
UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT
GENEVA

TRADE AND DEVELOPMENT REPORT, 2014

Chapter V

TRADE AND INDUSTRIAL POLICIES IN AN EVOLVING GLOBAL GOVERNANCE REGIME



UNITED NATIONS
New York and Geneva, 2014

TRADE AND INDUSTRIAL POLICIES IN AN EVOLVING GLOBAL GOVERNANCE REGIME

A. Introduction

As the international community rethinks its goals for a post-2015 development agenda to succeed the Millennium Development Goals, it is imperative to ensure that effective policy instruments are available to countries to enable them to achieve the agreed goals and advance the agenda. This chapter argues that recent experience, historical evidence and theoretical insights all point to the role that proactive trade and industrial policies must play in that agenda.

The role of such policies in development strategies has been extensively discussed and debated. Developed countries adopted a variety of industrial policies during their period of industrialization, and continued to do so after the Second World War in their pursuit of sustained economic growth, full employment and accelerated technological progress. Subsequently, industrial policy was also high on the agenda of many developing-country governments that saw industrialization as key to unlocking underutilized resources, addressing long-standing structural weaknesses and social deficits, and closing the technological gap with the developed economies. This post-war policy consensus on the utility of proactive trade and industrial

policies also informed the debates about reforming the multilateral trade and financial systems in a way that would allow developing countries the policy space¹ to adopt the measures and instruments they deemed necessary to foster rapid productivity growth and industrial development (see chapter IV).

From the early 1980s, industrial policy largely disappeared from the development agenda of many countries, particularly in Africa and Latin America. This was partly a reaction to evidence of specific policy mistakes and abuses, but it was also due to a more ideologically driven debate that blamed government failures much more than market failures for slow economic development and emphasized the need for market liberalization. Just as important, in several developing economies the debt crisis eroded the ability of States to pursue proactive policies. Not only did they suffer from macroeconomic and fiscal constraints, but also they had to submit to the growing policy conditionality attached to loans extended to them by the Bretton Woods institutions. Furthermore, many observers saw the period of economic stagnation following the debt crisis as the inevitable outcome of distortions

The availability of effective policy instruments is imperative to advance a post-2015 development agenda and achieve its goals.

associated with State-led industrialization, rather than as a consequence of deflationary macroeconomic policies, and supply-side shocks due to badly designed adjustment programmes. As a consequence, many countries reduced or abandoned proactive trade and industrial policies and began to favour unfettered markets and transnational firms, as endorsed by the so-called “Washington Consensus”.

Interest in proactive trade and industrial policies has revived since around the turn of the millennium, for a variety of reasons. First, and probably most important, was the accumulation of overwhelming evidence that the most successful developing countries – notably the newly industrializing economies in East Asia followed by China – were the ones that had systematically followed a pragmatic approach to promoting industrial development through a combination of macroeconomic and structural policies, measured protectionism while gradually opening up to trade and investment, and effective collaboration between the private and public sectors.² Second, it was increasingly recognized that the policies associated with the Washington Consensus were doing little to support economic upgrading and diversification, which meant that countries would risk falling into a “middle-income trap” (see, for example, Felipe et al., 2012). Third, mainstream economists started to accept some of the insights into economic development from classical economics, such as the recognition that economic development has a “structural” dimension, the importance of linkages and learning for accelerating productivity growth, and the key role of demand. This greater acceptance was helped by translating classical economists’ “intuitive insights into clear-cut models that could serve as the core of an enduring discipline” (Krugman, 1993: 26).³ For these reasons, there is now wider interest in industrial policy (Naudé, 2010). This has moved the debate to a more pragmatic level, with discussions focusing not so much on whether industrial policies are needed as on how best to pursue such policies (e.g. Rodrik, 2008; Salazar-Xirinachs, et al., 2014), and what lessons can be learned (and transferred) from the experiences of the successful industrializers.

It is clear that specific policy measures adopted by some of the successful industrializing countries cannot easily be replicated by other countries. This is not only because individual countries’ success stories are invariably linked to special economic and institutional conditions that are unlikely to exist in other

countries; it is also because changes in the external economic environment affect both the availability and effectiveness of specific policy instruments (Akyüz et al., 1998). At present, four elements of the changing dynamics of the world economy are crucial for the way in which proactive trade and industrial policies can spur economic development, as discussed below.

- (i) International economic governance has increasingly restricted the options available for conducting the kinds of trade and industrial policies that individual countries are legally allowed to pursue.

This is in contrast to conditions prevailing at the time of the export-oriented revival of Japan’s manufacturing base after the Second World War and the rapid economic catch-up of the so-called “Asian tigers” (Hong Kong, the Republic of Korea, Singapore and Taiwan Province of China) between the 1960s and 1980s. Although these economies periodically encountered protectionist barriers on developed-country markets, such as high tariffs and tariff escalation, as well as so-called “voluntary” export restraints, the Multi-Fibre Arrangement and other non-tariff barriers, they enjoyed significant flexibility in pursuing their own trade and industrial policies that helped them achieve rapid structural transformation.

This situation changed with the Uruguay Round Agreements (URAs), resulting from multilateral trade negotiations, and the creation of the World Trade Organization (WTO) in 1995. As discussed in some detail in *TDR 2006*, these agreements came with some significant restrictions on the conduct of trade and industrial policies of all WTO member States. Further restrictions followed with the proliferation of regional trade agreements (RTAs) and international investment agreements (IIAs), many of which contain rules and regulations that go beyond the URAs.

- (ii) Under the increasing influence of financial markets and interests, many countries have been experiencing unbalanced economic growth, both internally and externally, and many policymakers have recognized a link between structural problems in their economies and a

heightened vulnerability to shocks and crises (UNCTAD, 2011a). In this environment, the challenge for policymakers is to make economic growth and development more inclusive – ensuring that all social groups enjoy the benefits of economic growth – by complementing the market mechanism with policy measures and institutional support aimed at the creation of decent jobs, and at achieving more equal income distribution and poverty reduction. There is an ongoing search for policy measures that can bring about such outcomes without putting a large additional burden on government budgets.

- (iii) Developments in the global economy since the onset of the economic and financial crisis in 2008–2009 have thrown new light on prevailing challenges to export-led industrialization models.

It is well known that export-led industrialization strategies must sooner or later reach their limits when many countries pursue them simultaneously, as competition among economies based on low unit labour costs and taxes faces a fallacy of composition that leads to a race to the bottom (e.g. *TDR 2002*). At the present juncture, when developing countries' opportunities to increase exports of manufactures to developed countries are likely to remain weak for some time, the limitations of such a growth strategy are becoming even more obvious. A rebalancing of developing countries' growth strategies towards a greater emphasis on domestic and regional demand could reduce this risk (e.g. *TDR 2013*). It is true that the combination of faster growth of domestic demand and slower growth of external demand could lead to a deterioration of the trade account. This means that such a shift would require proactive trade and industrial policies that strengthen domestic supply capacities in order to contain trade deficits, which otherwise would have to be redressed through foreign capital inflows.

- (iv) In some developing countries, the fear that the strong increase in primary commodity prices

since 2002 may cause or accelerate deindustrialization has given greater urgency to the question of how to foster industrialization. Several developing countries have, moreover, found that their apparently successful structural transformation by promoting manufacturing through participation in international production networks is linked to only "thin" industrialization. That is, they have succeeded in participating in manufacturing networks, but only in low-skill activities without the ability to upgrade. In many cases, this has yielded lower than expected economic benefits, besides hampering both social upgrading and inclusive industrialization. In many such economies, as in others where structural transformation is even less developed, there are growing demands by their societies, and especially by the increasingly more educated youth, for policies and economic outcomes that meet their aspirations for greater economic opportunities and better lives.

Against this background, this chapter examines how systems of global economic governance (both private and public) have constrained proactive trade and industrial policies, and highlights how some countries have managed to implement policies to foster structural transformation despite these constraints. It also considers what additional challenges could impede the effective pursuit of such policies in the years ahead. It concludes that, in order to pursue rapid and inclusive economic growth

Trade negotiations need to refocus on multilateral agreements which recognize the legitimate concerns of developing countries.

and meet future global development goals, developing countries will need sufficient policy space at the national level to undertake the necessary structural transformation of their economies. At the international level, the multilateral governance framework will need to be more permissive and coherent if it is to facilitate such structural transformation.

The chapter is structured as follows. Section B discusses the impacts of the various trade, investment and comprehensive economic partnership agreements on national trade and industrial policy space. It highlights areas where provisions in URAs and RTAs have constrained such policy space for developing countries, as well as areas where flexibilities remain intact. The factors that prompt developing

countries to engage in RTAs and effectively renounce policy space are also considered. Such engagement is paradoxical, especially as it is evident that many of these countries have been investing considerable efforts at the multilateral level to preserve such space, for example by rejecting developed-country proposals to deepen rules concerning international investment, intellectual property rights (IPRs), government procurement and financial services. The section concludes by addressing recent tendencies towards broadening the notion of “protectionism” and denouncing as “murky” those behind-the-border measures that are designed to advance and direct structural transformation but which could hamper the opportunities for profit-making by transnational corporations (TNCs).

Section C begins with a brief discussion of the meaning of industrial policy. It then provides some recent country-specific examples of industrial policies, especially those aimed at creating and strengthening domestic linkages and fostering innovation within the context of what remains legally possible. Section D discusses two elements of the changing dynamics of the world economy that pose additional challenges to the effectiveness of proactive trade and industrial policies in spurring economic development. The first is a potential decline in export opportunities for developing countries.

WTO-plus and WTO-extra provisions should be abandoned, while fostering the developmental aspects of the Doha Round.

While exporting can be a powerful driver of productivity growth in manufacturing, slow growth in developed countries is causing them to reduce their imports from developing countries. This suggests that export-oriented industrial policies are becoming less effective, and reinforces the need for developing-country governments to strengthen industrial policies directed at fostering domestic and regional linkages and innovation. The second challenge relates to tendencies to move away from a coherent multilateral governance system towards a multitude of initiatives that are introducing ever-growing constraints on the ability to use national policy instruments.

The concluding section E argues that developing countries require greater policy space to enable them to continue their rapid growth trajectory of the past 15 years and make such growth more equitable and sustainable. Strengthened global economic governance that refocuses trade negotiations on multilateral agreements which recognize the legitimate concerns of developing countries, abandons WTO-plus and WTO-extra provisions and fosters the developmental character of the Doha Round would be an important step in this direction. Leveraging the greater economic and political power that developing countries have achieved over the past two decades could strongly support this process.

B. The evolving global governance framework: Implications for national trade and industrial policies

Successful development experiences have generally been associated with structural transformation (see box 4.1). This section examines the constraints faced by developing countries in adopting the trade and investment policies they deem to be the most suitable for structural transformation. In particular, it focuses on the multiplicity of trade agreements

(multilateral, bilateral and regional) and how they restrict national policy space. Multilateral agreements maintain some flexibilities and incorporate some special and differential treatment (SDT) for least developed countries (LDCs); however, they typically limit or forbid the kinds of policies that played an important role in successful processes of

Box 5.1

STRUCTURAL TRANSFORMATION IN DEVELOPING COUNTRIES: THE ROLE OF THE MANUFACTURING SECTOR

At relatively early stages of economic development, per capita income growth results from capital accumulation that allows a fuller use of underutilized labour and natural resources without necessarily altering the efficiency of use of these factors of production. As economic development proceeds, further growth of per capita income has generally been associated with sustained productivity gains based on structural transformation, i.e. moving labour and other resources from relatively less productive activities, such as in agriculture, to more productive activities in the formal manufacturing and services sectors.^a

Manufacturing plays a central role in this structural transformation. Activities in this sector are more conducive to specialization and the division of labour, and offer greater potential for innovation and increasing returns to scale than other sectors (Kaldor, 1968). Moreover, in contrast to the primary sector, and especially the extractive industries, most manufacturing activities are labour-intensive, so that, given the right wage and labour market policies, productivity growth has the potential to benefit a large proportion of the population. The ensuing, relatively more equal distribution of income growth, combined with the high income elasticity of demand for manufactured goods, ignites a virtuous process of cumulative causation between supply and demand effects that further supports structural transformation. The central development challenge for policymakers, therefore, is to achieve an intersectoral shift of productive employment towards high-productivity activities combined with productivity growth within each economic sector, particularly manufacturing, while ensuring a broad distribution of the benefits of productivity growth.

