carry trade activities by non-financial corporations, Caballero et al. (2015) point to tighter capital controls, incomplete financial markets and the retreat of global banks from emerging economies following the global financial crisis.

14 The accumulated average nominal appreciation of the Brazilian real against the United States dollar was 60.1 per cent between 2004 and 2008.

15 Development banks' role is not merely to correct market failures: they can also help create and shape markets and strategic policies for development (Mazzucato and Penna, 2014).

16 In addition, development banks can act countercyclically, helping to sustain overall investment levels and reduce the vulnerability of the productive structure of a country during economic downturns. Protecting existing industries is important not only for facilitating a more rapid recovery, but also for encouraging the emergence of new and innovative industries critical for economic transformation (Hermann, 2010, based on Gerschenkron, 1962).

17 Tax avoidance is the practice whereby companies and individuals exploit loopholes in the legislation to pay lower taxes. Tax evasion refers to a taxpayer's attempt to escape a tax liability under a country's law by concealing from the fiscal authorities the income and assets that are liable for taxes (*TDR 2014*).

18 Tax planning involves a combination of advice on specific country legislation, a wide range of tax products and legal representation in tax litigation for the purpose of providing "the most beneficial tax structure for [their] clients" (Gaggero et al., 2016: 5).

19 The term "enablers" was used in 2006 in a United States Senate report, entitled, The United States Senate, Permanent SubCommittee on Investigations.

20 Tax avoidance also takes place through the transfer of activities, in addition to goods and services. Activities subject to transfer between jurisdictions often involve intangibles, such as marketing, and those linked to manufacturing such as local know-how or R&D. These intangibles are targeted because they are high-value-added activities. Their transfer takes place through business restructuring, whereby the local firm is "stripped" of such activities, becoming a "toll manufacturer" (OECD, 2010: 261). The stripping and transfer of activities occurs by taking them out of the balance sheets of the firms where they are created and placing them in the balance sheets of entities based in low-tax jurisdictions. The transfer, therefore, is book-based, or "fictional", as these activities are still generated by the "stripped" firm. The result is that the latter firm benefits from very limited incomes from such activities, thereby reducing the resources available for taxation.

21 The OECD defines BEPS as "instances where the interaction of different tax rules leads to some part of the profits of MNEs [multinational enterprises] not being taxed at all. It also relates to arrangements that achieve no or low taxation by shifting profits away from the jurisdictions where the activities creating those profits take place" (OECD, 2014a: 8).

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Chapter VI

INDUSTRIAL POLICY REDUX

A. Introduction

The preceding chapters have described both long-standing and emerging challenges facing developing countries as they seek to transform the structure of their economies in support of sustainable and inclusive growth. This chapter draws some broad policy lessons. In particular, it reconsiders the contribution of industrial policy in the context of a more open and interdependent but uneven world economy, an economy which has also become increasingly financialized. Moreover, in many developing countries over the past few decades, industrialization has stalled or there has been premature deindustrialization.

As noted in chapters II and III, the pace of capital formation needed to kick-start and sustain a period of successful catch-up growth has been rising since the end of the Second World War. The later a country embarks on a process of economic development, the greater the challenge of designing appropriate incentives and disciplines to boost the rate of investment and diversify the economy. This requires the State to play a more prominent role in providing a supportive institutional framework and facilitating access to the financial resources required to generate rapid and sustained rates of industrialization. These, as discussed in chapter III, are key to driving a process of structural transformation that spurs aggregate productivity and develops productive knowledge and income linkages within the economy. However, as discussed in chapter IV, the strategy of linking investment to exporting, which was so effective in a number of late industrializers, particularly in East Asia, has become more challenging in the context of increasingly competitive markets and weak global demand. The spread of GVCs and their organization by MNEs from mainly developed economies has also changed the ways trade and investment can be combined. There are both positive and negative consequences in terms of structural transformation, with the balance working favourably for some developing countries but less so for others. Furthermore, as discussed in chapter V, the financialization of corporate strategies in developed economies is now also becoming more apparent in some developing economies, with adverse effects on the profit-investment nexus. Added to this, increased financial openness and greater cross-border flows of capital have created macroeconomic volatility and increased vulnerability to external shocks.

Given that the level of investment needed to transform economies is on a rising trend, the weakening of the export-investment-profit nexus presents a serious challenge to catch-up growth strategies throughout the developing world. It therefore calls for a rethinking of economic policy approaches and options, including industrial policy. However, the role and effectiveness of industrial policy is a concern not only for developing economies, but also for

policymakers in developed economies, who have been seeing a declining level of industrial activity in their countries over the past few decades as part of their evolution towards a post-industrial society. In particular the pace and extent of this decline, which accelerated in the early 2000s, has begun to worry policymakers in several developed economies (Bernstein, 2012; Chang et al., 2013; European Commission, 2010). These worries have intensified with the slow recovery of their economies since the 2008−2009 global financial crisis, giving force to the argument that policymakers should now use industrial policies to rebalance their economies by shifting the focus away from the financial sector towards non-financial sectors (Bellofiore and Garibaldo, 2011).

A great deal has been written about industrial policy in recent decades, with much of the discussion revolving around a sterile debate about whether or not governments can pick winners. This chapter does not revisit this well-covered terrain.[1] Rather, attention is focused on the challenge of building linkages across various dimensions, the integrated policy approach this implies, and the underlying institutional geometry that has been found in all the successful industrializers, irrespective of context, to meet this challenge.

B. Reassessing the scope of industrial policy

1. *The long history of State-sponsored structural transformation*

No country has made the arduous journey from widespread rural poverty to post-industrial prosperity without employing targeted and selective government policies to shift the production structure towards activities and sectors with higher productivity, better paid jobs and greater technological potential. Such policies are conventionally called industrial policies though they might be more accurately termed "production transformation policies" (Ocampo, 2014).

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Whatever the nomenclature, economic historians have documented their emergence as far back as the first Industrial Revolution in Great Britain. Thereafter, in the nineteenth and early twentieth centuries, they were used more systematically by all subsequent industrializers, which faced the added challenge of catching up with the early industrial starters.[2] Much of the discussion about industrial policy has focused on the experiences of the post-Second World War era, and in particular, on why East Asian economies, beginning with Japan, appeared to be more skilled in designing and implementing industrial policies than other emerging economies (Johnson, 1982; Chang et al., 2013). But there is a much wider range of successful late industrialization experiences that operated within a broad spectrum of different political and social arrangements (Hall and Soskice, 2001).[3]

Notwithstanding the variety of these experiences, they all owed much of their success to what has been described as "adaptive efficiency", that is, the capacity to develop institutions, rules and norms that provided a stable framework for economic activity, but which was flexible enough to offer the maximum leeway for policy choices at any given time and in any given situation in response to specific challenges (North, 1990). Japan, the "quintessential example" of a country's effective use of industrial policy (Chang et al, 2013: 21), and other East Asian successful industrializers were all willing to experiment with targeting certain

sectors and products, and with the means of targeting them. The emphasis on flexibility and experimentation reflects the realities of operating in an uncertain world where knowledge of the best ways to promote economic growth and development is limited, and there are diverse forms of success, contingent on national political and social cultures, on historically determined path dependencies, and on the behaviour of ruling elites. In this context, policy goals are rarely of the either/or type (e.g. growth or price stability, open or closed economy, State or private ownership, or totally fixed or flexible exchange rates), but of various shades in-between. Thus, learning to mix objectives and instruments is an unavoidable aspect of policymaking. Experimentation, together with rules and conventions to ensure that failed experiments are dropped rather than retained, are therefore crucial for increasing the probability of success. This is why "pragmatic experimentalism" (Cohen and DeLong, 2016: 12) should be a guiding theme in discussions about managing structural transformation.

> ... those policies have been marked by "pragmatic experimentalism" and the capacity to develop institutions, rules and norms that are both stable and flexible.

Further, while government or State capacities to design and implement industrial policy reflect specific historical legacies, and are subject to political, informational and technical constraints, these are not fixed; they emerge through acquisition and learning strategies of varying duration and degrees of contestation. Whether the capacities that are now regarded as prerequisites for successful economic development were the *outcomes* or the *causes* of economic development in today's developed countries is a somewhat circular discussion. The important point is that such bureaucracies and capacities can be created; they do not emerge effortlessly out of existing or traditional organizations. Also, there is no single model applicable to all contexts; different institutional forms will suit particular local histories and politics.

2. Learning from successes and failures

In many developing countries, the struggle for political independence following the end of the Second World War acted as a catalyst for industrialization efforts that had already begun in the inter-war period (Williamson, 2010). Building industrial capacity was seen as essential for overcoming a whole range of economic and social challenges facing these newly independent economies. And the focus was on achieving this goal at a rapid pace, in particular by replacing imported final consumer goods with domestically produced alternatives. Arguably, this focus, and the expectation overload it engendered, was a major constraint on undertaking an effective industrial policy during this period.

As mentioned in previous chapters of this *Report*, industrial growth accelerated throughout much of the developing world after the Second World War, though at very different rates. This reflected, to a large extent, the ability of the State to mobilize resources for a big investment push out of agriculture and to manage the new trade-offs and tensions that accompanied increasing industrial activity. However, as the easy stages of industrialization were crossed, greater effort was needed to diversify production and find new and dynamic markets, both at home and abroad. The only countries to manage this on a sustained basis were in East Asia, where industrial policy (combining a mixture of import substitution and export promotion measures) was an essential part of the policy mix that animated a robust "profit-investment-export nexus".[4]

Despite its successes, industrial policy largely disappeared from development policy discussions from the 1980s, at least in international circles. Indeed, industrial policy came to epitomize the record of market distortion and government failures suggested in the conventional narrative as the root cause of a generation of economic underperformance (Krueger, 1990). The World Bank pronounced its last rites in the *World Development Report* of 1991. Instead, "structural adjustment" became the new policy lodestar for developing countries, with structure now redefined to distinguish the competing mechanisms through which to allocate resources, either through markets (and prices) or political decisions, and adjustment was identified with rolling back the State in various ways. However, a form of industrial policy did persist in the Washington Consensus, albeit *sotto*

voce, described as "boosting competitiveness". This focused on reducing the costs of doing business, in general, and establishing an environment conducive to attracting FDI, in particular.[5]

However, some developing countries (especially in East Asia) continued with the more traditional industrial policy approach to accelerate, widen and deepen their industrialization paths. China has been the most dedicated practitioner in recent years, replicating important aspects of the earlier experiences, but also adapting these to its own history and initial conditions.[6] Perhaps more surprisingly, so did many developed countries, even if their goals were often hidden or expressed differently. The United States, for example, has been pursuing a selective industrial policy. A number of its institutions, such as the Defense Advanced Research Projects Agency, National Institutes of Health, National Institute of Standards and Technology and the Central Intelligence Agency, have sought to build a knowledge economy linking innovative firms, public resources and new sources of finance (Wade, 2015; *TDR 2014*).

More recently, industrial policy has returned to international policy discussions.[7] This redux is not so much the result of new analytical insights about the process of structural transformation; it has more to do with the weak outcomes of policies pursued by many developing countries under the guidance of the Washington Consensus (as discussed in chapters II and III of this *Report*). There is now a greater willingness to acknowledge that economies progress through both creative and destructive forces that are bound to trigger tensions, trade-offs and conflicts (Kozul-Wright and Rayment, 2007). Moreover, in the context of more open economic relations, local competencies and programmes necessarily have to be aligned, to some degree, to a fast-evolving international division of labour. The internationalization of production has reinforced the need for public policy support to private companies. Indeed, in many economies, there is greater de facto State involvement, precisely because private players on their own face greater uncertainty and higher uninsurable risks in today's increasingly unstable global economy. For developing countries these concerns are even more pronounced, because, in addition to having to bridge large technology and cost gaps, efforts to catch up also have to deal with issues relating to global production chains that are under tighter private control and face various restrictions on national policy autonomy.

