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Structural transformation for
inclusive and sustained growth

Chapter VI

INDUSTRIAL POLICY REDUX

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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).

> No country has achieved transformation from rural poverty to industrial prosperity without the use of industrial policies ...

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
ln*GDPpc* (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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