Once developing countries have succeeded in establishing a manufacturing base, and the intersectoral productivity gaps have narrowed, their ability for further catch-up with richer countries increasingly depends on sustained improvements in productivity within the manufacturing sector, such as through technological advances and the creation of new products and processes, along with the development of related technological and social capabilities.^b

Success in achieving structural transformation and the policy strategies contributing to that success have varied significantly across countries. As discussed in previous *TDRs* (in particular *TDRs 1996, 2003* and *2006*), the pace of structural transformation in developing economies in East Asia – especially the Republic of Korea and Taiwan Province of China between the 1960s and the 1990s, and China since the 1990s – has outperformed that in other developing countries. Proactive trade and industrial policies, rather than a reliance on unfettered market forces, have generally played a key role in their success, just as they did during the process of industrialization in the now developed countries.^c

Country-specific factors, including not only different initial economic conditions but also less developed administrative and institutional capabilities, partly explain the limited ability of other developing countries to emulate the successful structural transformation experiences of some East Asian economies and China. But also, and equally important in this context, the other developing countries are likely to have been constrained by less room for manoeuvre in their trade and investment policies.

^a The classic references for this so-called “dual economy” approach include Lewis (1954), and Ranis and Fei (1961), while the more recent literature, reviewed by Roncolato and Kucera (2014), also includes McMillan et al. (2014). For a more detailed discussion and evidence up to the turn of the millennium, see also *TDR 2003*, chap. V. This distinction between traditional and modern economic sectors contrasts with growth models in the neoclassical tradition, which consider such structural differences sufficiently small to allow all economic activities to be aggregated into just one sector.

^b While this chapter emphasizes the role of manufacturing, successful structural transformation in Asia (such as observed first in Japan, then in the Republic of Korea and Taiwan Province of China, and most recently in China) suggests the importance of two other elements. The first relates to the maximization of agricultural output, while the other relates to the government’s role in directing investment towards activities that have the fastest possible productivity growth potential, and hence promise large future profits. The first of these two elements was discussed in detail in *TDRs 1995, 1996* and *1998*, while *TDRs 2003* and *2013* addressed the second one. On both elements, see also Studwell, 2013.

^c For detailed empirical evidence on structural transformation over the past four decades, see UNIDO, 2013, and for a more general discussion of developmental success stories see, for example, Fosu, 2013.

structural transformation in the past. This process of limiting national policy space began with the URAs, which included several rules that were not directly related to trade flows. Subsequent bilateral and regional trade agreements have increasingly included rules that can be important for the design of comprehensive national development strategies, such as government procurement, capital flows, trade in services, and environmental and labour issues. Many of them have also included disciplines concerning IPRs and investment-related measures that are more stringent than those already incorporated in multilateral agreements. In a sense, these bilateral and regional agreements are no longer “trade agreements”; they are more comprehensive economic integration treaties, often referred to as economic partnership agreements.

1. Multilateral trade agreements: Constraints on policy choices and remaining flexibilities

The multilateral trade regime comprises a set of negotiated, binding and enforceable rules and commitments that are built on the core principles of reciprocity and non-discrimination, as reflected in the most-favoured-nation (MFN) treatment and the commitment to national treatment (i.e. equal treatment for domestic and foreign goods and enterprises in domestic markets) requirements. Together, these rules and commitments may be considered a global public good, as they inject certainty and predictability in international trade and limit adverse international spillovers that may result from beggar-thy-neighbour policies (i.e. discriminatory or mercantilist trade policies whereby economically or politically powerful countries seek to obtain benefits at the expense of less influential countries). This trade regime has granted developing countries some important exceptions. For example, exceptions to the MFN rule accord developing countries preferential and more favourable market access, and exceptions to the reciprocity principle allow developed countries to grant their developing-country partners less than full reciprocity in multilateral trade agreements. Prior to the URAs, these exceptions, which are generally known as special and differential treatment (SDT) provisions, were couched in developmental terms; they were seen as recognition by the international

community of the differences between developed and all developing countries in terms of economic structures and levels of development.

While maintaining some exemptions for LDCs (and, in some cases, other low-income countries), the URAs represented a step towards a single-tier system of rights and obligations. The SDT was modified to accord developing countries time-limited derogations and longer transition periods, as well as technical assistance for the implementation of multilateral agreements (such as through the WTO-led Aid for Trade initiative). However, eventually these countries will need to fully comply with all the rules and commitments embodied in the URAs.⁴ This reinterpretation of SDT was part of the grand bargain behind the URAs and the establishment of the WTO which, more generally, aimed at providing developing countries improved access to developed-country markets, particularly in agriculture and textiles and clothing, in exchange for some important concessions by developing countries in terms of market opening and, in particular, their acceptance of a wide range of rules and commitments (*TDRs 1994* and *2006*).

For example, the Agreement on Trade-related Investment Measures (TRIMs)⁵ prohibits the discriminatory imposition of requirements on foreign investors such as local-content and trade-balancing requirements, as well as foreign-exchange restrictions. These instruments had often been used by policymakers in the past to increase the linkages between foreign investors and local manufacturers in the context of structural transformation.⁶ Under this agreement, it is also difficult for countries to make support conditional on reaching certain export targets. This means that policy measures that were important for controlling performance, such as withdrawing support from producers that fail to achieve international competitiveness within a predefined period of time, are no longer possible.⁷ However, measures that do not impose quantitative restrictions and do not treat foreign investors less favourably than domestic ones do not violate the agreement; nor does a potential race to the bottom in according foreign investors ever larger concessions that may well harm domestic investors, and even drive them out of the market, especially as there are no effective multilateral codes of conduct for foreign investors. Furthermore, policymakers may continue to impose sector-specific entry conditions on foreign investors, including industry-specific limitations.⁸ They may

also apply local-content requirements for the procurement of services, including technology and data flows, unless such measures have been prohibited through commitments in the General Agreement on Trade in Services (GATS).

A second set of obligations results from the Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS), which establishes multilateral minimum standards for granting and protecting the use of intellectual property (IP) (e.g. copyrights, patents and trademarks) in foreign markets. The agreement severely restricts reverse engineering and other forms of imitative innovation which previously were used by many countries, including the now developed ones, for their structural transformation processes. This has also adversely affected competitive conditions in all countries, as it has been found that patents “are increasingly used as strategic assets to influence the conditions of competition rather than as a defensive means to protect research and development outcomes” (Max Planck Institute for Innovation and Competition, 2014: 2). Moreover, the recent rapid rise in the number of patent filings and grants has led to an increase in costs that disproportionately benefits TNCs at the expense of smaller enterprises and individual inventors.

There is some flexibility in the TRIPS Agreement through its mechanisms of compulsory licensing and parallel imports.⁹ In addition, varying patentability standards, such as the granting of narrow patents for incremental innovations that build on more fundamental discoveries, may be useful for adapting imported technologies to local conditions.¹⁰

The Doha Declaration on the TRIPS Agreement and Public Health, which was adopted at the WTO Ministerial Meeting in 2001, clarified some of these flexibilities. Even though the Declaration focused on public health issues, many of its clauses have broader implications and concern IP in any field of technology. Therefore, they may also be used to promote domestic production (Correa, 2014). However, there is little evidence to suggest that these flexibilities have been incorporated into national laws and regulations and put to effective use (Deere, 2009). This may be because of the proliferation of RTAs, many

of which incorporate more stringent provisions than the TRIPS Agreement. But it could also be because it is not always clear which IPR regime is appropriate at a given stage of development. This lack of clarity makes it difficult for policymakers to determine how the flexibilities available could be used in industrial policy instruments to suit the requirements of national technological capabilities and social priorities.

In this context, it may be useful to identify three stages of industrial development: *initiation*, *internalization* and *generation*. At the early or *initiation* stage, mostly mature technologies are incorporated into domestic production through informal channels of technology transfer (such as the acquisition of machinery and equipment, reverse engineering and subcontracting) as well as through formal modes of transfer (such as turnkey agreements and foreign-direct investment (FDI)). At this stage, the IPR regime has little or no positive impact on local innovation, although it may affect access to goods by the local population. Thus, the IPR regime should allow as much margin as possible

The URAs have reduced the policy space available to WTO members while leaving some flexibilities intact.

for the absorption and diffusion of acquired technologies. This is the situation in LDCs, where technology efforts typically focus on mastery of operation and low-level design technology. Similarly, in other developing countries strong IPR protection most probably will not allow for more technology transfer or local innovation. At the *internalization* stage, some low-intensity research and development (R&D) industries emerge, and local producers are able to develop “minor” or “incremental” innovations, mostly from routine exploitation of existing technologies rather than from deliberate R&D efforts. Strong IP protection may have little or no impact on innovation, while reducing the diffusion of foreign inputs and technologies and increasing their costs. A flexible system is ideal at this stage, but at the very least the design of IPR legislation should aim to allow reverse engineering and technology diffusion by making full use of the remaining flexibilities in the TRIPS Agreement and in various RTAs. Finally, at the *generation* stage, some industries may benefit from IP protection to consolidate their innovation strategies domestically or internationally, as is the case in some of the more advanced developing countries such as Brazil and India. However, there will

still be some tension between the interests of local innovators and the society at large, since increased levels of IP protection may reduce technology diffusion by restricting the access of other local producers, as well as access by local consumers to the products of innovation because of consequently higher prices.

A third example of additional commitments through the URAs relates to the GATS, which has extended the most-favoured-nation and national treatment principles from trade in goods to trade in a wide range of services, such as finance, tourism, education and health provision. The GATS provisions are based on a “positive-list” approach, i.e. countries list their liberalization commitments in terms of mode and sequencing, but retain autonomy over all other sectors. In principle, this should allow countries to retain some of their policy space. However, some observers have expressed concern about the full reach of GATS regulations and argue that the GATS effectively covers regulations as wide-ranging as domestic laws, guidelines, unwritten practices, subsidies and grants, licensing standards and qualifications, and economic needs test (Chanda, 2002), making it applicable to all regulations and measures by governments at all levels (central, state, provincial, local and municipal), even when they are for the purposes of environmental and consumer protection or universal service obligations. There are also persistent ambiguities about the extent to which “non-commercial” government services are excluded from the GATS, since most such service delivery today contains a mix of public and private involvement (Chanda, 2002).

A fourth set of obligations can be found in the Agreement on Subsidies and Countervailing Measures (SCM), which significantly strengthens disciplines relating to subsidies.¹¹ The agreement covers two categories of subsidies, and regulates the use of countervailing measures on subsidized imports that are found to hurt domestic producers. “Prohibited” subsidies are those that are contingent upon the use of domestic over imported goods or export performance.¹² Yet, making subsidies conditional on export performance was a crucial monitoring device in East Asian countries’ outward-oriented strategies to ensure that support was given only to those enterprises that were able to compete in international markets.

Under the SCM Agreement, all other subsidies, including those for production, are “actionable”. They are not prohibited, but are subject to challenge through the Dispute Settlement Mechanism (DSM) or to countervailing action. Such a challenge would need to be based on the finding that a subsidy causes any of the following three adverse effects for a member State: first, nullification or impairment of tariff concessions or other benefits accruing under the GATT 1994; second, injury to a domestic industry caused by subsidized imports in the territory of the complaining member, where such injury can be the basis for countervailing action; and third, serious prejudice, which constitutes the broadest form of adverse effect (e.g. export displacement) in the market of the subsidizing member or in a third-country market. Until the expiration of article 6.1 of the SCM Agreement at the end of

1999, a serious prejudice claim could be related to four situations, but whether such claims still apply remains unresolved (Coppens, 2013: 91).¹³

A major flexibility retained by the SCM Agreement concerns the granting of export credits.¹⁴ While Annex I explicitly

identifies export credits as prohibited subsidies, its item (k) includes a safe-haven clause stipulating that “an export credit practice which is in conformity with ... [the interest rate] provisions ... of an international undertaking ... to which at least twelve original Members to this Agreement are parties as of 1 January 1979 ... shall not be considered an export subsidy prohibited by this Agreement.”¹⁵ While not explicitly naming it, this clause refers directly to the Arrangement on Officially Supported Export Credits of the Organisation for Economic Co-operation and Development (OECD). The purpose of that Arrangement is to provide an institutional framework for the orderly use of publicly supported export credits relating to exports of goods and/or services and to financial leases with a repayment term of two or more years. Through its implicit inclusion in the SCM Agreement, this framework has become a benchmark for all WTO members applying the interest rate provisions of the Arrangement (Coppens, 2009).¹⁶ A reflection of this is the complaint “Brazil-Aircraft” (1996–2001) brought to the WTO dispute settlement panel by Canada, where Brazil, as a non-signatory to the OECD agreement, successfully claimed that its revised financing programme (PROEX III)

WTO members can still use tariffs to protect certain sectors, and they have some flexibility in the use of both IP and FDI regulatory measures.

supporting its aircraft industry was in accordance with the SCM's safe-haven provision (WTO, 2013b).