Industrial policy has returned to international policy discussions, as globalization and the international division of labour have reinforced the need for public policy to support private companies.

In such a context, governments in developing countries must be ambitious without being unrealistic, striving for a high development road by creating new sources of growth and dynamism, rather than simply trying to do the best with what they currently have by taking advantage of existing comparative advantages. Small and incremental steps can be useful (Lin and Treichel, 2014); but more radical "comparative-advantage-defying" measures will be needed to shift towards higher value-added and employment-generating activities with high-income elasticities and greater scope for boosting productivity through knowledge creation.[8] The flip side of aiming high is that failure must also be accepted but managed, with mechanisms for monitoring performance and underperformance, and either rectifying the latter or removing State assistance. Accordingly, the focus should be not on whether to design and implement industrial policy at all, but on how to do it properly (Naudé, 2010), or, as has been suggested, "getting the political economy right" (Cohen and DeLong, 2016: 23).

The focus is no longer on whether to use industrial policy at all, but on how best to use it.

C. The varying geometry of State-business relations

Comparing examples of successful structural transformation highlights the importance of a particular kind of relationship between the State and business, marked by a seemingly contradictory combination of close ties, interdependence and independence. Case studies covering different countries and historical contexts show that all of them had "a highly capable coherent bureaucracy, closely connected to but still independent of the business community" (Evans, 1998: 69). Many of these studies have focused on the role of government bureaucracy, but equal attention needs to be given to the structure of business, and the processes involving State-business relations. Thus, promoting the developmental State may need to give equal attention to institutions that encourage dialogue, information-sharing and feedback, as well as the specific measures that are more typically the focus of industrial policy (UNECA, 2016). This includes institutions and processes within government, within industry, and between government and industry.

1. *Institutions of the developmental State*

The idea that public institutions are needed to help solve coordination, incentive and monitoring problems that emerge from the interaction of private actors is at the centre of the developmental State concept.[9] According to this approach, policymakers should allow market forces to determine the prices and quantities of many goods and services supplied, but intervene when they consider certain key objectives will not automatically be met by markets, or will not be achieved fast enough or in a manner that meets other requirements. These include mobilizing resources for productive investment, pursuing technological upgrading, managing distributional trade-offs and filling institutional gaps that may hinder sustained structural transformation. Adelman (2000) has sketched some of the elements that characterize the developmental State, including a substantial degree of autonomy, capacity and credibility to set policies in the national interest, a visible political commitment to economic development, and a necessary degree of economic autonomy with respect to the international environment.

Certainly, the States that evolved in East Asia during the 1960s and 1970s exhibited the requisite qualities. They created a predictable economic environment involving reasonably secure property rights, a clear role for market competition and a broadly pro-growth policy stance. They also emphasized the importance of large-scale investment in manufacturing, even as they invested heavily in education and skills development. This did not, however, mean setting policy according to the dictates of the business community; instead, there was a considerable amount of State supervision to "govern the market" in accordance with a politically defined notion of national development (Wade, 1990).

In terms of requisite institutions, a common feature has been a capable and stable bureaucracy, closely connected to but still independent of the business community, and, in many cases, with access to reliable resources based on the parallel development of fiscal capacity. Such a combination of bureaucratic competencies and independence was not an innate feature of the culture or history of the successful countries; rather, reforms of bureaucratic agencies and their functioning were often able to generate such features. Usually this worked because of the backing of strong political leadership capable of promoting a shared national "vision" to mitigate conflicts of interest, with a firm commitment to a clearly defined set of development tasks (e.g. industrial diversification and technical upgrading). Wider and more sustained

success has typically been associated with a lead ministry or agency shaping development initiatives and providing coherence across policies and institutions, as well as continuity over time. It has been argued that meritocratic recruitment processes, along with a career structure that produces rewards commensurate with the private sector, have been important features of such bureaucracies (Evans, 1995, 1998). Appointments to top positions in public agencies would be based on technical knowledge and leadership capacities, with strong communications and professional relations between agency heads and heads of government, and regular interaction amongst all leading public agencies, including heads of ministries.

Successful structural transformation requires a capable and stable bureaucracy, closely connected to, but still independent of, the business community.

These developmental States certainly saw one of their principle tasks as that of increasing the supply of investible resources and assuming part of the long-term investments. State-sponsored accumulation involved variously the transfer of land and other assets, efforts to decrease competition in some areas while increasing it in others, strong regulation and control, and in some cases ownership of, the financial system and a pro-investment macroeconomic policy, including direct public investment in some lines of activity. Critically, these developmental States did not simply measure success in terms of increasing investment to fuel economic growth, but also in terms of guiding the investment into activities that could sustain a high-wage future for their citizens. This implied a coordinated effort to shift resources from traditional sectors by raising agricultural productivity and channelling the resulting surplus to emerging industrial activities (Grabowski, 2003; Studwell, 2013). It also meant deliberately reducing risks and augmenting profits in industries deemed important for future growth (Wade, 1995; Amsden, 2001). Like their late nineteenth- and twentieth-century precursors, this meant making full use of the creative impulses of global markets, even while protecting some domestic producers from excessive competition, through strategically guided integration into the international economy.

Business-government councils should play an essential role of reconciling divergent interests, coordinating expectations and facilitating policy implementation.

The record elsewhere, however, has not always lived up to expectations. In some cases, this is because there has been an inadequate focus on building the linkages and feedback mechanisms that encourage and support diversification and upgrading to activities offering higher productivity. In others, it can be attributed to the capture of the State by vested interests with a narrow view of the development agenda. This has often been reduced to a question of bad governance, and identified with the extent of corruption. While this can be a serious obstacle to progress, it is as much a symptom as a cause of the problem (Khan, 2007; Hausmann, 2015).[10]

Based on a series of country studies in Africa, UNECA (2014) found that effective industrial policy frameworks followed the same broad set of rules that emerged in successful policy frameworks in East Asia and elsewhere. These included embedded autonomy to ensure that bureaucrats were well-versed in the needs of industrial firms and stakeholders, but remained protected from capture by special interest groups and political pressure; policy coordination that began at the apex of government, and was supported by the executive office and key line ministries; plans that were nationally owned and transcended changes in political leadership; and "pilot agencies", with the power to coordinate activities and resolve political conflicts, often playing a key role, because industrial policies so often cut across government ministries and agencies. However, there is often a big gap between such ideals and reality, especially where structural adjustment policies have eroded not only the industrial base, but also State and bureaucratic capacities for independent industrial policies. The absence of peace and security also diverts valuable public and private resources away from what could otherwise be used for investment, and prevents policymakers, businesses and

households from engaging in the kinds of long-term development strategies pursued by other regions. One suggestion for moving forward has been to start slowly to create what Buur et al. (2012) and others (e.g. Roll, 2014) call "pockets of effectiveness" in specific operational areas, even if wider circumstances limit the kind of dedicated State action associated with the more classical developmental State model.

2. Government-business relations

While much of the contemporary development literature discusses markets, entrepreneurship and the private sector in generic terms, successful developmental States − from Scandinavia (Ornston, 2012; Ali-Yrkkö and Hermans, 2002) to East Asia − have not engaged with a generic private sector, but rather with specific business groups and interests. In these countries, policymakers targeted particular business groups and worked closely with them. Moreover, the flow of influence and information went both ways, with business groups pushing policies to benefit them, and, just as importantly, government institutions exerting an influence on company strategies through a proactive industrial policy.

Various scholars (Campos and Root, 1996; Amsden, 2001; Schneider, 2013, 2016) have placed business-government councils at the centre of efforts to build these effective relationships. These councils can serve to reconcile divergent interests, coordinate expectations, and facilitate and monitor policy implementation. Some ideal characteristics of public-private collaboration have been drawn from successful models such as the Republic of Korea's export council (Schneider, 2016). These include regular meetings which provided a reliable flow of information and established a lasting relationship; authority to allocate resources using measurable targets which allowed monitoring of both sides of the bargain; technical staff drawn from ministries and well-funded business associations with a clear understanding of the problems involved. Significantly, even as that country moved away from its more hands-on approach to promoting heavy industry, similar councils, such as the National Science and Technology Council, were employed as part of diversification and upgrading to higher tech industries.

Developed countries such as Denmark, Finland and Sweden, which used coordination extensively, were more likely to invest in potentially disruptive new innovations, because firms were more willing to enter into new agreements on how the potential rewards and risks of change would be distributed, and to participate in implementation (Sabel, 1994). Such countries, which at that time were low-tech, were thus able to negotiate the trade-offs and changes in distribution that allowed them to make astounding leaps from timber and agricultural processing to high-tech activities, such as software and telecommunications, within a few decades. On the other hand, countries with a weak or non-existent tradition of coordination have had a more difficult time persuading firms to share the information needed to enable the kind of disruptive changes that can be truly transformational. Firms have been less willing to share sensitive information about capital requirements, skills profiles and product portfolios that could bring wider benefits. Indeed, it can be a struggle even to convince firms that collaboration, whether with other firms or with government and labour, could be beneficial. Hence the scope for cooperation can be confined to policies that only indirectly affect production, such as those related to wage restraint or fiscal retrenchment (Ornston, 2012).

Developing countries are increasingly trying to adapt institutional arrangements to bring together businesses, government agencies and other stakeholders to agree policies and strategies for catch-up to their mutual benefit. Presidential Investors' Advisory Councils (PIACs) have been established in several African countries since the early 2000s, inspired by the East Asian councils, which aim at fostering consultation and coordination between the public and private sectors.[11]

From the business side, this engagement typically involves *business or trade associations,* and much of the subsequent success of industrial policy design and implementation depends on how effectively these associations represent the true interests of their members. In many of the early examples studied, these associations already existed, while in more modern cases they were sometimes created from scratch − an industrial policy decision, in effect (see boxes 6.1 and 6.3). In some countries, policymakers will meet only with association representatives and not with individual businesses.

Box 6.1

INDUSTRIAL POLICY AND THE ROLE OF "INTERMEDIARY INSTITUTIONS": THE ETHIOPIAN EXPERIENCE

The example of Ethiopia highlights the important role of sector-specific business associations in making industrial policies work effectively in support of industrial development and structural transformation. Ethiopia has been one of the African countries that have implemented a full-fledged industrial development strategy, in many ways similar to those in East Asia. A recent study by one of the architects of the country's Growth and Transformation Strategy presents compelling evidence that, contrary to the prevailing conventional wisdom, an industrial policy can work even in a low-income and structurally weak developing country like Ethiopia (Oqubay, 2015). The study is based on detailed research covering three important economic sectors in the country: cement, floriculture, and leather and leather products. Beginning in the early 2000s, the Government of Ethiopia formulated its agriculture-based, manufacturing-led and export-oriented development strategy to initiate a process of structural transformation by strengthening linkages between agriculture and manufacturing, and targeting strategic sectors where the country has comparative advantages.