Country-specific schedules annexed to the Marrakesh Protocol of the GATT 1994 have governed the commitments relating to tariff reductions resulting from the Uruguay Round negotiations. These schedules have committed developing countries to a larger coverage of tariff bindings (e.g. all tariffs on agricultural products have been bound) as well as to significant reductions in their previous bound rates of industrial tariffs. Nevertheless, developing countries have preserved some degree of flexibility with regard to tariff policy, as they have left part of their tariffs unbound, and bound other tariffs at sometimes relatively high levels. As a result, there are sometimes rather wide differences between bound and applied rates (often referred to as "tariff binding overhang"), and between those tariff rates across individual tariff lines.¹⁷ However, those large differences are also indicative of the considerable trade liberalization that has occurred on a unilateral basis outside the multilateral trade regime, including through conditionalities associated with loans extended by the International Monetary Fund (IMF) and the World Bank to developing countries.

The remaining flexibility for developing countries' tariff policies may well be reduced, or even eliminated, by the Doha Round negotiations on non-agricultural market access (NAMA). It may be argued that further constraints on tariff policy would do little harm, because it is generally recognized that in many respects tariffs are not the best tool to promote structural transformation, that developing countries have rarely used this remaining flexibility, and that the "tariff wars" of the 1930s amply demonstrate their potential harm. However, tariffs remain an important source of fiscal revenues for many developing countries. Moreover, modulating the level of applied tariffs may be an important tool for sector-specific support policies, especially because the SCM Agreement has circumscribed the use of subsidies, which, in many instances, have been a preferred instrument to support structural transformation.

In this context, it is important to bear in mind that structural transformation is a cumulative process

in the course of which an economy moves from one stage of industrialization to another through the establishment of new and more productive manufacturing activities. Successful experiences of structural transformation, as in the Republic of Korea, point to the importance of flexibility in sector-specific public support policies.¹⁸ Applied to tariffs, this would imply changing the sector-specific level and structure of tariffs over time, while maintaining considerable dispersion of tariffs across economic sectors.¹⁹

Yet, in addition to aiming at full binding coverage, the NAMA negotiations have been pursued on a line-by-line basis, which implies tariff cuts in all product categories, subject to some country-specific

WTO members can also continue to use certain subsidies and standards to promote R&D and innovation activities.

provisions, some of which are still under negotiation, and a considerable decline in tariff dispersion across products. This contrasts with the approach adopted during the Uruguay Round "when commitments by developing countries were for an average level of tariffs without any obligation to apply reductions to all tariff lines" (Akyüz, 2005: 6). Equally important, the negotiations have been based on using a formula for tariff reductions, rather than the previously used request-and-offer approach, with a view to reducing more than proportionally higher tariffs and therefore achieving greater harmonization of industrial tariffs across countries. Attaining the latter objective would imply deeper cuts by developing than by developed countries, since tariffs in developing countries are typically higher. Indeed, the approach adopted for modalities of industrial tariff reductions, as contained in the latest negotiated text of December 2008, stipulates an increase in binding coverage and a reduction in tariffs according to a simple Swiss formula, with separate coefficients for developed- and developing-country members (WTO, 2008).²⁰

This section has shown that the URAs have reduced the policy space available to WTO member States, but also that the multilateral trade regime has preserved policy space in some areas. In terms of constraints, the URAs have placed restrictions on the imposition on foreign investors of performance requirements on exports, on domestic content and on technology transfer, all of which have historically been very important in promoting late

industrialization. They also make it more difficult or costly for domestic producers to undertake reverse engineering and imitation through access to technology that is covered by patent or copyright protection.

However, WTO members retain the possibility of using tariffs to protect certain sectors, and have some flexibility in the use of both IP and regulatory measures concerning FDI. Perhaps most importantly, WTO members can continue to use certain kinds of subsidies and standards aimed at fostering structural transformation that involves the generation of new productive capacity by helping to promote R&D and innovation activities. Some examples of how countries have used such flexibilities are discussed in section C.

2. Regional trade agreements: Additional constraints on policy choices

Since the early 1990s, a wave of RTAs (i.e. regional trade agreements with reciprocal commitments between two or more partners) has eroded a considerable degree of policy space that was preserved under the multilateral trade regime.²¹ This has happened by strengthening enforcement, eliminating exceptions or demanding commitments not included in the URAs. RTAs also have increasingly incorporated investment provisions, which, traditionally, were dealt with in separate bilateral investment treaties (BITs). This trend is reflected in the declining number of new investment treaties concluded since the mid-1990s, and especially the early 2000s (UNCTAD, 2014: 115), and a growing number of RTAs with investment provisions (Miroudot, 2011). RTAs may be considered as constituting steps in the direction of so-called “deep integration” – economic integration that goes well beyond the reduction or elimination of tariffs, quotas and other barriers to trade at the border, and covers measures such as government procurement, investment, competition policy and the mutual recognition or harmonization of standards.²²

By 15 June 2014, the GATT/WTO had been notified of some 585 RTAs, of which 379 were in

force.²³ Article XXIV of the GATT 1994 and article V of the GATS permit RTAs between developed- and developing-country partners (North-South agreements) within the multilateral trade regime, provided they do not raise the overall level of protection against non-participants, liberalize “substantially all” trade in goods and attain substantial sectoral coverage in trade in services. The Enabling Clause of the GATT 1979 (in particular, its paragraph 2(c)) permits preferential arrangements among developing countries (South-South agreements) in goods trade, even in the absence of such liberalization commitments. The number of South-South agreements has grown significantly over the past two decades, with a particularly sharp increase during the 1990s. According to WTO estimates, roughly 200 such agreements were in force worldwide in 2010 compared with only about 30 in 1990 (WTO 2011: 55).

The measures included in RTAs are often analysed in terms of whether they are “WTO-plus” (i.e. more stringent than provisions already covered by the multilateral trade regime) or “WTO-extra” (i.e. deal with provisions that go beyond current multilateral trade agreements) (see, for example, Horn et al., 2010; WTO, 2011; Dür et al., 2013; Kohl et al., 2013).²⁴ A large proportion of these agreements include either the EU or the United States as a partner, and both have come to be identified as the two main “hubs” in the pattern of RTAs, with their various partner countries being the “spokes”.

Regarding the scope of RTA provisions, the evidence shows that they have become more comprehensive over the past 20 years (Dür et al., 2013), and many are now formally described as comprehensive economic partnership agreements. It also seems that North-South agreements generally contain a larger number of both WTO-plus and WTO-extra provisions than either North-North or South-South agreements (WTO, 2011). For the inclusion of WTO-extra provisions in South-South agreements, WTO (2011: 133)

notes that some developing countries may attempt to export their regulatory regimes just as developed countries do. This may raise concern as to the extent to which South-South agreements follow an approach that prioritizes development-oriented trade and investment promotion. On the other hand, the

RTAs have eroded considerable policy space that was preserved under the multilateral trade regime.

detailed comparison of WTO-plus and WTO-extra provisions in North-South and South-South agreements in Thrasher and Gallagher (2008) suggests that South-South agreements maintain ample policy space for industrial development. However, these authors also note that the greater flexibilities in South-South agreements do not derive from a lack of affirmative trade disciplines but from the attempt of these agreements to combine substantial trade liberalization with regional protection to promote regional growth.

Evidence for North-South agreements shows that agreements with the EU include substantially more WTO-extra provisions than agreements with the United States. However, many provisions in RTAs with the EU are not legally enforceable, so that, overall, provisions in agreements with the United States would appear to be stricter (WTO, 2011).²⁵

Tariff regulations are but one example of WTO-plus provisions. RTAs typically demand reductions of applied tariffs, rather than referring to the often much higher bound rates as in the NAMA negotiations. Regulating applied tariffs results in significantly lower flexibilities in developing countries' tariff policies, in particular when reductions lead to free trade agreements (FTAs) or even customs unions. A second example concerns trade in services. GATS-plus commitments may take the form of either stricter bindings in sectors already committed under the GATS with a view to guaranteeing a minimum level of treatment, or new bindings or commitments. The latter may result from the adoption of a negative-list approach, as used in the North American Free Trade Agreement (NAFTA), meaning that obligations in the respective RTA fully apply to all sectors, subject only to explicitly listed reservations. By contrast, some RTAs, such as the Common Market of the South (MERCOSUR) and the Framework Agreement on Services of the Association of Southeast Asian Nations (ASEAN), maintain the positive-list approach of the GATS.

Third, regarding TRIPS-plus commitments, RTAs generally include more stringent enforcement requirements or provide fewer exemptions (such as allowing compulsory licensing only for emergency situations). They also prohibit parallel imports, and

extend obligations to cover additional IP issues (such as life forms, counterfeiting and piracy) or exclusive rights to test data (such as those relating to pharmaceuticals).²⁶ Furthermore, they may contain more detailed and prescriptive IP provisions, and reduce the possibility for States to tailor their IP laws to their specific domestic environments or adapt them to changing circumstances.

A fourth example is TRIMs-plus commitments. Some RTAs have broadened the definition of investment such that the principle of non-discrimination extends to forbidding export-performance requirements, demands for technology and knowledge transfer, as well as preconditions concerning the nationalities of senior management and personnel. RTAs may also extend TRIMs provisions to cover taxes and charges or distribution activities (such as warehousing, unloading, storage and shipment of goods). Indeed, given that the investment chapters in RTAs often draw on pre-existing BITs, rather than on the TRIMs Agreement, their provisions may be considered WTO-extra commitments (discussed in greater detail below).²⁷

A final example of WTO-plus provisions in RTAs relates to technical barriers to trade (TBTs), which concern the cost of adapting foreign goods to the importing countries' standards and technical regulations. While

the latter involve barriers such as testing and certification, standards may be broadly distinguished as applying to products, processes or management systems, all of which have the effect of discriminating between those firms that respect certain standards and those that do not. In the context of fostering structural transformation of the domestic economy, such discrimination may be considered a benefit for domestic firms, as it would increase the cost for foreign firms to adapt their operations and demonstrate conformity with a view to penetrating domestic markets. While WTO agreements provide rules for the design and implementation of standards, as well as guidelines and recommendations for WTO members to base their measures on international standards, several RTAs refer to the main instruments of liberalization in this area, namely harmonization and mutual recognition (Maur and Shepherd, 2011). TBT provisions in existing RTAs with the United

North-South agreements contain a larger number of both WTO-plus and WTO-extra provisions than either North-North or South-South agreements.

States tend to include mutual recognition, meaning that countries agree to recognize each other's regulations, standards or conformity assessment procedures as equivalent, thus facilitating the unimpeded flow of goods into partner markets even though standards may continue to differ.

RTAs involving the EU typically prefer harmonization, which enhances compatibility between imported and domestically produced goods, and facilitates substitution (Disdier et al., 2013). To the extent that harmonization requires conformity with EU standards, this region's firms will realize economies of scale by gaining access to a larger market with the same standards. More generally, mutual recognition and harmonization may introduce de facto discrimination against developing countries, which may lack the capacity and resources required to achieve conformity with given technical standards. It was observed, for example, that the harmonization of the EU's electronics standards with international ones in the 1990s induced entry by new United States exporters but resulted in a withdrawal of some developing-country exporters from EU markets (Reyes, 2012). There may be an additional adverse effect on both South-South exports and on production for a country's home markets, given that "once the Southern-based producer has been forced to adapt its production processes to Northern regulations for products bound to that market, it is likely to adopt the same processes for all of its production to avoid separate production chains and higher fixed costs. When those processes are more costly due to stringent Northern regulations, one can expect the Southern country's trade flows to be affected with all partners" (Disdier et al., 2013: 11).

Turning to WTO-extra provisions, these commitments largely concern competition policy, investment and the movement of capital. A smaller number of RTAs have also extended their coverage to include issues such as government procurement, labour mobility²⁸ and environmental standards (Kohl et al., 2013). Provisions relating to competition policy attempt to dilute or prevent the abuse of market power by requiring commitments to the adoption and/or application of competition law and closer

cooperation among the competition authorities of RTA partners. The areas most often affected include concerted actions, abuse of a dominant position and State aid, but they may also relate to monopolies and State-owned enterprises. For example, provisions may require the progressive dismantling of any State-owned commercial monopoly, so as to ensure that there is no discrimination between nationals of RTA members in terms of the conditions under which goods or services are produced and marketed.²⁹ This may have asymmetric effects because developing countries tend to have more State-owned enterprises, partly owing to the absence of private entrepreneurs willing and capable of providing certain goods or essential services.

The investment chapters in RTAs generally combine provisions on the protection and promotion of investment with provisions on the liberalization of foreign investment (such as the prohibition of local-content and trade-balancing requirements), as well as comprehensive disciplines on trade in services. They

thereby cover rules and commitments included in BITs and, multilaterally, in the TRIMs Agreement and in the GATS. They serve to facilitate company strategies that combine FDI and trade in international production networks and liberalize trade and investment to a greater extent than is done at the multilateral level (Miroudot, 2011). An important reason for the wider coverage of these

commitments is their application of the principle of non-discrimination to foreign investors, combined with a broad, asset-based definition of investment. In addition to FDI, the latter also covers some types of portfolio investment, such as equities and real estate, and in some instances even extends to IPRs (Fink, 2011).³⁰

Moreover, several RTAs include investment provisions that cover both the pre-establishment phase (i.e. market access) and the post-establishment phase (i.e. protection of investment, including in the event of nationalization or expropriation, and the right of temporary entry of managers and key personnel of a foreign investor). The rules also provide for a standard of fair and equitable treatment, which, contrary to the relative standards of national

WTO-extra provisions largely cover competition policy, investment and capital movement, but some also cover government procurement, labour mobility and environmental standards.

and third-country MFN treatment, is an absolute standard that confers the right to a certain minimum level of treatment. Some of them also provide for the unrestricted flow of transfers, including all kinds of fees and returns on investment.

Another key commitment concerns dispute settlement. While traditional trade agreements follow the paradigm of State-to-State resolution of disputes, some RTAs (i.e. those following the NAFTA approach) include an investor-State dispute settlement mechanism. The latter feature, common in investment treaties, allows foreign investors to seek compensation for perceived damages resulting from measures implemented by host governments, typically through the International Centre for Settlement of Investment Disputes (ICSID).³¹

The inclusion of investment chapters in some RTAs also implies that these provisions govern the movement of capital under a negative-list approach. This extends beyond WTO provisions where capital flows are treated under the positive-list approach of the GATS. Besides, most RTAs do not provide exceptions in the case of serious balance-of-payments and external financing difficulties (as allowed multilaterally in article XII of the GATS).³²

With regard to government procurement policies, RTAs generally address social, environmental and national security concerns, as well as issues related to good governance, but, historically, they have also been used to support industrial and regional development. Government procurement is excluded from the national treatment obligation of GATT article III (8)(a), and of the GATS, though the latter calls for multilateral negotiations on government procurement in services. This means that at the multilateral level, government procurement policies are governed only by the WTO Agreement on Government Procurement (known as GPA) – a plurilateral agreement that currently covers only 42 WTO members (including the 27 member States of the EU), most of which are developed countries. However, some RTAs affect non-GPA signatories through provisions such as reciprocity and transparency, and may even extend to non-discrimination. The latter implies granting

partner countries' firms access to contract award procedures on conditions no less favourable than those accorded to firms from any other country. Such provisions would be violated, for example, through "buy national" provisions in fiscal stimulus packages, as were used by many countries in 2008–2009, unless the government entities administering such stimulus programmes remain outside GPA coverage.³³

3. *The rising restrictiveness of policy commitments and international production networks*

(a) *Why developing countries engage in RTAs*

From the above discussion, the question arises as to why developing-country governments continue to enter into RTAs despite the existence of a multilateral trade regime that supports international cooperation and limits the opportunities for beggar-thy-neighbour policies. This question becomes even more pertinent given that, by signing RTAs, these governments relinquish some of the policy space they have been struggling hard to preserve at the multilateral level.

The economic literature has discussed several motives that may induce developing-country policymakers to sign RTAs. One is to enhance policy predictability. For example, more liberal-minded governments might seek to engage in RTAs with a view to tying the hands of future governments that are perceived as being more easily influenced by domestic interest groups lobbying for protection (Maggi and Rodriguez-Clare, 1998) or that have different ideologies. RTAs may also be considered a fall-back option in case multilateral negotiations are caught in a prolonged stalemate. Additionally, policymakers may wish to stabilize and secure the preferential market access that developed countries have granted them unilaterally and temporarily through the Generalized System of Preferences (GSP) and related programmes (Manger and Shadlen, 2014).³⁴

By signing RTAs, developing-country governments relinquish some of the policy space they have been struggling hard to preserve at the multilateral level.

Further, there may be a “domino effect”, with the proliferation of RTAs increasing the likelihood of further RTAs being formed as a result of some governments fearing exclusion when other countries gain preferential market access and become more attractive as destinations for FDI (Baldwin and Jaimovich, 2012). This is related to the emphasis on export promotion as a development strategy that makes securing and increasing access to developed-country markets, including relative to other developing countries, almost an end in itself. On the other hand, the sizeable reduction of MFN tariffs has led to very low levels of applied tariffs, and applied MFN rates have been reduced to zero for many tariff lines. At the same time, the wave of preferential trade agreements has allowed a very wide range of countries to enjoy preferential access, further eroding any country’s preference margin over other countries. Hence, from a global perspective, the importance of tariff preferences has been greatly reduced (Fugazza and Nicita, 2013).

However, these factors cannot fully explain why the wave of RTAs has been accompanied by an increasing number of provisions that lead to deep economic integration which extends beyond border measures such as tariffs. Such provisions include a wide range of domestic policies and regulations, particularly those that protect tangible and intangible assets (such as foreign capital and intellectual property), facilitate the coordination of dispersed production activities (such as the flow of investment, know-how and people), and govern product and process standards. Developing-country policymakers may well believe that locking in preferential market access is necessary in exchange for policy and regulatory commitments seemingly required for attracting FDI and for enabling their firms to join international production networks.

Empirical evidence on the link between RTAs and international production networks indeed shows that two countries that already engage in trade within production networks are more likely to sign a deep RTA. This is a prominent feature in agreements of developed countries with developing countries in East and South-East Asia, the region where international production sharing has increased the fastest (Orefice and Rocha, 2014). Related empirical

Empirical evidence that strict investment provisions stimulate FDI is ambiguous.

evidence for BITs and investment chapters in RTAs that regulate the treatment of FDI, “whose protection is a core element of the package used by many developing nations to join international supply chains” (Baldwin, 2014: 31), shows that the strictest investment provisions are often signed by developing countries under economically weak conditions in the hope that increased FDI inflows will help resolve their economic problems (Simmons, 2014). But while the empirical evidence that such provisions are effective in stimulating FDI is ambiguous, the more general trend towards agreements with stricter investment rules is driven by competitive diffusion; that is, defensive moves on the part of developing countries concerned that FDI will be diverted to competing host countries. Importantly, contagion may also help explain the increasing severity of provisions, with developing countries caught in a race to conclude not only more such agreements but increasingly more stringent ones (Neumayer et al., 2014).

(b) *Tendencies towards further reductions of policy space*

The onset of the global crisis and the ensuing collapse in global trade in 2008–2009 prompted various attempts to document changes in trade and investment policy measures. In part this was a response to widespread fears that the Great Recession would lead to a sharp increase in protectionism and would cause further fragmentation of the world trade regime, as well as a sharper decline of economic activity and a slower trade-related recovery. It was also felt that documenting the changes could increase transparency relating to the adoption of trade-related policy measures that may make the inclusion of developing-country firms in international trade more difficult.

The fear that the Great Recession would trigger a sharp rise in protectionism was based on the comparison often made between the Great Recession and the Great Depression that started in 1929, which led to a wave of protectionism during the 1930s as part of more general beggar-thy-neighbour policies (see chapter IV and Eichengreen and Irwin, 2010). Successive declarations by G20 leaders sought to allay this fear, starting at the Washington summit in

November 2008, where the leaders declared that they would maintain open trade and investment regimes and eschew protectionism (with the qualifier “in all its forms” added at the Los Cabos summit in November 2012). They also proposed the establishment of a (non-binding) monitoring mechanism.

Evidence shows hardly any increase in industrial tariffs, even though a large number of countries, and especially developing countries, could have used their so-called “tariff binding overhang” to raise applied tariffs by fairly wide margins without violating their WTO commitments (Baldwin and Evenett, 2012). It is debatable whether policymakers voluntarily renounced use of this policy option that is still available to them because they found WTO commitments sufficiently persuasive, or because many crisis-hit countries had the possibility to let their currencies depreciate, contrary to the 1930s when this option was not available for countries unless they abandoned the gold standard. In any case, economic historians have long pointed out that economic crises generally spark innovative policy measures, implying a divergence in the character of pre- and post-crisis protectionisms. The 1930s, for example, witnessed a substantial resort to voluntary export restraints, implying that documentation of trade policy measures concentrating on traditional instruments, such as tariffs and quotas, would have missed the shift to protectionism (Eichengreen and Irwin, 2010; Evenett, 2013a).

There have been various attempts to assess different countries’ use of trade and investment policy measures in response to the crisis in order to evaluate the extent to which such measures may have worsened the relative treatment of “foreign commercial interests”. The Global Trade Alert (GTA) finds that in this respect, France, Germany, Italy and the United Kingdom are among the world’s 10 most protectionist countries (Evenett, 2013b).³⁵ More traditional trade policy measures like tariff increases and trade defence measures (such as anti-dumping policies) have accounted for less than half of all recorded actions.

Evidence from developing countries, particularly in Asia, suggests that those countries that have lower levels of tariff binding overhangs have used “non-traditional” policies, such as bailouts, more than other countries that have tended to employ tariff increases and trade defence measures. However, countries that had undertaken the largest tariff reductions in the pre-crisis period tended to adopt trade defence measures, rather than reversing those tariff cuts. On the other hand, countries that were able to adopt larger fiscal stimulus packages were less likely to use some of these trade and investment measures (Evenett, 2013b and c).

The very broad characterization of “murky protectionism” in the GTA is problematic, since it also includes several measures that have an important public policy purpose, not only for promoting financial stability and preventing drastic declines in employment, but also for building domestic productive capacity and protecting consumers. These include health and safety regulations, stimulus packages that earmark public spending for domestic products, bank bailouts, industrial and innovation policies, and many other policies that do not violate any current international agreements or other legal provisions.

Some of these measures have played important roles in allowing developing countries to recover from the global crisis and to continue their process of structural transformation. Moreover, the GTA’s assessments of the impact of these measures rely entirely on subjective judgement. The combination of these factors raises serious questions about the GTA’s sometimes alarmist conclusion that protectionism has increased over the past five years (Evenett, 2012 and 2013b). More importantly, the close relationship between the measures denounced as “protectionist” by the GTA and its recommendations on how policymakers should embark on the “fast route” to industrialization by including domestic firms in international production networks, risks giving such assessments undue prominence on the agenda of trade negotiations in the future.³⁶ This relationship is addressed in section D.

Characterizing some recent trade and industrial policy measures as “murky protectionism” is problematic, since several of those measures have an important public policy purpose.

C. Industrial policy in an era of reduced policy space

In recent years there has been a global revival of interest in industrial policy. A number of developing countries, including the largest ones, have reassessed the benefits of industrial policy for structural transformation and economic growth. In fact, countries such as Brazil, China and South Africa never really abandoned the use of policy measures aimed at accelerating industrialization. Instead, over the past decade or so, they have even adopted new initiatives. Some of these initiatives may be seen as a response to the various financial shocks that hit a number of developing countries at the end of the 1990s and at the turn of the millennium, while others may have resulted from a growing recognition that the policies associated with the Washington Consensus had failed to deliver structural transformation (*TDR 2003*). Yet others may have been prompted by the sharp increase in commodity prices that started around 2002–2003, raising fears of premature deindustrialization in some developing countries.

Reassessments of the potential benefits of industrial policy have not been limited to developing countries only. Many developed countries have begun to explicitly acknowledge the important role that industrial policy can play in maintaining a robust manufacturing sector, with the associated benefits in terms of productivity growth, innovation and employment creation. This has been the case especially following the global financial crisis and the Great Recession, when developed countries whose economies are based mainly on services – such as the United Kingdom and the United States – appeared to be much more vulnerable to

adverse external shocks than most of those that have a sizeable manufacturing base.