A key element of the strategy is the creation of institutions similar to those used in the East Asian development model, characterized by public mobilization around a clear vision, a commitment to improving the State's capabilities, and efforts to create partnership between the State and businesses in the design and continuous adaptation to changing domestic and international circumstances and experiences. The institutional framework for public-private coordination and cooperation includes the establishment of sectoral institutions for government-business consultations. According to Oqubay, the role of these "intermediary institutions" in the development of specific sectors, especially in informing and influencing policy decisions, has been critical. In particular, the Ethiopian Government has encouraged the creation of industry associations to represent the collective interests of a given industry. Such intermediary institutions have regular contacts with key government departments, including at the highest levels of government, thereby facilitating policymaking by providing up-to-date information, monitoring and articulating the binding constraints facing the industry as a whole, and communicating its intentions and concerns to the relevant government departments.

Oqubay argues that these "intermediary institutions" have been critical in sectoral policy formulation and implementation because not only have they helped articulate the concerns of and constraints facing key private sector players, they have also offset insufficient institutional capacity at government level and weak coordination both among federal government agencies and between federal and regional governments.

However, Oqubay's sectoral case studies show that the impact of intermediary institutions in influencing policies can vary by sectors depending on the coherence, level of development and organizing capacity of key actors in the sector. It would appear that the less organized intermediary institutions, which had only a scant understanding of their industry's concerns, were "passive with respect to influencing policymaking". Their members "lacked a common vision" and were less effective in eliciting the appropriate government policy responses. For example, the difficulties that the leather and leather products industry continues to face in Ethiopia are partly attributed to the failure of the industry association to represent its members with a focused objective and clear vision. The failure reflects the challenge of organizing sectors (such as the

3. Support, performance and discipline

Clearly, it is not enough simply for governments and businesses to develop a vision and design targets together; governments must also have some means of ensuring that businesses make the subsequent investments and changes in performance as agreed. Variously described as "reciprocal control" (Amsden, 2001) or the "support/performance" bargain (Evans, 1998), this disciplinary function is essential for industrial policy to succeed, but it has received insufficient attention in much of the renewed discussion on industrial policy (Schneider, 2016; Sen, 2015; Peiffer, 2012).

In the East Asian examples, governments were able to link the application of their policy tools (such as the provision of lower cost capital, dealing with the threat of foreign competition, or privileged

Box 6.1 (concluded)

leather goods and agro-processing), which involve many small and medium-sized firms and less integrated domestic supply chains comprising numerous businesses across sectors.

This contrasts with the active and successful role played by the horticultural producers and exporters association. The share of flowers in total merchandise exports increased from 0.03 per cent in 1997/98 to 12 per cent in 2014/15 (UNCTAD secretariat calculations, based on *UN Comtrade* database, SITC Rev.3), and the sector grew from a very small number of firms to about 100 firms, generating over $660 million per annum in export earnings and employing 50,000 people. The performance of the horticultural sector has been described as an encouraging example of "self-discovery" (World Bank, 2014; Oqubay, 2015). Although horticulture was not initially a priority sector, the active engagement of the producers, drew the Government's attention to its potential, as a result of which the Government nurtured its further expansion. A special development agency was set up for the sector to promote fast and sustainable growth of production and productivity, facilitate exports of diversified products that meet international sanitary and phytosanitary standards, and coordinate support services. The public agency coordinated its activities with the private association of floriculture operators, which had emerged as early as 2002 when the sector still comprised only a handful of entrepreneurs. Facing difficulties relating to logistics, land and finance, they formed an association and started to seek government support. The Government responded quickly with a five-year action plan, and with support that included facilitated access to land and long-term credit, as well as the provision of specific infrastructure and air transport coordination. In addition, the Government, with the support of the Government of the Netherlands, encouraged higher education for specialists in horticulture, and established training centres to teach middle-level skills. The success of the horticultural sector and the greater effectiveness of government support, guided by private-public dialogue, were facilitated by the relatively short supply chain compared with other sectors that have more complex and less integrated domestic supply chains.

The policy implication from the Ethiopian experience is that, to be effective, intermediary institutions should represent the interests of small groups, and should actively transmit the intentions and concerns of their members to relevant government agencies, preferably at the highest levels of government. Representing a subsector with focused objectives and vision simplifies communications with the government, and is likely to be more effective in influencing policymaking. Furthermore, in countries where the agricultural sector is still large, structural transformation and the creation of productivity-enhancing production linkages requires extending government-business interaction beyond the industrial sector; interaction also needs to include the primary sector, where production structures have to be adjusted to meet the input requirements of manufacturers, but where, unfortunately, representative associations are still largely absent. Industrial policy experience in Ethiopia also shows that, apart from effective industry associations and competent government-business interactions, there is also need for a strong degree of coordination and cooperation among different government agencies. Government support for linkage creation involves action on the part of many different ministries, government agencies and business associations, and thus requires well-institutionalized and regular, rather than ad hoc, inter-ministerial and inter-institutional coordination for policy design and, especially, for policy implementation. In Ethiopia, as in many other developing countries, such coordination exists formally, but in practice it has been only partially effective.

access to scarce foreign exchange) to measurable improvements in business performance in terms of production efficiency or exports. Striking this kind of bargain has proved more difficult in other contexts. In Latin America, a form of "hierarchical capitalism" (Schneider, 2013) has been associated with undermining government's abilities to persuade businesses to transform. From the 1950s onwards, the big national firms were encouraged to invest heavily in import-substituting industries behind protective tariffs and trade restrictions, but policymakers did not impose adequate performance standards in return for the higher profits earned as a result of these measures (Schneider, 2016; Agosin, 2013). Similarly, during the market reforms of the 1990s, explicit performance standards were rarely imposed, even where governments structured privatization programmes so as to favour particular business groups. Utilities were subject to the usual sectoral regulations (i.e. for essential services or monopolies) but, according to

Rodrik (2008), policymakers in Latin America used too much carrot and too little stick.

When industrial policy returned to the Latin American policy agenda in the 2000s, policymakers, while conscious of past weaknesses, still found it difficult to engage existing business groups in a quid pro quo bargain. In Brazil, for example, the main development bank financed nearly all large firms without reciprocal performance requirements (Schneider, 2016). A push to create national champions that would reorient their strategies in order to expand abroad stipulated few exigencies beyond the requirement to expand abroad. In one of the few sectors where the Government explicitly built an industrial strategy around leveraging the propensity of business groups to diversify, namely the revival of the shipbuilding industry, the results were disappointing and productivity remains well below that of leading Asian firms (Lima, 2016; Schneider, 2016). Opportunities for productivity enhancement were undermined, as sites for new shipyards were chosen to maximize political support rather than to create agglomeration benefits.

Similarly, the recently established PIACs, discussed above, have struggled to replicate the East Asian-style business-government coordination mechanisms, because feedback has not been properly built into the programme, and monitoring and evaluation capacity is lacking.[12] As a result, PIACs have often concentrated on regulatory reform, and not on the broader elements needed to promote investment and industrialization, such as macroeconomic management, infrastructure and skills development, and the institutional framework for effective public-private dialogue. In the East Asian examples, feedback was frequent, if not immediate, monitored by peers and acted upon rapidly. Without proper feedback, mid-course corrections cannot be made when needed, nor can bad policies be recognized and abandoned.

Feedback is needed not only at the oversight level envisaged in State-business councils, but also at the level of individual support mechanisms. In South Africa, for example, the Department of Trade and Industry aims to support specific activities that seek to overcome constraints on new opportunities, rather than broadly promoting a particular sector or activity (UNECA, 2014). Given this targeted approach, finance is made conditional upon recipient firms meeting pre-agreed and quantifiable goals.[13] Accompanying the support are predefined periodic reviews and "sunset" clauses (DTI, 2007).

Governments must have some means to ensure businesses make the investments and changes in performance agreed upon.

An important question is why the "sticks" worked in some developing economies, but not in others, despite the adoption of relatively similar industrial policy packages and incentive structures over time. The eventual failure of import-substituting industrialization policies in Latin America is well documented (Hirschman, 1968; *TDR 2003*). But many States in South Asia, such as Pakistan (Ahmed, 2016), as well as most African States, have clearly also struggled in this respect. While an exhaustive answer to this question inevitably involves many historical and region-specific factors, a common denominator is the difficult task of negotiating the trade-offs between pushing for productivity growth, on the one hand, and preserving economic (and political) stability on the other. Profound structural transformation produces winners as well as losers, and often several rounds of different groups of winners and losers along the way. The State's ability to negotiate such conflicts of interest without putting the developmental agenda at risk is therefore vital to sustaining structural transformation processes in the long term. Typically, the range and type of contesting alliances in developing countries is both wider and different from those in developed economies, since their societies are often still more fragmented along a multiplicity of ethnic, social, religious, as well as economic and political lines.

D. Reassessing the tools of industrial policy

The most important lessons from the comparative history of industrial policy are derived not so much from considering the relative merits of individual policy tools and instruments as examining their use in practice. Particular details vary, depending on the development context and despite the challenges posed by a reduction in policy space, the policy tools remain familiar. In one way or another, tariffs, subsidies, credit access, public procurement, State ownership and regulatory measures will, with varying degrees of emphasis, continue to figure in the toolkit of policymakers seeking to diversify and upgrade the structure of their economies (see, for example, box 6.2 on public procurement).

1. *Targeting active and passive industrial policies*

In the past, there has been considerable attention to distinguishing between vertical policies targeted at particular firms, sectors or activities, and horizontal industrial policies aiming at general improvements to the wider economic environment, such as providing transport infrastructure, reliable supplies of energy and a sufficiently educated workforce. However, the distinction is somewhat artificial, because, in practice, even supposedly neutral horizontal policies may have vertical effects by benefiting some activities or sectors more than others, depending on the particular characteristics of those activities. Exports of cut flowers, for instance, are facilitated more by infrastructure projects related to air travel, whereas trade in cars and commodities benefits from the upgrading of sea ports. A policy decision to ease credit restrictions may have an impact on interest rates in general, but affects particular industries differently, depending on their reliance on such factors as bank credit and degrees of profitability. No matter how much governments may seek to avoid explicit targeting, even seemingly universal and undifferentiated policies will have varying effects on different activities. Since policymakers are "doomed to target", it is better to accept this fact and try to get the targeting right.

Active policies targeting deeper changes in corporate structure and behaviour require substantial State capacity and a degree of discipline that has often been neglected in discussions on industrial policy.

In the recent case of China, for example, the State has played a prominent role in establishing a dynamic profit-investment-export nexus through a mixture of more general measures, as well as selective and targeted interventions at different levels, with the mixture changing over time (Knight, 2012). In the early stages of reform, China's policymakers could draw on the vast stock of capital accumulated under its centrally planned economy to follow a path of consumption-led, labour-intensive industrialization centred on expanding the market-orientation of township and village enterprises and allowing State-owned enterprises (SOEs) to absorb related adjustment costs. The balance of these measures appears to have altered over time, as China shifted towards a more export-oriented growth strategy in the early 1990s, targeting sectors such as automobiles, semi-conductors and high-speed trains, with public finance taking the lead in massive infrastructure investments. Meanwhile, both SOEs and MNEs

Box 6.2

GOVERNMENT PROCUREMENT AND INDUSTRIAL POLICY

Weak or uncertain demand is one of the major impediments to the survival and growth of manufacturing firms (Tybout, 2000), regardless of whether they are low- or high-tech. Public procurement, which has always been a major part of public policy, is a powerful policy tool governments can use strategically as a major purchaser (Kozul-Wright, 1995; Tooze, 2015; Kattel and Lember, 2010). Few if any private agents can match the scale of demand of governments, and none have such a broad shopping list, which includes intermediate consumption (government purchases of goods and services), social transfers in kind, offered to households through market producers (such as medical care or special equipment), and spending on gross fixed capital formation.

In the short term, government demand can create jobs and keep open a struggling factory in a lagging or less developed region. In the longer term, it can help small firms reach sufficient scale or quality to compete more widely, provide a testing ground and a market for innovative new products, or encourage innovation by providing a lead market for new technologies and solutions (European Commission, 2014 and 2016; Wade, 2015). Even the process of articulating its demand can have benefits, if procurement processes encourage the dialogue, information-sharing, transparency and long-term repeated-sum game that enable both parties to adapt and learn. This is not to say that procurement is necessarily straightforward; large government orders may need to be distributed across several firms and tender processes in countries at early stages of development, and kept uncomplicated for small firms to be able to participate.

Germany long maintained a strategic but transparent public procurement policy, prescribing the use of certain materials, technologies or standards that would enable the Government to promote certain types of companies or technologies (Chang et al., 2013). In the United States, state governments have their own procurement agencies with an independent strategic agenda, with some states assigning preferences for local manufacturers and others setting local content requirements. Developing countries have also considered public procurement as a potentially important instrument, according to recent research (Thrasher and Gallagher, 2015). The authors cite several instances of its use in these countries. For example, Viet Nam restricts bidding on tenders by foreign firms except if local bidders cannot provide the services or goods necessary. In Indonesia, a franchise law required 80 per cent of inputs to be sourced locally; in Brazil, local construction firms are given preferential treatment in public procurement processes. Malaysia has used public procurement to support indigenous peoples; and Brazil initiated a pilot programme of sustainable public procurement as part of its tendering policy.

Some have argued that developing countries should use procurement solely to support basic manufacturing and industrialization rather than to spark innovation and technological advances. But high-tech examples (such as Embraer in Brazil) and lower-tech examples (such as the development of biodegradable, cellulose-based packaging in Thailand) suggest it is not only in developed economies that procurement can target innovation. It may be possible to do both, as in some developing countries that are striving to

(often through joint ventures) were encouraged and cajoled into undertaking industrial upgrading (Lo and Wu, 2014).

The mixture of more general and selective measures in less developed countries, such as in sub-Saharan Africa, will need to be substantially different from more standard industrial policy packages, since these countries are still predominantly rural, with less developed markets, a smaller industrial base and weak public institutions. Moreover, the bulk of non-farm employment is generated in small firms or microenterprises, inter-firm specialization and collaboration are often absent, and economic transactions are strongly influenced by informal institutions that are not necessarily well aligned with the prevailing norms of market economies. To overcome these constraints and nurture larger and more competitive enterprises in both industry and agriculture, the State will need to assume a particularly active role. This will involve raising productivity in the rural economy in parallel with developing manufacturing activities

Box 6.2 (concluded)

manufacture generic versions of expensive medicines needed by their populations. In Africa and Latin America, these ambitions are being helped through national as well as regional approaches. At present Africa imports over 80 per cent of pharmaceutical and medical products (UNECA, 2014), but the African Union Pharmaceutical Manufacturing Plan for Africa aims to develop internationally standardized, sustainable local production of essential medicines, aided by regional development banks. Already more than 30 countries have some form of pharmaceutical production capacity, although with varying degrees of quality and regulation. Public procurement can play an important role in ensuring demand through the public health system. In Latin America, for example, 13 governments and 3 regional associations have joined forces to procure medicines at the regional level, as part of wider efforts to encourage regional production and trade. Such collaboration has already reduced costs by as much as 40 per cent. Needless to say, initiatives for regional collaboration in production need to be supported by appropriate polices at the national level.

State-owned enterprises can also be used strategically as part of a transformation strategy. For example, in Singapore, such enterprises have played a prominent role in activities such as an airline, shipbuilding and telecoms, ports and shipping, engineering and banking, and many remain in place today. Also, in the Republic of Korea, an SOE established to make steel soon became one of the world's more efficient steelmakers (Chang, 2007). The successful use of SOEs for productive transformation can also be found in other regions. In Uruguay, for example, the Government-owned electricity company, UTE, has been central to efforts at diversification away from non-renewable energy sources, as it could retain control over the natural monopoly activities of transmission and distribution, and increase scale by promoting regional integration of electricity supply to neighbouring Argentina. The Government also offered fiscal incentives to investors in the small segment of the energy system that was opened up to competition (Torres, 2016).

Government officials need to have an understanding of how to maximize the space still available under international agreements for using public procurement as a tool of industrial policy. WTO rules, for example, remain flexible in this respect, but the large, cumulative shares of public expenditure with a "home bias" are drawing increasing attention to public procurement in international negotiations. The provisions of the WTO Agreement on Government Procurement (GPA)[a] carry many restrictions, but only a small set of countries have signed up to binding commitments to open their procurement markets to foreign goods and service suppliers. And while a growing number of recent free trade agreements contain more intrusive and legally binding public procurement provisions, "it is still fair to say that by and large public procurement markets around the world are yet to become part of future liberalization rounds" (European Commission, 2015: 3).

[a] The Agreement on Government Procurement and the revised GPA II agreed in 2014 (see: https://www.wto.org/english/tratop_e/gproc_e/memobs_e.htm).

in urban agglomerates, strengthening integration and creating linkages among those activities. At the same time, complementary policies will need to safeguard the poor, whose livelihoods would be jeopardized by unfettered competition and support for a more commercialized form of agriculture. The policy mix and the sequence of reforms will need to be carefully tailored to individual country conditions, taking account of resource endowments, geography and levels of institutional development, which can vary from sector to sector (see box 6.1). The process will likely involve significant investment to boost the institutional capacities of both the government and the private sector.

In this context, it is useful to distinguish between "passive" and "active" industrial policies. A "passive" industrial policy essentially accepts the existing endowments and institutional structures, and aims to reduce the costs of doing business, including coordination and transaction costs. By contrast, an "active" industrial policy targets deeper changes in corporate

structure and behaviour, such as investment, exporting and upgrading. The institutional prerequisites for active and passive policies are likely to be different. In particular, as noted in the previous section, effective targeting of active measures requires substantial State capacity and a degree of discipline that is an area often neglected in discussions of industrial policy. In practice, while an active policy is almost always accompanied by a passive policy, the reverse is not the case.

2. Managing rents

Arguably, the critical step − and often a misstep − in the application of industrial policies is the provision, monitoring and disciplining of rents in support of structural transformation and upgrading. As discussed extensively in previous UNCTAD reports and academic studies (Khan and Jomo, 2000; Kang, 2002; Khan, 2007), rents have been used both to support a higher rate of capital formation and to guide economies towards sectors with greater linkages, technological sophistication and productivity levels. Indeed, outside the stylized world of rapidly clearing competitive markets, rents are a normal feature of a dynamic economic landscape. Industrial policy often works by creating rents for favoured sectors. These include selective protection and subsidies, to the extent these are still allowed under current trade and investment agreements; controls over the allocation of credit or differential lending arrangements; government provision of business services; and competition policy designed to promote favoured sectors.

In a purely static framework, rents signal a move away from market efficiency as a result of some kind of restriction on entry and exit that prevents the emergence of market-clearing prices and, by implication, imposes large welfare losses. But in a more dynamic setting, rents, whether associated with some distinct asset or attribute or with innovation, have always played an important role in the evolution of a capitalist economy. Schumpeter linked these to the process of "creative destruction" − the opening up of new lines of activity and production methods, and the running down and closure of existing alternatives. Rents are also implicit in infant industry programmes, compensating for the initial low productivity and correspondingly higher level of domestic marginal costs of new entrants, on the expectation that learning and scale factors will subsequently allow their withdrawal. More generally, Ocampo and Taylor (1998) have argued that when the assumptions of perfect competition fail to hold, and in the absence of uniform enterprise responses to changes in the economic landscape, rents can accelerate capital accumulation, raise productivity and contribute to a more dynamic environment.

There is certainly a downside risk, to the extent that rent-seeking becomes an alternative wealth-creating strategy based on redistribution rather than productive investment. From a policy perspective, potentially growth-enhancing rents can become growth-reducing if the State lacks rent-management capacities. If the State does not have the credibility to withdraw or withhold financial support when there is underperformance, there will be short-run costs with long-term consequences. As noted in chapter V, a strategy to increase profits by creating rents risks the use of those profits for higher dividend payments, the consumption of luxury goods and the acquisition of financial assets, rather than for boosting fixed investment. Managing this potential conflict of interest surrounding rent creation will require close attention to the various incentives on offer, and to the structure and efficiency of the fiscal regime (*TDR 2014*).

3. Strengthening learning capabilities

Start-up firms or older firms that must adapt to large competitive shocks will almost certainly experience substantial periods of loss-making as they experiment with internal organizational arrangements and learn to raise productivity and produce at a competitive cost. This recognition has informed policy support for the temporary protection of whole industries or sectors through trade measures, including tariffs and, often, large subsidies. However, indiscriminate use of learning rents can make it difficult, if not impossible, to enforce discipline along with providing incentives, and to prevent temporary learning rents from turning into more or less permanent distributive rents. This applies equally to other policy tools for the management of learning rents, such as intellectual property rights regimes (where the temporary protection of learning rents is intended

to incentivize the risky activity of innovation). Other examples include trade-related subsidies and licensing, formal skills training, subsidies for technology acquisition, technology transfer schemes and the regulation of MNEs operating in a learning sector or activity.

The discussion in chapter III indicated that productive transformation involves building productive capacities through capital formation, as well as building capabilities that extend the technological and knowledge frontier. The significance of learning in these processes was highlighted, not just technical or codified knowledge through formal teaching and research institutions, but also the tacit knowledge that can only be learnt on the job and through experimentation. This includes learning how to use new machinery, how to adapt production processes and products to local contexts, how to unlearn established but outdated routines, and how to build enterprise-specific collective competencies.

Indeed, such tacit organizational knowledge and learning-by-doing may be more immediately relevant for increasing aggregate productivity in many developing economies than formal skills training and cutting-edge research. Regardless, the two are interlinked, and the provision of formal skills training and research infrastructure is an important public sector responsibility that should not be neglected. These public investments also signal that the State is indeed making efforts to support the private sector, which often struggles to cope with the exigencies of learning-by-doing, since this takes time with payoffs coming only later. Also, its largely tacit and experimental nature creates considerable uncertainty for investors, given the absence of easily measurable skill outputs. Industrial policy needs to be sensitive to these aspects of creating a favourable learning environment. For most of today's developing economies operating in liberalized trade environments, the immediate challenge is often one of actively carving out competitive capacities in specific markets. This may require combining wage advantages with improving organization of production and distribution processes, which are clearly affected by such tacit knowledge. Therefore, flexible strategies are required in order to promote learning-by-doing effectively, for example setting optimal time periods for protection or subsidies.

Industry associations can help support a favourable environment where essential learning rents are temporary and do not turn into permanent distributive rents.