There is no generally accepted definition of industrial policy. This could be mainly because industrial policy has been based on a wide variety of economic perspectives with different rationales, targets and scopes, and reliance on a diverse mix of policy measures (see, for example, Salazar-Xirinachs et al., 2014). However, there is probably a general consensus that “industrial policy is basically any type of selective intervention or government policy that attempts to alter the sectoral structure of production toward sectors that are expected to offer better prospects for economic growth than would occur in the absence of such intervention” (Pack

and Saggi, 2006: 2). Usually, measures aimed at diversifying the production structure and contributing to creating capacities in new economic sectors or in new types of activities are part of what is called “vertical” or “selective” industrial policy.³⁷ These measures include support in the form of sector-specific subsidies, tariffs and investment-related performance requirements that have gener-

ally been associated with successful industrialization in East Asia, where they have been combined with control mechanisms, such as export requirements (*TDRs 1996* and *2006*). They also include measures that target variations in different sectors’ potential to generate, absorb and commercially use knowledge, and, in particular, their potential to help countries catch up with (and then push beyond) the technological frontier through direct support for innovation

Many developed countries have acknowledged the important role of industrial policy in maintaining a robust manufacturing sector, and in boosting productivity growth, innovation and employment creation.

and learning. Examples of such measures include the establishment of national innovation systems and improvements in education and vocational training (Nübler, 2014).

It is the use of this form of industrial policy that has been the most constrained by the increasing number of rules and regulations in international economic governance. However, constraint does not imply interdiction and the remainder of this section provides country-specific examples of industrial policy measures. It begins by discussing how the United States and the EU have tried to foster their manufacturing sectors. It then looks at the measures taken by developing countries, which combine creative market forces with State activities to promote manufacturing and raise living standards.

1. *Recent proactive policies for reindustrialization in developed economies*

(a) *United States: Multiple initiatives of a vertical industrial policy*

The United States is often portrayed as a country that takes a hands-off approach to industrial policy. However, several authors have recently argued that the United States has consistently pursued an industrial policy with a view to maintaining a strong manufacturing base and securing the country's global technological leadership. In recent years, United States policymakers have not focused on the formulation of national visions and national programmes by centralized coordination agencies to develop specific industries, even though this has been the model followed at times in the past (Kozul-Wright, 1995; Rohatyn, 2009). Rather, they have used a more decentralized approach wherein a variety of Federal and State-led initiatives and programmes have lent support to strategic industries, both traditional and emerging (Ketels, 2007; Block, 2008; Schrank and Whitford, 2009; Di Tommaso and Schweitzer, 2013; Mazzucato, 2013; Wade, 2014).

The United States can be viewed both as an “entrepreneurial State” and a “coordinating State” in the way it conducts industrial policy.

As such, two overlapping elements have characterized industrial policy in the United States, so that it is viewed both as an “entrepreneurial State” and a “coordinating State”. As an “entrepreneurial State” it acts as a leading risk taker and market shaper in the development and commercialization of new technologies that are considered essential for the country. By funding very risky research, the “entrepreneurial State” reduces the risk to private investors, thus making it indispensable as an enabler of significant innovation. According to Mazzucato (2013), in the United States, the State is the primary source of funding in the early stages of innovation, with the public sector accounting for over 50 per cent of spending on basic research, compared with less than 20 per cent by the private sector. This type of public investment covers different types of research, much of which has particularly uncertain prospects in terms of returns.³⁸

As a “coordinating State” it creates and manages networks between the different actors in innovation systems (e.g. firms, financial and research institutions and public sector funds), as well as within organizations and institutions. It thereby encourages firms of different types to be embedded in a decentralized system of innovation spanning the sectoral, regional and national levels.³⁹ Given this network character of industrial policy, and the associated absence of a single agency that would be responsible for that policy, this kind of State action in pursuing industrial policy has sometimes been called “the hidden developmental state” (Block, 2008; Schrank and Whitford, 2009).

The onset of the Great Recession heralded the adoption of a wide range of more visible policies having the common objective of bringing about the “renaissance of American manufacturing” (Sperling, 2012). These measures are not usually specified as being part of an industrial policy, because their immediate objective is to prevent bankruptcies and large-scale unemployment. However, many of them target domestic manufacturing because of its crucial role in innovation, exports and the creation of well-paid jobs, which makes “manufacturing an essential component of a competitive and innovative economy” (Sperling,

2012: 1). These long-term measures may be considered part of a broader strategy adopted to forestall the perceived risk of the country losing its position as a global technology leader, as well as to correct structural problems in the United States economy that were revealed by the crisis, such as the decline in the importance of manufacturing with its associated adverse impacts on employment (Sperling, 2013; Warwick, 2013).⁴⁰

The initiatives that directly address concerns about the United States' loss of global technological leadership have two main components.⁴¹ The first includes a range of R&D programmes which are grouped under the Advanced Manufacturing National Programme whose key element is the National Network for Manufacturing Innovation (NNMI). This network consists of regional manufacturing institutions which are public-private partnerships designed to bring together the best talents and capabilities from its three partners (industry, academia and government, notably the Ministries of Defence and Energy).⁴²

The second component is the American Recovery and Reinvestment Act of 2009, which is endowed with about \$800 billion to be spent over the period 2009–2019. The immediate objective of this economic stimulus package was to smooth the adverse effects of the Great Recession. But its longer term goal is to use vertical industrial policy measures to strengthen the domestic manufacturing sector and encourage its structural adjustment to better withstand international competition. For example, the Act allocated funds to re-start the production of advanced batteries with the objective of increasing its share in global production from 2 per cent in 2009 to 40 per cent in 2015 (Sperling, 2012).

This is part of the more general objectives of (i) repatriating offshore manufacturing activities back to the United States based on the notion that geographic proximity of production and design activities facilitates the task of engineers to solve problems brought to them by technicians on the factory floor, and hence strengthens the link between manufacturing and innovation; and (ii) promoting clean energy industries,

such as wind and solar power, as well as more fuel-efficient vehicles. In the same vein, the bailout of General Motors and Chrysler, using the Troubled Assets Relief Program (TARP) had the immediate effect of saving thousands of jobs and reducing the

adverse impacts of the Great Recession. However, entitlement to these funds was tied to environmental considerations, such as commencing production of more fuel-efficient vehicles, and thus helped to address broader sectoral restructuring concerns. In addition, in 2009, the Environmental Protection

Agency allowed California to impose tougher emission standards for cars (Brunel and Hufbauer, 2009), and the General Services Administration announced that it would use funds under the Act to purchase \$300 million worth of energy-efficient and alternative fuel vehicles,⁴³ in line with the Act's more general Buy American Provision.

Taken together, these measures reflect the United States Government's support for industries that were hit particularly hard by the global economic slowdown, and, more generally, for activities intended to assist United States enterprises in competing in innovative sectors. However, the question arises as to whether such support is compatible with multilateral trade and investment provisions. In particular, support under the Buy American Provision may be considered a prohibited subsidy under the SCM Agreement. Similarly, the bailout of the automobile industry under the TARP may constitute a subsidy

under the SCM Agreement, given that the environment-related provisions under article 8 of the SCM Agreement regarding a non-actionable subsidy lapsed five years after the Agreement's entry into force (i.e. on 1 January 2000). However, it may be justified under the GATT article XX

due to the environmental conditions attached to these measures, which, it could be argued, "relate to" the conservation of an exhaustible reserve.⁴⁴

However, it should be pointed out that WTO rules and commitments only carry the *threat* of sanctions. Any eventual imposition by trading partners of retaliatory tariffs or other measures depends on

The United States has skilfully used the policy space not circumscribed by the URAs to support its manufacturing sector ...

... and the vertical nature of its industrial policy has helped attain at least some of its objectives.

the actual damage. As long as the damage caused by the infringement of rules is small, a WTO member State is unlikely to invoke the DSM and initiate the imposition of sanctions. Invoking the DSM will also be unlikely if determination of the actual damage caused is difficult to establish, and also because several countries are simultaneously adopting similar measures for similar objectives. For instance, a wide range of countries have adopted measures designed to support their automobile industries.⁴⁵ In any case, the above examples show that the United States has skilfully used the policy space not circumscribed by the URAs to support its manufacturing sector. They also show that the country has employed an industrial policy, and that its vertical nature has helped attain at least some of its objectives.

(b) European Union: Limited effectiveness of a horizontal industrial policy

Fostering industrial production has been among the major policy objectives of European economic integration since the end of the Second World War. Nonetheless, the related scope, instruments and institutional setups have varied significantly across countries and over the course of time. Fostering industrial development through sector-specific measures was pursued energetically during post-war reconstruction under the auspices of the Marshall Plan, and continued well into the 1970s through various national and regional initiatives (Eichengreen and Kenen, 1994). In the early 1980s, many countries adopted liberal policy agendas that considerably limited the scope of proactive government measures (Grabas and Nützenadel, 2014; Owen, 2012). In 1990, the European Commission outlined its industrial policy, which was the first time a common industrial policy approach was adopted for the then European Community as a whole (European Commission, 1990).⁴⁶ The general aim of this approach was to improve the competitiveness of European industry and speed up industrial adjustments to structural changes, including through innovation and technological development. The emphasis was microeconomic (i.e. using enterprise and competition policies), and predominantly

horizontal in that it favoured the creation of general conditions for entrepreneurs and business undertakings, particularly small and medium-sized enterprises.⁴⁷

Various strategies have been adopted to ensure better framework conditions for European industry. The Lisbon Strategy, adopted in 2000, formulated some quantitative goals at the national level (such as augmenting R&D expenditure to reach 3 per cent of gross domestic product (GDP)), but it has generally been considered a failure in terms of meeting its multiple goals of increasing productivity, employment and convergence across the member countries (e.g. Tilford and Whyte, 2010; Copeland and Papadimitriou, 2012). The Europe 2020 Strategy implemented since 2010 has objectives similar to those of recent initiatives in the United States, as it refers to strengthening innovation and creating exports and jobs, but it places greater emphasis on cost-related “competitiveness”. The Horizon 2020 Programme introduced in 2014 includes complementary and more targeted measures to foster investment in innovation, such as €80 billion earmarked for research and innovation to support key enabling technologies⁴⁸ with a view to redefining global value chains and enhancing resource and energy efficiency.⁴⁹ The Programme also finances prototypes and demonstration projects in order to facilitate commercialization of innovations.

Despite these measures, EU industrial policy remains less comprehensive than that of the United States. Budget allocations appear to be too small to effectively overcome not only short-term constraints on growth but also longer term efforts to boost innovation. Limited funding for programmes is likely to result in a smaller stock of knowledge and fewer innovations that could be commercialized, compared with the much larger resources dedicated to innovation in the United States. Furthermore, using only horizontal industrial policy measures, without accompanying vertical measures, as in the United States, may impede achievement of the declared objective of maintaining a strong manufacturing base in Europe.⁵⁰ However, the adoption of more specific – vertical – support

EU intergovernmental agreements illustrate how the policy choices of national policymakers can be constrained and how horizontal measures alone are insufficient in the pursuit of industrial policy objectives.

measures may not be possible under current EU legislation. For example, in response to the bailout of the automobile industry in the United States, several EU member States adopted measures in favour of their own automobile industries. Such measures may be in conflict with article 107 of the Treaty on the Functioning of the EU, which stipulates that “any aid granted by a Member State ... which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall ... be incompatible with the internal common market”. However, the recent global financial crisis could be considered a special event that may require greater flexibility in applying these rules. Paragraph 3 of article 107, which refers to the existence of a “serious disturbance in the economy”, ensures that such flexibility would remain temporary and exceptional.⁵¹ Such exemptions are unlikely to be made in the future, because, according to the current European Guidelines on Restructuring Aid (European Commission, 2004: paragraphs 72 and 73), the granting of rescue or restructuring aid is a one-off operation and can, in principle, be granted only once every 10 years. Moreover, in its new draft guidelines on State aid, the European Commission considers that “rescue and restructuring aid are among the most distortive types of State aid” (European Commission, 2013: paragraph 6).

The EU situation illustrates how intergovernmental agreements can constrain the policy choices of national policymakers, and how industrial policies that are limited to the adoption of only horizontal measures may hamper achieving the objectives of those policies. Further, given these constraints and limitations, EU policymakers may believe that, in order to maintain a healthy manufacturing base, it will be necessary to increase exports to developing countries. Hence the Union’s common international trade policy – which is one key policy area for which Community institutions have exclusive responsibility – and the associated objective of continued market opening in developing countries may end up playing a crucial role in plans for the reindustrialization of Europe.

2. *Developing countries: Recent experiences with national policies for industrial development*

The extensive use of proactive trade and industrial policies in the successful transformation of East Asian economies has been discussed at length in previous *Trade and Development Reports* (in particular *TDRs 1994, 1996 and 2003*) and elsewhere (e.g. Akyüz et al., 1998; World Bank, 2005a; Chang, 2011). However, the nature and scope of recent

industrial policies in developing countries have been strongly affected by changes in the global trade and economic governance regimes with which their policies must conform. Most important among such changes has been the accession of various countries to the WTO and/or their participation in RTAs. At the same time, developing-country policymakers have sought to adjust

their industrial policies in response to structural vulnerabilities that have surfaced in their economies at times of change in the global economic environment, including economic crises and changes in their country’s terms of trade. This section discusses, through country-specific examples, how such changes have affected various countries’ policy mix, especially since the turn of the millennium.

Improvements in the terms of trade of economies that have benefited from higher global commodity prices since the early 2000s is one factor that has sparked increased interest in industrial policy. Soaring commodity prices and the associated strong improvements in the terms of trade of natural-resource-rich countries facilitated their attempts to improve their macroeconomic policy stances and fiscal accounts. However, this should not lead to complacency in the design of development strategies in these countries. Their main challenge remains that of appropriating a fair share of the resource rents (see also chapter VII of this *Report*), avoiding an appreciation of the real exchange rate, which would weaken the competitiveness of their tradable manufacturing activities, and channelling revenues towards investment in the real economy in order to

The nature and scope of recent industrial policies in developing countries reflect changes in the global trade and economic governance regimes with which their policies must conform ...

spur diversification and upgrading of their production and exports. Diversification and industrialization are the best means in the long run for countries to reduce their vulnerability to the adverse effects of commodity price volatility and unfavourable price trends. Accelerating the movement of labour from low-productivity activities in the primary sector towards high-productivity activities in manufacturing boosts overall productivity and income growth. Meeting the challenge of diversification requires a high level of investment and the creation of a virtuous link between trade and capital accumulation. Policymakers could greatly facilitate these efforts by pursuing an industrial policy that supports the private sector in identifying and expanding activities with greater value added, as well as sectors with potential for more rapid productivity growth, along with the production of goods for which demand elasticities in world markets are higher. In particular, such measures would help reverse the trend of labour flows from high to low productivity sectors observed for the period 1990–2005 in African and Latin American countries, most of which have abundant natural resources (McMillan et al., 2014).

In 2004, Brazil established a new institutional framework for industrial policy through the adoption of three sets of policies aimed at increasing investment, innovation and international competitiveness of its manufacturing activities, as well as of its energy-related industries. It has prioritized the development of key industries and sectors, of companies that succeed as “national champions”, and of infrastructure projects, in part through public-private partnership councils. The provision of long-term investment financing through the country’s development bank (Banco Nacional de Desenvolvimento Econômico e Social, BNDES) has been an important instrument for implementation of these policies. For example, the BNDES has provided direct financial support to large-scale industrial and infrastructure projects as well as support for the export of certain goods and services (Ferraz et al., 2014). In order to promote economic upgrading in Brazil, the BNDES has been supporting the automotive, information technology, aeronautics and petroleum sectors through loans, long-term and equity financing, guarantees, grants and credit insurance. Unlike several other developing

... as well as awareness of structural vulnerabilities that have surfaced due to changes in the global economic environment.

countries, Brazil has not signed on to any RTAs, which gives it greater flexibility in promoting such activities through its development bank.

In South Africa, the conviction that the country could no longer continue to rely as heavily as in the past on traditional commodities and non-tradable services as the basis for its growth and development led to the adoption of the National Industrial Policy Framework in 2007 (Department of Trade and Industry, 2007: 10). As a result, a range of both horizontal and vertical measures were implemented, such as sector-specific tariff changes and fiscal incentives, with a view to intensifying the industrialization process and making it more inclusive. However, the adopted measures have yielded somewhat fewer benefits than expected, partly because industrial policy was not properly aligned with the country’s broader macroeconomic framework, and there were insufficient linkages created between megaprojects and smaller enterprises operating upstream and downstream (Zalk, 2014).

The constraints on a country’s policy choices caused by its accession to the WTO may be illustrated by the experience of Viet Nam.⁵² Viet Nam gained WTO membership in January 2007, which intensified its shift from an import-substituting to an export-promotion strategy. This shift was initiated with the introduction of the *Doi Moi* (“renovation”) economic reform programme in 1986, and was reinforced by the signing of bilateral agreements with the country’s major trading partners, including the EU, Japan, the United States and a number of countries in Asia during the 1990s and early 2000s. The associated reforms led to a complex system that promoted a dual industrialization strategy. That strategy was based on the simultaneous development of private, export-oriented, labour-intensive manufacturing industries (by attracting foreign investors, establishing export-processing zones and creating duty drawback systems for imported inputs) and of import-substituting industries (through investment in heavy industries and resource-based sectors where State-owned enterprises continued to play an important role).⁵³

Already in the run-up to its formal accession to the WTO, Viet Nam had adjusted some aspects of

its industrial policy, including phasing out explicit export-performance requirements, local-content-related subsidies and tax incentives. The country's WTO accession was followed by a reduction in the simple average tariff rate from 18.5 per cent in 2007 to 10.4 per cent in 2013, and by liberalization of the services sector.

At the same time, Viet Nam has been using some of the flexibilities still allowed under WTO rules and commitments. For example, the difference between bound and applied tariff rates has enabled Viet Nam to modulate its applied tariffs with a view to controlling energy prices and protecting certain industries from import competition.

It has also imposed tariff rate quotas on certain food commodities. In addition, it has provided sectoral support in the form of preferential import duties, tariff exemptions, reduced taxes on corporate income and land-use, and subsidized loans and investment guarantees aimed mainly at encouraging R&D and the development of infrastructure, training and enterprises in disadvantaged areas of the country.

Although the services sector has undergone extensive liberalization, most of Viet Nam's current bilateral agreements follow a positive-list approach (i.e. signatories list only the sectors they wish to liberalize leaving all other sectors unaffected). As a result, Viet Nam has maintained foreign ownership ceilings in telecommunication services, it can impose higher fees on foreign firms in shipping and require an economic-needs test for foreign-owned retail outlets (beyond the first ones already established). The Government has also used procurement measures to support local suppliers.

However, these policy measures appear to have been insufficient for helping private enterprises overcome their capital constraints and reach sufficiently large economies of scale to achieve international competitiveness. Also, the dual track strategy has been only partially successful in speeding up desired spillovers from FDI, especially in the form of technology transfer and the creation of linkages between export-oriented industries and domestic supply firms (Nguyen et al., 2014). If initiatives such as the Trans Pacific Partnership materialize, they may carry even

stricter rules on investment and IPRs, which could further limit the possibility of domestic linkages and technological adaptation.⁵⁴

China's accession to the WTO has also had a significant impact on the nature and scope of its industrial policy. Owing to its commitments to abide by the TRIMs Agreement, it had to discontinue certain policies towards FDI, including measures aimed at encouraging technology transfer and enhancing linkages, such as through local-content requirements. It also had to phase out other elements of its earlier industrial policy, in particular trade protection measures, and preferential interest and lower tax rates for its infant industries, as well as some forms of direct financial assistance to some of its other industries (*TDR 2006*).

Nevertheless, China has continued to pursue a strategic approach towards FDI which distinguishes between sectors that are seen as generating significant foreign exchange and employment, and those that are more involved in upgrading domestic productive capacities

and capabilities in key areas of the economy (Poon, 2014). The former, efficiency-seeking type of FDI has benefited from the kinds of incentives generally associated with activities located in special economic zones, such as selective value-added tax rebates, corporate tax holidays and the provision of infrastructure that facilitates international trade (Zeng, 2011). By contrast, the latter, market-seeking type of FDI has been subject to varying foreign ownership limits, such as minority equity stakes in the steel and banking sectors or 50–50 joint ventures in the automobile industry. Encouraging several joint ventures in the automobile sector has been used as an instrument to maintain that sector's competitiveness, making it more attractive for foreign investors to transfer and upgrade their technologies used in production in China. This has been further supported by massive increases in the Government's R&D expenditures. Moreover, government procurement and State investment in infrastructure, such as the building of a highway system, have been used to boost the demand for cars (Lo and Wu, 2014). China began to publish FDI guidance catalogues (which list industries in which foreign investment

A wide range of measures can facilitate adjustments in developing countries' production structures, such as environmental regulations, government procurement and tax policies ...

is “encouraged”, “restricted” or “prohibited”) in the mid-1990s, which have been revised over time by applying more demanding technical thresholds to reflect improvements in domestic production capacities. For instance, in the 2011 version of the FDI catalogue, the joint-venture stipulation was removed from automobile manufacturing and was applied instead to the undertaking of R&D and manufacturing of automobile electronic devices, as well as to some key parts and components of “new energy vehicles”, such as high energy power batteries (Dezan Shira & Associates, 2011: 8–9).⁵⁵

The Chinese Government has also retained an important guiding role, especially in upstream heavy industries and producer goods sectors, in which a number of relatively large, Government-linked enterprises are involved.⁵⁶ While the size of these enterprises poses obstacles for other (including foreign) enterprises to enter these sectors, there appears to be a sufficiently large number of these enterprises to ensure competition, and hence economically efficient production. Public sector manufacturers are also subject to export disciplines, which are enforced by monitoring concessionary access to loans, for example from the China Development Bank. These enterprises are overseen by the National Development and Reform Commission (NDRC), which is the country’s key industrial planning agency. The NDRC itself has also provided support, such as by formulating a policy on green energy technologies, which led the Government to provide environment-related subsidy support to wind turbines. Previously, this support was combined with local-content requirements that may have been deemed to violate China’s WTO commitments. However, the measure is reported to have already attained its goal and was withdrawn before other WTO members could file a case before the DSM (Studwell, 2013).

Environmental regulations could play a major role more generally in facilitating adjustments in developing countries’ production structures. One reason for this is that so-called “green growth” features prominently in the likely next big technological frontiers, where developing countries’ technological backwardness may be an advantage, as they will have fewer incumbent carbon-intensive technologies to

amortize. Besides, given the imperative of climate change mitigation and increasingly recognized ecological limitations to the use of traditional energy, it is unlikely that rapidly growing consumption in developing countries, emanating from income growth and from attempts to strengthen the contribution of domestic demand to growth, can be satisfied by pursuing the same materials- and energy-intensive path that the developed economies have followed so far (*TDR 2013*). Indeed, turning newly emerging consumption and production patterns into challenges for innovation in green technologies could be a powerful driver of structural transformation and the creation of employment and wage opportunities.⁵⁷

Similar to the role played by State agencies in developed countries (such as the Defense Advanced Research Projects Agency in the United States), development banks in developing countries (such as BNDES and China’s Development Bank), may be well placed to extend the long-term loans that such fundamental reorientations require (Chandrasekhar, 2014). This would not only reduce the risk of complementary private funding at initial stages of such reorientations; it could also induce private investment eventually to assume a leadership role in fundamental structural transformation. Supportive demand-side policies could include energy-intensity targets, for example for automobiles and buildings, with a view to creating demand for more energy-efficient systems and clean energy production. To support domestic firms in satisfying such emerging domestic demand, these policies could be supported on the supply side through WTO-compatible subsidies and tax credits, in addition to the funding of clean-energy-related innovations.⁵⁸

To spur innovation more generally, the presence of suitable institutions, such as industry-specific bodies that provide testing facilities to ensure safety and compliance with product standards, can also play an important role. For instance, evidence suggests that economies that successfully developed domestic automobile industries (such as China, the Republic of Korea and Taiwan Province of China) had well-resourced auto industry research institutes. By contrast, such institutes were either lacking or poorly resourced in other countries, such as Malaysia

... and development banks may be well placed to extend the long-term loans that such adjustments require.

and Thailand, where attempts to create a dynamic auto industry were less successful (Ravenhill, 2014).

Government procurement can also be an important instrument of industrial policy, especially to create demand on a scale that would be sufficiently large for domestic firms to establish profitable production facilities. Tax policy is another instrument that can be used in industrial policy. In China, it has been observed that tax policies favour export-oriented firms, whereas enterprises catering to the domestic market are subject to a substantially wider range of taxes, including import duties, a value-added tax and a consumption tax (Yang, 2014). Thailand supplemented tariff protection with excise tax reductions and corporate tax exemptions for particular car models with a view to creating specific domestic sales opportunities. Such measures were introduced in 2002 for pick-up trucks, followed in 2007 by similar measures for eco-cars. Some of these tax policies were linked to local-content requirements (Natsuda and Thoburn, 2013).

In Brazil, the main objectives of tax reduction measures adopted in 2012 in a five-year programme known as Inovar Auto have been to slow down import growth and encourage the development of local suppliers in the automobile sector. The policy implies a 30 percentage point increase in the excise tax on industrial products (*Imposto sobre Produtos Industrializados*, IPI) levied on cars imported from outside MERCOSUR, and specifies the eligibility requirements for firms to join the programme and be granted IPI tax credits. Some of these requirements are linked to domestic content and investment in innovation (ICCT, 2013). These measures complement other support policies for the domestic automobile industry, such as relatively high tariffs on automotive parts imported from outside MERCOSUR. This proactive approach towards the development of a domestic automobile industry has allowed Brazil to attract additional FDI by new vehicle assemblers and a progressive delegation of innovation activities to Brazilian affiliates and their local suppliers (UNCTAD, 2014).