The difficult task of monitoring and disciplining tacit learning efforts can be facilitated through greater communication between State agencies and business organizations, as discussed more generally above. Even without the issue of making the provision of support for learning conditional on performance improvements, countries always face the problem that knowledge assimilation is not identical across all firms in a sector or between sectors, as is needed to promote spillovers and linkage-building. Industry associations should therefore perform a dual role. They could use their members and their informational advantages to promote learning and monitor performance in a "learning-by-monitoring" cycle (Sabel, 1994). For instance, support or incentives could be offered to firms that deliver on their "performance promise" as a reward for the risk of having transformed themselves from the older ways of operating, whereas firms that do not deliver may not be rewarded, although they may be helped. In Japan, "cooperative inspections" carried out by local trade associations in traditional export-oriented industries managed to improve the quality of goods for export and the efficiency of their production. All members of the associations were inspected, and the higher quality producers that wanted to maintain their reputation had an incentive to help the lower quality producers to improve (Sabel, 1994). Exchange of information between members of the Iron and Steel Institute is credited with having helped raise standards and smooth the radical reshaping of the Japanese steel industry, for instance. The internal monitoring of peers, carried out by those with a better understanding than an outsider, was linked to competition for scarce resources, internal training mechanisms, and the ability to reset and renegotiate the State's targets and incentives.

A continuous process of policy learning and independent evaluation can help ensure that policies and institutions are adapted and revised as conditions change.

Box 6.3

INDUSTRIAL COUNCILS IN URUGUAY[a]

A system of industrial councils was launched in 2010 in Uruguay, as part of the Government's new kind of industrial policy that sought to bring together policymakers, business associations and trade unions. This was in response to concern that, while Uruguayan industrial policy had been successful in promoting traditional areas of the economy and had avoided capture by vested interests, it lacked a more unifying and practical vision (Torres, 2016). Its previous successes had been attributed to its competent and autonomous bureaucracy (Hausmann et al., 2005); the new approach aimed to incorporate the principle of tripartite consensus-building.

The first step was to establish a production cabinet − an inter-ministerial coordination mechanism of eight ministries − which produced a white paper analysing 13 different value chains and identifying priority sectors to be targeted. In 2010−2011, the targeted sectors were automotive, biotechnology, pharmaceutical, naval and forestry/wood. In 2012, a second round included the chemical and metallurgy industries, and the information and communication technologies and design sectors. Each sector has its own industrial council comprising 10−20 members. Assigning of government officials is based on their ministerial experience and sectoral knowledge; private sector members include representatives from business chambers or associations and individual firms, as well as labour representatives.

The councils function through negotiation and consensus-building, and each sector develops its own long-term vision, objectives and quantitative targets, and identifies the mix of policies considered the most likely to achieve results. While the public sector is essentially in charge of defining the working methodology, broader stakeholder participation is seen as crucial for the implementation of the recommended measures. Access to relevant information is considered essential for constructing credible plans. Thus the councils are different from "traditional" bilateral consultations or lobbying because of the direct participation of both trade unions and business associations, the sharing of information and the transparency of decision-making at each level.

The effectiveness of the different industrial councils has varied, attributed mainly to the differing capacities of the participants, with some associations being better organized than others, or having more sophisticated agendas. Traditional sectors such as textiles have had a long history of collective association, whereas for some of the others (such as biotechnology or shipbuilding) this is a relatively new concept. Moreover, not all sectors have found it easy to provide adequately qualified or experienced professional staff to make the most of the opportunities provided by the councils.

There is also the inevitable issue that not all players have the same influence on the process. Some associations are represented by entrenched senior leaders who do not reflect the needs of the other members, while there are also some innovative organizations (e.g. the biotech association, AUDEBIO) that have a clear and modern agenda, although some important players in the sector may be absent.

Another essential determinant of the councils' success in achieving their goals is the policymaking capacity within the Government and among the private sector partners. This includes not only capabilities and capacities for design, implementation and assessment of industrial policy, but also the number and scope of the policy instruments that are used (as discussed in previous sections of the main text). Sectoral approaches already require a high degree of institutional capacity because they involve many interconnecting elements and a broad range of policy instruments (on the other hand, passive industrial policies and "horizontal" policies are considered less demanding in terms of institutional infrastructure, and may involve fewer instruments). In the case of "frontier" policies, which aim at creating capabilities in key strategic technological areas (such as nanotechnology and biotechnology), even more complex strategies are involved, which require still stronger institutional capacities and an effective coordination of stakeholders.

[a] This box is based on Torres (2016).

More recent examples of these principles at work include Ethiopia's recent initiatives using benchmarking programmes with international firms in the leather and textile sectors in order to upgrade management, productivity, input-supply networking, marketing and human resource development. The Government follows up and monitors implementation of the programme through textile and leather industry development institutes and the National Export Promotion Council. It has also initiated the Kaizen scheme, a Japanese management philosophy of continuously monitoring small details in order to bring about incremental improvements in quality and efficiency (UNECA, 2016; Gebreeyesus, 2013). In Chile, government procurement used to boost manufacturing in poor rural areas is monitored for quality through the establishment of a local trade association and group contracting. The "control" part of government support for the project is implemented through the association: if quality is poor, or if there are too many laggards in the group, nobody in the group is paid. Hence members have a strong incentive to monitor quality and help poor performing members. Close ties have helped promote more frequent and symmetrical flows of information, while cross-monitoring has prevented bureaucratic dysfunction.

Finally, learning is not just of relevance for the business sector. Policy learning, including the ability to evaluate, adapt and revise policies if they are ineffective, and learning to build institutions, are two of the most critical forms of learning for all countries, whether or not they engage in active industrial policy, and especially if they do. Policy learning is a continuous process, not a one-off effort or the wholesale emulation of policies that have been successful elsewhere. Policies that worked in one country will not necessarily work in another. Similarly, policies that worked very well in one place and time may no longer work in the same place at another time. Therefore policies need to be regularly and openly evaluated and reviewed, perhaps by an independent evaluation group, and the lessons need to be taken on board.[14] It is also important to emphasize the need for institution-building. This is always a challenge, but it is one that many developing countries, such as Uruguay, are taking on (box 6.3).

E. Integrating trade, macroeconomic and structural policies

The institutional geometry of developmental States, government-business relations and "reciprocal control mechanisms" described above cannot work on their own to transform economies. The key lies in their contribution to building the linkages that can sustain a process of structural transformation towards activities with rising productivity and higher paying jobs. As such, the tools and levers of industrial policy must also be part of an integrated and interconnected package of policies that align trade, competition, labour and macroeconomic policies with structural transformation. The package also needs to be adaptable, changing when constraints and capacities change.

1. A strategic approach to the role of international trade

Today's policymakers can no longer expect export-led production and trade of manufactures that fuelled industrialization in the East Asian tigers to produce similar outcomes. This is not to say that countries should no longer seek export markets; rather, a much more strategic approach is needed in which countries are more selective in their choices of processes, products and product markets.

For one thing, it will be necessary to avoid the fallacy-of-composition problem described in

chapter IV, whereby countries crowding into the same sectors at the same time cause prices, and ultimately wages, to fall sharply, thereby undermining efforts to boost export earnings. For most developing countries, entry into GVCs is often at the low value-added end of the chain of activities involving low-cost labour. In the absence of proactive policy measures, this has failed to establish a base for wider linkages and more sophisticated production. China has begun to re-engineer its participation in these chains by following an imported intermediates substitution industrialization strategy (IISI), but it has not yet been able to translate its mastery of manufacturing into price or branding power in the market. Nor has it been able to establish its own lead firms at a global level (Nolan, 2012), with a few exceptions, such as the computer-maker Lenovo or to leverage its technological strength in segments of the renewable energy (wind and solar) sector. This might not matter to the extent that growth is continuing at sufficient levels to support national development goals, and that it can use part of its massive foreign exchange reserves to purchase productive firms in developed economies, enabling it to secure higher value-added production for both export and its own domestic markets. On the other hand, the middle-income trap, which has ensnared many other developing countries that started their industrialization well before China did, serves as a warning of the need for it to keep moving forward. By moving to higher skill- and technology-intensive production, China's production upgrading should also open up opportunities to other countries that are at the earlier stage of industrialization.

Moving to more technology-intensive exports may seem a promising alternative, but this leap needs to be large and sustained, especially when many competitors are eyeing the same prize and when the latest technology is proprietorial or takes years to develop. Cultivating domestic capabilities may be a better general strategy than targeting particular products or markets. Replicating IISI will be one of the major policy challenges for many middle-income countries in the coming years. This may require transforming export processing zones into more integrated industrial development parks with much stronger backward and forward linkages with the rest of the economy.

Today's policymakers cannot expect export-led production and trade in manufactures that fuelled structural transformation in the East Asian tigers to produce similar outcomes ...

Policymakers should also seek to avoid export-led strategies that rely heavily on compressing wages and instead concentrate on upgrading labour skills. Labour is not just a cost of production; it is also an important source of demand and tax revenue, and by enhancing labour capabilities countries can change the composition and sophistication of their production (as discussed in chapter IV), especially in the current context of secular stagnation. Export-led strategies that rely on wage compression, especially of women's labour, and forego skills enhancement by ceasing to employ women as they gain experience and expect commensurate salary increases (Seguino, 2000), are neither beneficial nor sustainable. Similarly, productivity-enhancing efforts that rely on capital intensification and labour-shedding in particular sectors without providing new sources of gainful employment or training to those who lose their jobs will depress consumer demand. This will undermine efforts to boost domestic or regional consumption and discourage local investors from taking the risk of investing in local production as opposed to, say, speculative investments or investments in developed countries.

... and they must make the most of the policy space that still remains to find new points of entry into existing markets, along with a greater emphasis on domestic and regional markets.

Indeed, a commitment to diversification and upgrading has led more countries to seek manufacturing opportunities that are different from the paths previously chosen, through a greater emphasis on domestic and regional markets. Regional integration and South-South agreements, such as those linked to public procurement policies for medicines in Africa and Latin America (noted earlier), which increase the size of markets for developing-country manufacturers, can help by generating economies of scale, creating employment and fostering diversification. However, even if the "flying geese" pattern of

sequential take-off first noted in the 1940s could gain momentum through the emergence of regionally based production networks, the measured sequencing of economic upgrading is still equally, if not more, demanding today.

Because countries will still need to benefit from the opportunities of international trade, albeit with lower expectations than in the past, new points of entry into existing markets must be found. Competition policy needs much more attention, given the market dominance of MNEs. Even without explicit cartel behaviour or the abuse of dominant market position through restrictive business practices, there may be other effects of a less competitive environment. These may be expressed indirectly through higher prices for banking services, transport or electricity. The combination of increasing *concentration* at the top end of GVCs and increasing *competition* at the bottom end may require a new global institution, such as a global competition observatory, to monitor trends along different segments of these chains and across sectors, and to ensure that firms outside GVCs are not unfairly impacted.

Although multilateral and regional trade and investment agreements have constrained many of the policy options that once helped today's industrialized countries, some important space and flexibilities remain.[15] It is important for governments to consider how they can work with local businesses to take advantage of the remaining policy space in a strategic manner. Moreover, governments can encourage MNEs to become actively engaged players in industry associations, joining local firms as much as possible to participate in formal discussions about industry needs and constraints, and help stimulate linkages and learning by monitoring processes that are an important part of the support-performance pledges described above.

2. Macroeconomic matters

Even the best designed industrial policies cannot succeed without support from broadly pro-growth macroeconomic policies, and this matters even more when industrialization has stalled or deindustrialization has set in. Governments that seek to promote a structural shift into manufacturing or into more sophisticated services (box 6.4) need to adopt policies that will ensure high levels of aggregate demand, high levels of investment and a stable exchange rate at a level that does not jeopardize the competitiveness of domestic manufacturers. When governments have less room for manoeuvre with these three elements, they have an even more compelling need for a compensating industrial policy (Rodrik, 2008).