D. Current challenges to proactive trade and industrial policies

1. *A potential decline in developing countries' export opportunities*

The wide variation across countries in the pace and scale of development of their manufacturing activities indicates that country-specific factors – such as resource endowments, size of the domestic market, geographical location and institutional development – are likely to have a strong bearing on the timing and extent to which labour shifts towards more productive activities, both across and within economic sectors. But the size and direction of any such impacts are also influenced by policies that affect macroeconomic developments, as well as by the pace and nature of investment and integration into the global economy.

Clearly, policies can play an important role, as reflected, for example, in the growth of manufacturing through an explicit policy of promoting export orientation in some developing countries, especially since the 1980s. Indeed, the sizeable increase in the share of manufactures in those countries' exports has been a notable feature of the more general rapid expansion of the volume of world trade and the growing share of developing-country exports in total world exports during the two decades prior to the onset of the global crisis in 2007–2008. As noted in *TDR 2013*, the share of developing countries in global manufactured exports increased from about one fourth in 1995 to about one third in 2007, with trade in manufactures between developing countries playing an important role.

Exporting may foster structural transformation in several ways. From a macroeconomic perspective, it allows sectoral expenditure patterns to deviate from sectoral production patterns. As a result, the level of manufacturing production can exceed the limits set by the domestic market. And the high income elasticity of demand for manufactured goods usually provides favourable global market conditions. This means that an increase in manufactured exports can be expected to result in larger export revenues, unless many countries follow this strategy for the same products at the same time. Whereas a fast-growing world market allows many countries to expand their exports, in a stagnating global market an individual country can only expand its exports if it gains market shares at the expense of others. In the latter situation, attempts to continuously expand export volumes may cause adverse price effects and reduce, or even eliminate, the expected increase in export earnings.

Moreover, it has long been recognized that a country's pace of growth will face a balance-of-payments problem unless exports earn a sufficiently large amount of foreign exchange to pay for the substantial capital goods and intermediate goods – and their embodied technologies – that must be imported to build industrial activities and strengthen their international competitiveness (Thirlwall, 1979). Countries at the initial stages of structural transformation will have the greatest need for such imports. But even though the pace at which a domestic capital goods industry can be established will determine how fast the gap in machinery and equipment requirements can be bridged, a considerable volume of imports of such goods will still be needed.

In addition, as per capita incomes rise, the more affluent domestic consumers increasingly demand more discretionary consumer manufactures and services, rather than basic necessity goods such as food. Such rapidly increasing domestic demand for manufactures will lead to balance-of-payments difficulties and threaten sustained economic growth unless

the structural composition of domestic production changes in response to that of domestic demand, or unless exports from the primary sector continue to provide the necessary foreign exchange earnings.

Failing this, the country will end up accumulating external debt, absorbing a rising amount of net capital inflows or letting the real exchange rate depreciate.⁵⁹ Of course, changing the structure of domestic output to meet changing domestic demand also requires the economy to be large enough for domestic production to be on a scale that is competitive.

In addition to these macroeconomic effects, developments at the firm level also affect the impacts of factor reallocation and accumulation on aggregate productivity. Taking account of the heterogeneity of firms, even within narrowly defined industries, productivity gains can occur in any sector from shifting resources away from less-productive towards more-productive firms. Exporting may play an important role in this context, as it has been observed that manufacturing firms that export are generally more productive than those that do not. However, there is strong theoretical support (e.g. Redding, 2011) and significant empirical evidence (e.g. Wagner, 2012) which indicates that only relatively few firms are directly involved in trade, and that high productivity is a prerequisite for export participation, rather than its outcome. It is self-selection that makes more productive firms engage in export activities, as it is only those firms that can absorb the additional sunk costs associated with learning about demand and setting up distribution networks on export markets.

Once such firms engage in exporting, they may further improve productivity through learning effects. Such effects occur to the extent that exposure

to international buyers and competitors enables these firms to achieve better quality and product upgrading by learning how to use more expensive and higher quality inputs and selling the resulting higher priced and better-quality goods to the more demanding customers on export markets.

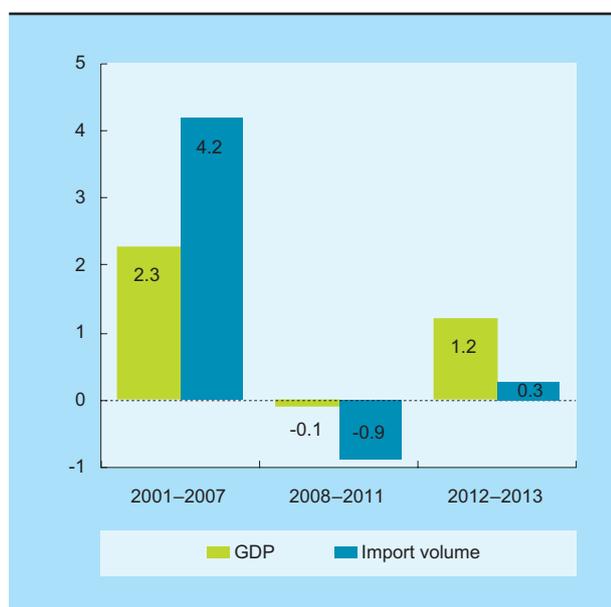
Exporting boosts developing countries' growth most when developed countries experience rapid economic growth along with a high elasticity of their demand for imports from developing countries ...

... however, neither of these conditions appears to have been present since the Great Recession.

Chart 5.1

GDP AND IMPORT VOLUME GROWTH, DEVELOPED ECONOMIES, 2001–2013

(Annual average percentage change)



Source: UNCTAD secretariat calculations, based on table 1.1; and *UNCTADstat*.

Note: Developed economies comprises Australia, Canada, Denmark, the euro area (excluding Latvia), Iceland, Japan, New Zealand, Norway, Sweden, Switzerland, the United Kingdom and the United States. Data shown are based on weighted averages.

While, overall, “there is little evidence supporting ‘learning-by-exporting’” effects (WTO, 2013c: 87), two additional results from the empirical literature are noteworthy. First, most of the benefits from productivity increases as a result of being able to export are passed on to buyers in the form of lower prices (Marin and Voigtländer, 2013). Consequently, only a small proportion, if any, of those benefits is passed on to workers in the form of higher wages, or transformed into higher profits that could be used for further investment. Second, some studies indicate that the size of any such learning effects greatly depends on the income level and market size of the destination countries. This is because exporters adjust the quality of their products across destinations by varying the quality of their inputs. Thus, productivity gains are persistently higher for firms that export higher quality

goods to high-income and larger countries (Manova and Zhang, 2012). This means that variation in the export performance of different firms depends not only on heterogeneity across firms but also across trade partners.

Thus, the favourable effects on the productivity of developing-country exporters are greatest when developed countries experience rapid economic growth, and when such growth has a high elasticity of demand for imports from developing countries. However, neither of these conditions appears to have been present since the Great Recession.

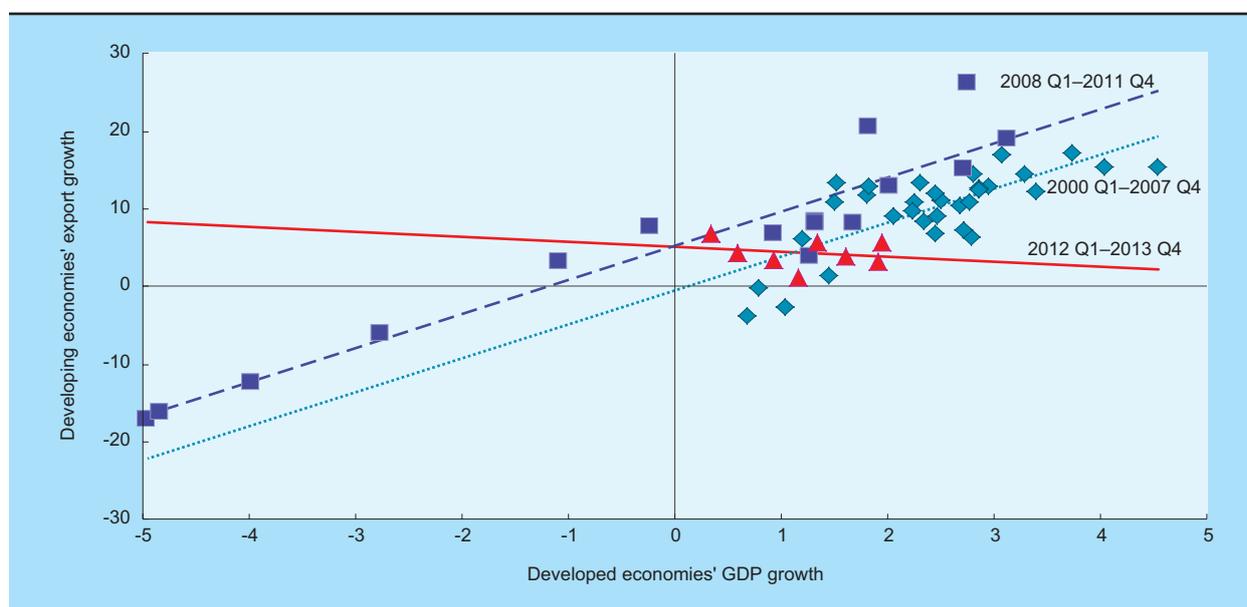
It is well known that the rate of income growth in developed economies since 2008 has been significantly lower than it was prior to the crisis, and statistical evidence also points to a considerable weakening of import elasticity of demand in these countries. Their volume of imports increased almost twice as rapidly as their income during the pre-crisis period, but it has barely changed since then, even during the slight recovery of income growth in 2012–2013 (chart 5.1). What is more, while there was a strong positive correlation between GDP growth in developed countries and developing-country exports during the pre-crisis period, this correlation became practically nil, or even negative thereafter (chart 5.2).⁶⁰

Taken together, this evidence shows that the impact of developed economies’ GDP growth on their imports is becoming smaller, and that the positive effect of their income growth on developing-country exports is also weakening. The challenges that developing countries face in achieving structural transformation under favourable global demand conditions are even greater when they are unable to rely as much as before on growing manufactured exports to developed countries to support such transformation. This may require a rebalancing of their growth strategies by according greater importance to domestic and regional demand, with the ensuing need to align their production structure more closely with their demand structure, as discussed in *TDR 2013*. In other words, the current global economic situation increases the policy challenges facing developing countries and necessitates the deployment of creative industrial policies.

Chart 5.2

DEVELOPED ECONOMIES' GDP GROWTH AND DEVELOPING ECONOMIES' EXPORT GROWTH, 2000–2013

(Per cent)



Source: UNCTAD secretariat calculations, based on *UNCTADstat*; Netherlands Bureau for Economic Policy Analysis (CPB); OECD, *Main Economic Indicators*; and Eurostat.

Note: The data shown are year-on-year growth rates based on quarterly data. See note to chart 5.1 for a listing of the developed economies; the group of developing economies is defined as emerging economies by the CPB. The data shown are weighted averages. Calculating the non-parametric Spearman's rank correlation coefficient indicates that there is no correlation between the growth of developed economies' GDP and of developing countries' exports during the period 2012–2013.

2. Production networks and the role of industrial policies

International production has often been considered an advanced form of mainly bilateral trade, where a foreign affiliate of a TNC imports parts and components that embody the parent firm's know-how and other production factors and transforms these imports into an assembled, final good for sale in the local market, or exports back to the home country or to a third market. Developing countries' participation in such production networks has been limited mainly to low-wage, labour-intensive activities, sometimes with some local sourcing of parts and components, depending on their level of industrial sophistication and the adopted trade policy strategy. However, the combination of rapid trade liberalization and the revolution in information and communications technologies (ICTs) has made possible a more fragmented

form of production sharing. It is characterized by firms from high-wage countries with advanced technologies combining their managerial, marketing and technical know-how with production and distribution tasks in other developed countries, as well as with low-wage labour tasks in several developing-country locations. All of this results in a more continuous movement across national borders of capital, services and skilled personnel, rather than just of goods.⁶¹ Consequently, these production networks now span multiple national borders.