In many countries, policies aimed at accelerating structural change did not reach their objectives because macroeconomic and financial policies were either not supportive, or were even a hindrance. For example, in 2007 South Africa turned away from its orthodox policy to structural reform approach and embraced a proactive industrial policy (including a National Industrial Policy Framework and an Industrial Policy Action Plan) which aimed at structural transformation, but its tight monetary policy was at odds with this new strategic objective (Zalk, 2015). Since the global economic crisis and the consequent quantitative easing programmes introduced in developed economies, interest rates in South Africa have been consistently higher than the median for other middle-income developing countries (sometimes even double), despite lacklustre growth and a crisis of structural unemployment that called for much lower rates. High interest yields fuelled an overvalued and volatile currency as international speculators indulged in carry trade or bond market arbitrage. As with other countries, South Africa experienced a flood of short-term capital inflows as part of portfolio investment, rather than long-term productive investment. Private credit expansion grew very rapidly, but only 5−6 per cent of it went into fixed investment, and even this was directed mostly to consumption-driven sectors such as finance, insurance and real estate activities (Zalk, 2015: 338).

This example shows that active macroeconomic policy involving interest rates and exchange rates is a critical component of an integrated policy landscape. High interest rates in the context of restrictive monetary policies and an overvalued exchange rate have a negative impact on investment and export competiveness; they can also affect the competiveness of domestically produced intermediate goods and thus also hinder the emergence or consolidation of backward and forward linkages. By contrast, low interest rates and an undervalued exchange rate can, in some cases, support the development of domestic manufacturing industries. In the past, countries have used

Box 6.4

SERVICES AND DIVERSIFICATION: A ROLE FOR INDUSTRIAL POLICY?

The combination of continued population growth, accelerating urbanization and stalled industrialization in many developing countries has resulted in a growing role for services as a source of employment, often at low wages and under precarious working conditions. On the other hand, the possibility that certain service activities can embody high levels of knowledge and offer high-wage employment has increased the opportunities for developing countries to achieve growth-enhancing structural transformation by strengthening services alongside further development of their manufacturing industries.

As a result, services are taking on increasing importance in the strategic thinking of policymakers, both at the international and national levels (UNCTAD, 2015; Aboal et al., 2015). This means that policymakers have to look carefully at diverse service activities and their links to productivity and employment growth.

In the past, governments have promoted selective service activities such as tourism, call centres and business services on an ad hoc basis as sources of job creation and foreign-exchange earnings. With the expansion of global trade in services, other promising niche areas for expansion of service exports have emerged based on country endowments, such as time zone proximity, languages and cultural assets. In the case of Ethiopia, described earlier, the national airline service has contributed significantly to the success of other activities. More recently, some developing countries have turned to financial services as a potential area of expansion. However, the link between financial deepening and economic development remains complex, and a singular focus on financial services is likely to lead to a highly distorted economic structure. Public services, including the provision of public goods to enhance service exports (e.g. faster information technology or transportation networks, language skills and software training) can also offer direct employment opportunities, as well as supporting other activities.

The challenge for policymakers when promoting such activities is to judge their economic viability and the extent to which they generate linkages that contribute to rising productivity across the economy. Attention should be paid not only to the obvious service activities mentioned above, but also to diversification across lower profile service activities that can support manufacturing either directly or indirectly, such as product and process design services, packaging, transport and logistics and R&D. These can affect both the quality and the potential for adding value. The services sector has long been characterized as suffering from a cost disease, whereby its growing share in national income is as much a consequence of rising prices as expanding output, which in turn reflects the inherent constraints on raising productivity in service activities. Improving the quality of services is also essential, because qualitative improvements can fundamentally change the nature, the market and the development potential of the services on offer. Of course, by cutting costs in some service activities through innovation and productivity growth (not those that rely more on the human element), the services sector can stimulate technological progress. Thus, targeted policies in support of select service activities can contribute to a virtuous circle of rising productivity, investment and incomes. Indeed, firm-level competitiveness should be improved without engaging in a race to the bottom by reducing wages and prices, and in a manner more consistent with sustainable and inclusive growth.

The other positive externality from promoting certain services is the possibility of employment expansion, including in higher skill and higher wage jobs. However, since the supply of well-educated, skilled workers does not create its own demand, governments need to introduce policies to create that demand (Amsden et al., 2014). This may be particularly important in some service activities that are sometimes considered low skill but which can become more highly skilled, such as higher value-added activities in tourism. This links the development of service activities to measures to build domestic markets and capacities and move away from export dependence as part of wider efforts to implement what could be called a labour-based and domestic-demand-led strategy of development.

In developed countries, service activities are frequently supported by a range of proactive industrial policies aimed at creating linkages, improving quality and increasing value added, whereas in developing countries, policy attention is focused primarily on attracting foreign direct investment, while often failing to consider how such investment will support sectoral upgrading. Greater public sector employment, along with proactive labour market policies aimed at formal skills development and on-the-job training, are key to the success of any such strategy of upgrading. They support the view of economic development as "a process of moving from a set of assets based on primary products, exploited by unskilled labour, to a set of assets based on knowledge, exploited by skilled labour" (Amsden, 2001: 3).

exchange rates strategically to promote exports (and deter imports), and the East Asian tigers were able to judiciously portion out scarce foreign currencies as a way of rewarding firms for good performance. Policies to keep exchange rates low are often seen as a source of competitive advantage, and sometimes they have been promoted on the grounds that they do not "pick winners", nor do they require a great deal of technocratic skill or dedicated institutional mechanisms. Indeed, it is rare to find a developing country with a large proportion of export-oriented manufactures that did not have, at some point in time, an undervalued exchange rate (Steinberg, 2015). However, these effects are conditional on several economic and political factors. Moreover, an undervalued exchange rate may not only bring benefits, but also significant costs. One such cost is that the price of imported inputs into the production chain will rise, which could significantly hamper a country's efforts to improve technology transfer and boost production efficiency and competitiveness (see annex to chapter VI).

The best industrial policies cannot succeed unless supportive macroeconomic policies ensure high levels of aggregate demand, high levels of investment and a stable and competitive exchange rate.

The extent to which all policies are interlinked and can have unexpected consequences is very large indeed. Thus well-intentioned anti-inflationary policies, such as high interest rates (to moderate any price and wage increases), can lead to exchange rate appreciation in addition to undermining consumer demand, and consequently investment. Similarly, capital account liberalization policies that aim to mobilize capital for private fixed investment can have the opposite effect, as in South Africa, where it enabled a massive exodus of long-term South African capital, both legal and illegal, peaking at around 20 per cent of GDP in 2007 (Ashman et al., 2011).

Finally, fiscal policy is clearly important to maintain a stable but expansionary economic environment in which economic diversification can flourish. Not only is countercyclical fiscal policy essential for macroeconomic stabilization, and thus investor expectations, but the State is also the major investor in infrastructure in virtually all countries, with public investment in electricity, transport and other logistical services. Indeed, such investment is essential in most developing countries before manufacturing activities or even agro-processing can take off. Viewed in this light, fiscal austerity, regardless of economic context is pernicious, not just for short-term activity but also for structural transformation, since it tends to limit the public investment that is critical to providing the basis for future growth and diversification. As shown in chapter V, public investment has actually been declining, rather than increasing, in many countries, and this trend needs to be reversed if development and structural transformation are to progress in most countries. This implies that fiscal policy must also feature in any consideration of industrial policy.[16]

There are many, and now well-known, tools of fiscal policy. Fiscal incentives can be used directly to boost profits as a stimulus to investment demand, for example through tax breaks or accelerated depreciation allowances, and to allow firms to establish various reserve funds in order to defer paying taxes on profits on investments with long and risky gestation periods. Aggregate investment can also be increased by favouring sectors with important forward and backward linkages. Such targeted policies can in turn have favourable macroeconomic consequences, not only in terms of more economic activity but also by easing balance-of-payments constraints and enlarging fiscal space.

Other macroeconomic tools that have a direct bearing on structural transformation include income redistribution policies. A growth strategy that gives greater emphasis to domestic demand needs to recognize that labour income is the major source of domestic demand, even in relatively poor countries and in countries with a relatively large export sector. Therefore, policies aimed at increasing the purchasing power of the population overall, and wage earners in particular, should be the main ingredient of a strategy that favours promoting domestic, relative to external, sources of growth. Measures aimed at a more equal distribution of income, such as setting a minimum wage, direct taxation − rather than consumption taxes − and welfare-enhancing programmes, should be central to such a strategy (*TDRs 2010, 2012*). These measures, which would effectively lead to wage increases corresponding closer to average productivity gains, play a dual role:

they help sustain aggregate demand, and they trigger improvements in productivity through demand-driven technical progress. This may be particularly important in those service activities that have the potential to boost employment, but it can also apply to traditionally low-wage services such as tourism.

3. Reviving the profit-investment nexus

Along with the desire to invest, firms must also have the ability to do so through access to internal or external finance. In the post-war generation of successful industrializers, investment finance came mostly from internal sources generated through the profit-investment-export nexus (see chapter V). While this differed by country and firm, the broad thrust of incentives meant that higher productivity translated into exports, and the resulting profits were reinvested, leading to further improvements in productivity. Many developing countries offer very generous fiscal incentives, such as corporate tax rebates, to certain manufacturing firms, especially those engaged in export-oriented manufacturing, based on the expectation that domestic resource mobilization will be strengthened. However, sometimes those incentives are not conditional on the reinvestment of such profits. Therefore, while higher net profits may serve as an incentive to engage in the targeted activities, they contribute little to establishing a profit-investment nexus. Linking such incentives more closely to investment performance could strengthen such a nexus. Similar incentives could also support the creation of backward linkages if they were provided not only to firms in export industries but also to firms that can supply inputs to those industries.

The profit-investment relationship needs to be revived to encourage investment in productive activities ...

Most firms in developing countries and many in the developed countries still rely heavily on internal sources of finance, but, as discussed in chapter V, the profit-investment relationship has weakened or even broken down in large corporations in a number of countries, which may have contributed to stalled industrialization. It is not necessarily that firms are unprofitable, although this may be a real problem in some cases. Rather, some firms have ample surplus profits but do not reinvest them, preferring instead to hoard them or use them to buy back shares, pay dividends, reward managers or take other short-term decisions that do not include investment in new and uncertain products, processes and markets.

This also suggests that the incentives that existed in the past for investors to target productive activities are considerably reduced or absent. Moreover, the rise of institutional or foreign shareholders interested in short-term gains adds a further dimension, reinforcing the weakening of the profit-investment-export nexus. Fiscal and regulatory measures can play an important role in closing tax loopholes and bringing greater transparency to corporate decision-making, but effective regulation of distortionary monopolistic practices is essential to improve the chances of profits being directed towards productive investment.

All the evidence confirms that firms grow faster and are more productive when they have access to long-term finance. Hence, ensuring that investment leading to productive transformation is not frustrated by a lack of finance is a key element of a successful industrialization strategy. As noted earlier, provision of finance is an important tool of industrial policy, not only in terms of promoting investment in particular sectors, but also for enabling the monitoring and correcting of corporate behaviour in support of long-term investment. The easing of credit restrictions can be made conditional on meeting various performance requirements. Financial regulation can provide a tool to promote industrialization by making financial transactions less attractive than other, more productive investments.[17]

Direct credit allocation at preferential rates, as noted in earlier chapters, played an important role in animating the profit-investment-export nexus in the Asian NIEs. However, the need for large-scale infrastructure investments, characterized by economy-wide externalities as well as a series of complementary investments, exerts considerable pressure on financial institutions. Typically, commercial banks are unsuited to finance the many large and risky investments required for a successful

move onto and up the industrial ladder. These banks typically attract small savers with a preference for liquidity and short horizons, and thus lack the funds needed for large-scale, often long-term investments in the industrial sector. Central banks could support maturity transformation in their role as lenders of last resort, and also by providing deposit insurance. The latter measure would reduce the risk of sudden withdrawals of deposits that could cause liquidity problems for banks, while the former would address liquidity shortages, should they occur. But such arrangements have seldom succeeded in encouraging banks to provide a significant amount of long-term financing to the real economy.

Therefore, a more hands-on approach by the monetary authorities is required. Historically, central banks have used a wide variety of instruments to channel long-term finance in support of development objectives (Epstein, 2005), including the use of development banks and direct financing of non-financial firms. Given the greater demand for financing of the development process, the premature dismantling of development banks in several countries has proved unhelpful. Countries (both developed and developing) where industrial policy remains a significant driver of economic change have relied quite substantially on development banks.[18]

... Requiring a more hands-on approach by the monetary authorities to ensure that productive transformation is not frustrated by a lack of long-term finance.

As argued in chapter V, financing instruments also need to be fine-tuned to firm-level organizational structures, technical and infrastructural specificities at the sectoral level and the position of economic activities in GVCs. This requires the judicious use of available instruments in the specific national context. For example, public guarantees may help, but need to be used with caution in the light of some unfortunate experiences with such guarantees for infrastructure projects undertaken by public-private partnerships (PPPs) in the past. Public investment can play an important role in this respect, and efforts should be made to reverse its decline over the past few years, but much depends on where and how such investment takes place. In any case, public investment in developing countries requires better coordination, at least at the regional level.

4. Policies to better integrate the primary sector

Specific challenges confront policymakers in natural-resource-rich developing countries that are aiming for structural transformation, diversification and industrialization. Chapter III has described some examples where primary commodities played an essential role in generating backward and forward linkages with the rest of the economy, including generating knowledge and expertise (e.g. in engineering), which can also be applied to other sectors (Kaplan, 2016). For instance, many developing countries have made concerted efforts to promote agro-processing (such as Ethiopia, described in box 6.1 above). Others (e.g. the Lao People's Democratic Republic and the small island economies of the Caribbean) have been attempting to link value-added agricultural products with the tourism sector. However, in some very important commodity production chains − especially in the extractive industries − such linkages are fewer and more difficult to create, and call for greater and more sustained policy intervention by governments. For example, the Plurinational State of Bolivia's ambitious policies for structural transformation include the use of revenues from gas exploitation to create forward linkages through a creation of a petrochemical industry and the construction of natural gas processing plants and a national gas grid that has already reached 25 per cent of the population (Campodónico, 2016).

Other challenges to industrial policy efforts stem from the special macroeconomic characteristics of the primary industries sector, as government fiscal and external revenues that depend heavily on the production and export of raw materials tend to be extremely unstable due to the volatility of commodity prices.[19] They are also highly cyclical, leading to a tendency for procyclical fiscal policy and the many problems it entails, as described in section 2 above. Another obstacle is the well-known Dutch disease, which threatens government efforts to diversify the economy into other activities, because an appreciating currency associated with rising commodity revenues will raise the international price and

undermine the competitiveness of non-commodity exports. It also lowers the price of imported manufactures and other goods, thereby undermining efforts to produce them locally.

In order to combat these problems and build resilience many commodity exporters have sought to support industrial policy goals in recent years by establishing sovereign wealth funds. Some of these funds are set up for stabilization purposes, and are therefore confined to undertaking short-term and highly liquid investments, but many others have a mandate to make long-term investments in diversified activities, including transformative activities such as infrastructure development. Some focus on essential infrastructure building at the national and regional levels, including the Plurinational State of Bolivia's Fund for Productive Industrial Revolution, and numerous funds of the Gulf States and transition economies. Sovereign wealth funds are in essence public assets, and their activities can therefore be considered public investments, though many of them act more like traditional commercial investors than public ones (*TDR 2015*).

A corollary for managing the resources obtained from primary commodities and using them to finance structural transformation is that capturing a fair share of these resources should remain a central policy goal.

During the commodity boom of the 2000s, several governments revised their regulatory and fiscal regimes for the extractive industries in order to capture a better share of the rents (see *TDR 2014*, table 7.3). This trend appears to be reversing with the declining prices of minerals and metals since their peak of 2011 and the slump in oil prices, which means that governments risk losing much of their future earnings when prices eventually rise again. Governments may wish to consider introducing flexible taxation rates that will automatically rise with the recovery in commodity prices, following the principle long-used in salary or rental contracts that stipulate their automatic rise or fall with inflation.

F. Conclusions

The experience over recent decades echoes that of centuries past. No country has been able to achieve successful structural transformation without the visionary nudging and pushing of targeted and selective government policies. Often called "industrial policies", it would be more accurate to term them "production transformation policies", because their role is equally important in agricultural, industrial and post-industrial transformations. Despite being out of fashion in some quarters since the 1980s, they have made a strong come-back on the radar screens of governments in all parts of the world, including in the United Kingdom, where the term Industrial Revolution was first coined.[20]

This chapter has described some of the essential features of successful transformation experiences in many different contexts. It does not aim to present a shopping list of policy options and instruments, which for the most part are well-known by now, and are in any case highly context- and time-specific. Moreover, such shopping lists must be constantly adapted and revised as more information comes to light, as firms learn and grow, and as external conditions change. Rather, this chapter has sought to glean some of the major lessons that have been learned over many years with respect to the successful design, implementation and monitoring of industrial policies. These include the creation of a particular geometry of State-business relations that ensure government support efforts aim at overcoming the right challenges and problems, and that business is only supported when it produces the right actions. They also include the establishment of an integrated and coherent

framework of interlinking policies that complement each other and serve the overall vision. Such policies include, for example, macroeconomic policies that aim to create a pro-growth and stable environment alongside targeted industrial policies, fiscal policies that provide incentives to encourage long-term productive investment, and income and wage policies that promote skills, learning, and production and consumption goals.

Getting these basics right is more important now than ever before, owing to the greater challenge of industrialization. It is not just the adverse impact of continued secular stagnation and the diminished prospects for international trade that are forcing further reflection; it is also because many of the policies that propelled earlier generations of catch-up growth are now proscribed under various international, regional and bilateral agreements. Nonetheless, significant policy space remains, and new products and product markets can offer various opportunities for countries that have yet to embark on the path to industrialization, as well as for others that have already made some progress but have reached an impasse and need to change direction. Some opportunities come from greater South-South cooperation and regional integration and collaboration, while others may arise from new technologies. Reducing inequality will also create many new production and consumption opportunities. This particular goal can not only help fuel a positive transformational process (and redirect a negative one), but is also an essential one in its own right.

Multilateral support is needed to ensure that governments have the requisite fiscal revenues and policy space to create decent employment and shared prosperity for transforming people's lives.

As ever, national policies can help significantly, but they can only go so far; regional and, ultimately, multilateral support are also required to ensure governments have the fiscal revenues and policy space they need for designing and implementing policies that will help generate decent employment and shared prosperity, and thus improve people's lives.

Notes

1 A number of UNCTAD publications have addressed these issues over the years, including various *Trade and Development Reports* (in 1994, 1996, 1997, 2002, 2003, 2006 and 2014); the *Least Developed Countries Reports* (in 2006, 2007 and 2009); *The Africa Report*, 2012; and the *Technology and Innovation Report*, 2015.

2 There is a vast body of historical literature that has traced the role of the State as an instigator of structural transformation in today's developed economies, including its role in establishing an "efficient set of markets that make possible the growth of exchange and commerce" (see North, 1990; and Ogilvie, 2015) and in advancing the technological frontier and enhancing the creative side of market forces (see Chang and Kozul-Wright, 1994; Kozul-Wright, 1995; Reinert, 2004; and Mazzucato, 2013). For useful surveys, see Adelman and Morris (1988) and Chang (2009). Britain's Industrial Revolution did not occur through the spontaneous operations of free markets; it was the result of a set of historical, geographical and political circumstances that generated a particular technological trajectory (Allen, 2009) and included "a vector of policies which probably constitute one of the world's most successful and most consequential industrial policies (the mother of all industrial policies?)" Robinson (2009: 3), see also Vries (2015). For the United States, as possibly the first example of a modern developmental State, see Cohen and DeLong (2016).

3 On the experiences of the smaller, late-industrializing economies on the European periphery,

such as Austria and Finland, and later, Ireland, see Katzenstein, 1985; Vartiainen, 1995; Ornston, 2012; and O'Riain, 2014. The focus could also be local and regional, as with the creation of industrial districts in Emilia-Romagna (Italy) and Baden Württemberg (Germany).

4 As mentioned earlier, various reports by UNCTAD have discussed these experiences, including important differences between North-East and South-East Asia in their use of industrial policy.

5 On the problems with using competitiveness to frame national policymaking, see Krugman, 1994 and *TDR 2003*.

6 On China's use of industrial policy, see Knight, 2012; Heilmann and Shih, 2013; and Poon, 2014.

7 The role of industrial policy has been taken up again at the World Bank following the contribution of its former chief economist Justin Lin; see also the OECD (2014), UNIDO (2013) and UNECA (2014, 2015).

8 This is discussed in Lin and Chang, 2009, and is not repeated here, other than to highlight that the most successful tales of strategic transformation shared a brave vision from the start.

9 For useful surveys of the developmental State, see Woo-Cumings (ed) 1999; Kohli, 2004; Saraswati, et al. (eds.) 2013; and Haggard, 2015.

10 This was recognized by Gunnar Myrdal in his discussion of what he saw as a problem of "soft states" in South Asia, (Myrdal, 1968, chap. 18; and 1970, chap. 7). According to him, softness reflected "a general inclination of people to resist public controls and their implementation", and was associated not so much with any particular form of government as with a lack of "social discipline". Such States were vulnerable to capture by narrow interest groups, and were unable to address the various bottlenecks and hurdles blocking the path to faster rates of catch-up growth.

11 PIACs were created by the Presidents of Ghana, Senegal and the United Republic of Tanzania in 2002, followed by Benin, Mali, Mauritania and Uganda in 2004, and Ethiopia in 2010. There are similar initiatives in Latin American such as Uruguay's industrial councils, which bring together representatives from government, labour and businesses.

12 Meetings have not been frequent enough (only one of the countries studied had more than one council meeting per year), members have not possessed sufficient technical knowledge − often being simply large-scale investors − and secretariats have lacked the capacity to monitor and follow up on recommendations made by their councils, leading to delays in implementation or simply inaction (Page, 2014).

13 These are sometimes called "contingent rents", due to the fact that industrial support, by its very nature, creates a kind of rent.

14 For example, the reviews of Ethiopian industrial policy and institutions led by the Prime Minister's office help the long-term process of industrialization, because they acknowledge the possibility of failure and adapt expectations in order to keep initiatives on track (UNCTAD, 2015).

15 For a fuller discussion of the remaining policy space, and examples of how developed and developing countries have used it, see *TDR 2014*, chap. V.

16 Even in countries that hoped to rely on public-private partnerships for the provision of infrastructure and other public services, the State remains the major player (*TDR 2015*).

17 Examples are Brazil's tax on financial operations introduced following the 2008 financial crisis, and the Republic of Korea's tax on foreign exchange derivatives. Similar regulations are found in India, Indonesia, Taiwan Province of China and Uruguay, for instance (Global Trade Alert, 2013).

18 A recent study of industrial policy in Ethiopia shows, for example, that the Development Bank of Ethiopia has been an effective policy tool in mobilizing less costly finance and channelling it to the targeted sectors and productive activities. The study provides overwhelming evidence to support the case for national development banks and the role they can play, especially when guided by a developmental State with a clear vision and plan (Oqubay, 2015).

19 Resource-rich developed countries have more diverse sources of income (e.g. from indirect and direct taxation on the rest of the economy and from exports of manufactures), which commodity-based revenues complement but do not substitute.

20 See: http://www.ft.com/cms/s/0/b51df920-4db5-11e6-8172-e39ecd3b86fc.html#axzz4GG5zg8NN.

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Annex to chapter VI

GROWTH AND STRUCTURAL CHANGE: AN UPDATED ASSESSMENT OF THE ROLE OF THE REAL EXCHANGE RATE

Is it a good idea for policymakers to aim for an undervalued real exchange rate, as part of their industrial policy arsenal? UNCTAD recently examined this question, estimating the impact of undervaluation on economic growth for a panel of 175 economies, over the period 1950–2014. Broadly following Rodrik (2008), the model focuses on the impact on long-term growth of GDP per capita[1] (for further details on the methodology, see Maystre, 2016). Table 6.A.1 provides estimates of the following equation for all countries (columns 1 and 2), for the groups of developing countries and transition economies (columns 3–5) and for their subsets (columns 6–9).

$$\ln GDPpc_{it} = \omega \cdot \ln GDPpc_{i,t-1} + \delta \cdot UNDERVAL_{it} + \gamma \cdot RER\ volatility_{it} + \text{Cur.dep.with bank crisis}_{it} + \text{Cur.dep.without bank crisis}_{it} + f_i + f_t + v_{it}$$

Column 1 points to a positive relationship between *UNDERVAL* and *GDPpc*. Column 2 splits *UNDERVAL* into two groups and shows that undervaluation is significant only for the group of developing countries and transition economies, but not for the developed countries. Overall, the magnitude of the effect of *UNDERVAL* for developing and transition economies over the period 1950–2014 is sizeable, as an increase of 0.37 of *UNDERVAL* (i.e. one standard deviation in the sample of developing countries and transition economies) increases the five-year *GDPpc* by about 2.4 per cent.

Additional results show that the negative and almost-always significant coefficients of *RER volatility* confirm the view that an unstable RER is detrimental to growth. The magnitude of its impact over the entire period on *GDPpc* is also considerable, as a decrease of 1.55 of *RER volatility* (i.e. one standard deviation) increases the five-year *GDPpc* by about 1.65 per cent. Together with large currency depreciations, whether or not associated with a banking crisis, these three variables also aim at controlling for macroeconomic instability. Overall, estimates partially support the argument by Frenkel and Rapetti (2015) for a stable and competitive real exchange rate (SCRER) rather than simply an RER undervaluation.

Panel regressions in columns 3 to 5 explicitly exclude developed countries, and split the entire period into three parts. Results suggest that the relationship between *UNDERVAL* and *GDPpc* was more pronounced during the period 1950–1979 (column 3). Its coefficient for 1980–1999 (column 4) is no longer significant and, interestingly, it becomes negative and significant for the period 2000–2014. The latter partly reflects the experiences of several commodity-exporting countries that register an RER appreciation together with faster growth at times of rising commodity prices.

Lastly, to check whether the effects of *UNDERVAL* differ across regions, columns 6–9 disentangle the impacts by considering Africa, Latin America and the Caribbean, Asia and the transition economies, respectively. Results show that *UNDERVAL* is stronger in Asia. By contrast, no significant effect appears for the other groups.

A further breakdown by considering the three sub-periods used in columns 3–5 shows that *UNDERVAL*

Table 6.A.1

REGRESSION OF ECONOMIC GROWTH ON UNDERVALUATION MEASURE, 1950–2014

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dependent variable: Ln real GDP per capita (lnGDPpc)								
	All economies		Developing countries and economies in transition			Africa	Latin America and the Caribbean	Asia	Economies in transition
	1950–2014	1950–2014	1950–1979	1980–1999	2000–2014	1950–2014	1950–2014	1950–2014	1950–2014
lnGDPpc (Lag)	0.859*a* [0.0199]	0.857*a* [0.0208]	0.653*a* [0.0954]	0.700*a* [0.0426]	0.631*a* [0.0711]	0.887*a* [0.0450]	0.793*a* [0.0330]	0.871*a* [0.0324]	0.219*c* [0.105]
UNDERVAL	0.0591*a* [0.0200]		0.177*b* [0.0766]	0.042 [0.0396]	-0.107*b* [0.0423]	0.065 [0.0389]	0.057 [0.0372]	0.104*b* [0.0474]	-0.011 [0.149]
UNDERVAL in developed economies		0.038 [0.0415]							
UNDERVAL in developing and transition economies		0.0648*a* [0.0243]							
RER volatility	-0.0104*a* [0.00395]	-0.0107*a* [0.00405]	-0.0132*a* [0.00403]	-0.00455*a* [0.00155]	-0.008 [0.0147]	-0.0164*a* [0.00554]	-0.0278*b* [0.0115]	-0.004 [0.00465]	-0.013 [0.0247]
Dummy: large currency depreciation associated with banking crisis (Cur. dep. w/ bank crisis)	-0.027 [0.0211]	-0.027 [0.0210]		-0.028 [0.0287]	-0.022 [0.0258]	-0.018 [0.0424]	-0.0649*b* [0.0269]	0.002 [0.0278]	0.009 [0.0362]
Dummy: large currency depreciation not associated with banking crisis (Cur. dep. w/o bank crisis)	-0.027 [0.0209]	-0.027 [0.0207]		-0.0537*c* [0.0299]	-0.001 [0.0208]	-0.010 [0.0309]	-0.137*b* [0.0567]	-0.0704*a* [0.0217]	-0.060 [0.0546]
Country fixed effects (CFE)	yes	yes	yes	yes	yes	yes	yes	yes	yes
Period fixed effects (PFE)	yes	yes	yes	yes	yes	yes	yes	yes	yes
# Observations	1,659	1,659	380	490	407	517	348	330	72
R^2 (within)	0.901	0.901	0.747	0.635	0.784	0.844	0.914	0.936	0.898
# Countries	175	175	118	135	137	50	35	34	17

Source: UNCTAD secretariat calculations, based on *Penn World Tables* (*PWT*) database, version 9.0, Feenstra et al., 2015; and on IMF, *World Economic Outlook*, 2015, for the definition of the dummies relating to the large currency depreciations associated, or not, with banking crises.

Note: The estimations rely on recently released PWT data, which cover a maximum of 175 countries. Each observation represents an average for each five-year window running from 1950–1954 to 2010–2014 to avoid capturing short-term variations. $GDPpc_{t-1}$ corresponds to the period-lag of *GDPpc*, and partly aims at controlling for standard economic convergence. *UNDERVAL* is an indicator of real undervaluation, which is created as follows. First, *RER* is regressed on *GDPpc* and a set period's fixed effects: $\ln RER_{it} = \alpha + \beta \cdot \ln GDPpc_{it} + f_t + u_{it}$. This first step aims at controlling for the Balassa-Samuelson effect, namely the fact that non-tradable goods are usually cheaper in poorer countries. Then, *UNDERVAL* is computed by taking the difference between the actual RER and the Balassa-Samuelson-adjusted one, $\overline{RER}_{it}$, which corresponds to the predicted value from the previous equation. Hence, $UNDERVAL_{it} = \ln RER_{it} - \ln \overline{RER}_{it}$. As Rodrik (2008) explains, constructed in such a way, *UNDERVAL* is comparable across countries and over time. In particular, a positive value of *UNDERVAL* refers to RER undervaluation, while a negative value corresponds to RER overvaluation. *RER volatility* refers to the variance of the RER during the five-year period. All the specifications include a set of country and period dummies as well as two other dummies that take the value of 1 if, during the period, the country experienced significant currency depreciation episodes associated with banking crises, or not, as defined by the IMF (2015). Countries with extreme observations for *UNDERVAL* (Democratic People's Republic of Korea, Iraq and the Lao People's Democratic Republic) and for *RER volatility* (Barbados) have been excluded from the samples. Robust standard errors are shown in square brackets. *a, b* and *c* indicate statistical significance at the 1 per cent, 5 per cent, and 10 per cent levels, respectively. Because the first large currency depreciation occurs in 1983 in our dataset, column 3 does not include the two related variables.

is usually stronger in the earliest period of the sample in all subgroups (results not published here), except Africa, where its coefficient is positive (0.141) and significant at the 10 per cent threshold during the period 1980–1999. Note also that *UNDERVAL* is statistically significantly negatively correlated with *GDPpc* in Latin America during 2000–2014. Furthermore, when disentangling the effects of *UNDERVAL* by the level of income per capita using the World Bank classification of upper middle-income countries (UMICs), lower middle-income countries (LMICs), and low-income countries (LICs) rather than by geographic areas, results show that *UNDERVAL* is significantly correlated with growth of *GDPpc* in the LICs during the whole period but not in the higher income groups. This echoes to a certain extent the finding that the effect of undervaluation on growth appears to be the largest in poor countries (Haddad and Pancaro, 2010).

The existing literature often refers to a positive relationship between an undervalued RER and economic growth (for a more detailed review, see Maystre, 2016). Updated results discussed here suggest, however, a more nuanced picture. In particular, estimates show that RER undervaluation is often less (or no longer) significant in the more recent periods. In addition, it tends to be less supportive as *GDPpc* grows, though there might be some non-linearities (Rapetti et al., 2012). Moreover, RER undervaluation has not always been helpful in all regions. However, from this empirical analysis and further robustness checks not presented here (see Maystre, 2016), it does seem that overvaluation is always detrimental to growth, and should therefore be avoided.

In view of these results, RER undervaluation should not be seen as a panacea for growth, even though it is hard to find a developing country with a large share of manufactures in its total exports where the RER has not been undervalued at times. This corroborates the political economy hypothesis provided by Steinberg (2015), according to which RERs tend to be more undervalued in developing countries that have a strong manufacturing sector and adds support to the view that macroeconomic policy and industrial policy cannot be pursued in isolation.

Finally, it is worth pointing out that, strictly speaking, the RER is not a policy variable, but a relative price determined by several factors. Governments can still influence the RER through policies such as moderate fiscal consolidation in the presence of a low level of private absorption, capital account management, targeted interventions on foreign exchange markets and a nominal depreciation associated with anti-inflationary policies, such as price and wage moderation (Rodrik, 2008). Needless to say, the choice of instruments needs to be context-specific; but in times of subdued external demand it will be important to ensure that policy tools to influence the RER are compatible with stimulating, rather than reducing, domestic aggregate demand. ■

Note

1 It does not use other proxies for structural transformation as this is the best of those currently available. Another approach could have been to consider the impact on exports, but this has the disadvantage of necessarily excluding imports, which also matter for structural change and long-term growth. Similarly, estimating the impact on the composition of production or other proxies for structural change was ruled out due to lack of data. However, these remain important avenues for future research.

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