There have been some strong proponents of participation in international production networks on the grounds that this can open a new and "fast-track" to industrial development (e.g. Baldwin, 2014; WEF, 2012). This argument holds that such networks enable participating developing-country firms to specialize in specific segments of the production process instead of being obliged to simultaneously master

all stages of production and build a full, vertically integrated industry. Moreover, by opening access to new – and often higher value – markets, participation in international production networks can provide an opportunity for nascent industries in developing countries at an early stage of industrialization to engage in higher value-added production. This can help developing countries to expand employment, raise incomes and accumulate basic skills and other capabilities that are required to pursue industrialization involving technologically more sophisticated manufacturing activities.

Based on the belief that participation in international production networks will help spur structural transformation in developing countries, it is argued that these countries should redesign their trade and industrial policies around a nexus of trade, foreign investment, services and intellectual property, which underpins the effective functioning of production networks (Baldwin, 2014). Essentially, this would mean that governments wanting their domestic firms to join such networks would need to align their policy measures to the interests of the networks' lead firms (Milberg et al., 2014). It implies that they would need to remove all measures that are deemed to be obstacles to the efficient connection of local factories with the relevant international production network, and adopt measures that protect the lead firms' proprietary assets. In practical terms, facilitating entry into these networks would require a policy that allows more foreign equity in domestic companies, eases the movement and employment of key personnel, relaxes local-content rules and rules relating to foreign exchange and repatriation of profits, strengthens investor protection (including the right to challenge domestic regulations and decisions), develops alternative dispute resolution mechanisms available to foreign investors, and adjusts domestic laws pertaining to such aspects as nationalization and expropriation (Taglioni and Winkler, 2014; Cattaneo et al., 2013).

Many who favour this approach recognize that an open trade and investment regime is not enough on its own to enable countries to benefit from insertion into global value chains (WEF, 2012: 8; OECD, 2013). They even acknowledge that the “problem is

that foreign investors do not actively pursue – and sometimes resist – such integration” (Taglioni and Winkler, 2014: 6). However, they offer only a limited solution to this problem by suggesting the need for horizontal policy measures including education, infrastructure development and technology transfer, in order to enhance access to global value chains, ensure local spillovers and avoid a bias against local integration (Taglioni and Winkler, 2014). As noted by Ravenhill (2014: 265), “despite the repeated assertion that we now inhabit a post-Washington Consensus (WC) world, the most prominent policy prescriptions mimic those of the WC era” and these policy prescriptions “are unlikely to be sufficient to generate the upgrading within ... [international production networks] that developing economies seek”.

In reality, and although adding “global” to the value chain terminology is almost obligatory in some policy circles, most international production networks are regional in nature, and their recent spread across developing countries has been very heavily skewed towards East Asia (UNCTAD, forthcoming). Moreover, lead firms are still predominantly from developed countries and from a small number of sectors such as clothing and textiles, electronics and the automotive sectors (Nolan, 2012; Starrs, 2014). While these features do not necessarily negate the calls for new thinking on policy related to international production networks, they should serve as a warning against designing strategies for structural transformation based exclusively on the opportunities linked to global value chains. In particular, the need for import promotion should not be used as a reason for downplaying the continued importance of a mix of proactive measures in support of import substitution and export promotion tailored to local conditions and constraints.

Moreover, the extent of the potential benefits from participating in international production networks remains an open empirical question. Those benefits, which will vary considerably across countries, as will the various costs entailed, will have to be weighed carefully when devising specific policies linked to participation in such networks (*TDRs 2002, 2006 and 2013*). In particular, there is a risk of developing countries becoming locked into

The extent of the potential benefits from participating in international production networks is an open empirical question.

low-value-added activities due to strong pressure from lead firms and other suppliers to keep labour costs low. And they could be blocked from moving up the supply chain by the expensive and successful branding strategies of the lead firms, which are usually from a developed country (Milberg and Winkler, 2013), as well as by the fact that the various links in supply chains have become characterized by a sizeable concentration of business power, and the organization of a supply chain has evolved into a comprehensively planned and coordinated activity (Nolan, 2012).⁶² These developments have strongly increased the competitive challenges not only for firms trying to move up the value chain, but also for those trying to enter the production networks. It will be difficult for developing-country firms to overcome these challenges without support through their government's trade and industrial policies.

The extent to which a country's exports, including within international production networks, contain domestic value added has been difficult to assess empirically. This is because exports have traditionally been reported in terms of gross values (i.e. the sum of domestic value added and the value of re-exported inputs).⁶³ Recently, a number of initiatives have sought to assess the value-added content of international trade.⁶⁴ One immediate outcome of these initiatives has been a broader and more nuanced analysis of different types of international production networks, including in agriculture and the extractive industries. An important finding to emerge from this analysis is that domestic value added as a share of GDP in the group of transition economies and in developing regions that mainly export primary commodities, such as Africa and West Asia, is considerably higher than it is in those developing regions that are heavily involved in international production networks engaged in manufacturing, such as East and South-East Asia and the Caribbean (UNCTAD, 2013: 130).⁶⁵ This suggests that participating in

Domestic value added as a share of GDP in developing countries that mainly export primary commodities is considerably higher than it is in those that are heavily involved in international production networks engaged in manufacturing.

The business model underlying international production networks is built on asymmetric governance relations, where lead firms shape the distribution of risks and profits in their favour.

international production networks does not necessarily ensure GDP growth through an increase in the share of domestic value added.⁶⁶ The analysis identifies two factors that are more closely correlated with domestic value added measured as a share of GDP: the nature of countries' exports (especially natural resources, services or final-demand goods), and the degree of self-sufficiency in production for export, which is generally correlated with the size of an economy. These findings raise doubts about the argument that joining international production networks is a "fast route" to industrialization.

Besides, it has long been known that the very logic of the business model underlying international production networks is built on asymmetric governance relations, where lead firms shape the distribution of risks and profits in their favour (e.g. Gereffi, 2014). A recent examination of the national profit shares of the top 2000 corporations by sector shows, on this measure, the continuing dominance of firms from the advanced countries, particularly the United States (Starrs, 2014). Despite the appearance of firms from some emerging economies, mainly China, in select sectors, their ability to climb the value chain remains a challenge. The electronics sector is telling; despite being the largest exporter, China accounts for just 3 per cent of the share of profits derived from this sector (Starrs, 2014: 91). Related empirical evidence suggests that even where developing countries can

achieve economic upgrading, this may be linked to a significant deterioration in labour conditions and other forms of social downgrading (Milberg and Bernhardt, 2013).

Perhaps most importantly, there is every reason to believe that the previously mentioned behind-the-border reforms considered necessary for inclusion in international production net-

works are most likely to cement such asymmetries at the expense of developing countries. For example, product standards and their harmonization through trade and investment agreements could play an

important role in determining developing countries' production and trade patterns within international production networks.⁶⁷ It is true that compliance by developing-country exporters with the standards of their developed-country trading partners is likely to lead to quality upgrading and improved management and production processes. Hence, matching the more stringent standards of developed-country markets will confer the kind of learning-by-exporting benefits discussed in the previous section, including "moving up the quality ladder", by facilitating developing-country exports to markets with richer consumers. However, standards matching is likely to become increasingly difficult as developing-country firms try to continue to progress up the value chain, and at some point it will no longer be possible, which will halt this progression.

Harmonization of product standards also opens the developing-country market to imports from developed-country firms. Such imports will increase significantly if the less productive firms in the developing country, such as those that do not export but only produce for the home market, are unable to match the more demanding product standards. It will also mean that these firms will no longer be able to provide inputs to exporting firms, which will have an adverse effect on domestic production linkages and reduce the domestic value-added content of exports. Moreover, harmonization of product standards will harm developing countries' trade with other countries that are not included in the trade or investment agreement that requires such harmonization.

Taken together, the discussion in this section suggests that international production networks may

provide opportunities for countries at an early stage of structural transformation to accelerate industrial development in some sectors. But participating in such networks should not, in most cases, be seen as the only element in a country's industrial development strategy. Developing countries that have achieved some degree of industrial development will need to weigh very carefully the costs and benefits associated with renouncing remaining policy flexibility when participating in international production networks, particularly in terms of the extent to which this contributes to economic and social upgrading.

Moreover, the importance of international production networks may well shrink to the extent that there is a prolonged period of slow growth in developed countries and/or a decline in the positive effects from their income growth on developing-country exports, documented in the previous section. This is more than a transitory phenomenon. The benefits that developed-country enterprises reaped from offshoring have declined as a result of higher transportation costs following the rising price of oil since the early 2000s. This may

Developing countries that have achieved some degree of industrial development will need to weigh the costs and benefits associated with renouncing remaining policy flexibility when participating in international production networks.

reinforce tendencies towards reshoring manufacturing activities back to developed countries and efforts in those countries to strengthen their own manufacturing sectors.⁶⁸ On the other hand, the importance of South-South production networks, which are currently poorly developed in most developing regions, will increase if developing countries rebalance their growth strategies by giving greater importance to domestic and regional demand (*TDR 2013*). The main point is that none of these shifts provides a rationale for renouncing policy space to the benefit of developed-country firms.

E. Conclusions

Implementation of effective policy strategies with a view to meeting the global development goals that are likely to emerge from discussions on a post-2015 development agenda will not be feasible without the availability of greater flexibilities in policymaking. Building sustainable and inclusive growth paths will certainly require devising a more effective macroeconomic policy mix and addressing the major systemic issues in the financial system. However, improving the governance of global trade will need to be part of a more comprehensive and integrated package to help preserve the policy space for proactive trade and industrial policies, and should complement the macroeconomic and financial reform agenda.

What steps could be taken towards strengthening global trade governance in support of development? Most important would be a strengthening of multilateral mechanisms. Multilateral rules provide a compass for national policymakers to ensure the consistency of rules across countries. Capitalizing on the new momentum from the WTO's Bali Ministerial Conference in December 2013, the Doha Round negotiations should progress in a manner that would justify its being dubbed a "development round". Steps in this direction would include an emphasis on implementation issues (paragraph 12 of the Doha Ministerial Declaration). They would also need to maintain the principle of a single undertaking (as stated in paragraph 47 of the Doha Declaration), rather than moving towards a variable geometry whereby a range of mandatory core commitments is supplemented by plurilateral agreements made by only some members. The most important benefit from all this may well be simply maintaining the public good character of multilateral rules and

precluding powerful countries from coercing others into competitive liberalization that may be ill-suited to their development prospects.

Second, refocusing trade negotiations on multilateral agreements would imply a reconsideration of WTO-plus and WTO-extra provisions, as well as allowing greater flexibility in the application of the URAs. This could respond to a number of recent developments. In the area of IPR protection, for example, the role of patents in promoting innovation

Meeting the global development goals of a post-2015 development agenda will not be feasible without the availability of greater flexibilities in policymaking.

(i.e. the commonly cited basic rationale for the adoption of strict rules on such protection) has increasingly been challenged. Some observers have noted that "historical evidence suggests that patent policies, which grant strong intellectual property rights to early generations of inventors may *discourage* innovation", while

"policies that encourage the diffusion of ideas and modify patent laws to facilitate entry and encourage competition may be an effective mechanism to encourage innovation" (Moser, 2013: 40).⁶⁹ It has also been suggested that patent laws may influence the direction of technical changes, because secrecy, lead time and other alternatives to patents in protecting IPRs may play a greater role in some industries than in others (Moser, 2013). Moreover, parallel imports and compulsory licensing may be easier to apply to some industries than to others (Max Planck Institute for Innovation and Competition, 2014). This implies that it may be advisable for developing countries to maintain a flexible system of IPR protection while being given appropriate technical support to make full use of the available flexibilities in order to support technology adoption and innovation at all stages of structural transformation.

With regard to subsidies, a wide range of countries have made use of the flexibilities that have remained under the SCM Agreement which allow export credits and measures for promoting “green growth”. This might be understood as signalling an acknowledgement of the value of the policy space left by the URAs. It is worth noting that, in response to the Great Recession, a wide range of countries have adopted measures that broadly fall into the category of environment-related subsidies and whose compatibility with existing rules remain a grey area. Perhaps for this reason they have not been challenged before the DSM. This may even indicate that many countries consider some of the rules established by the URAs as inappropriately constraining their policy choices.

A reconsideration of WTO-plus and WTO-extra provisions would also imply renouncing investment

provisions that go beyond the TRIMs Agreement. Arguments that international production networks provide a rapid path to structural transformation, and that joining such networks requires a hands-off approach to international business, have recently given new impetus to making such provisions more

restrictive. Yet, for countries at early stages of structural transformation, it is far from clear how adopting far-reaching investment provisions would allow, or even foster, the developmental gains to be had from their industries joining such networks, particularly beyond the benefits of increased low-

skill employment and initial experience in producing manufactures. The risk of being trapped in some low-level niche of the value chain, and not being able to upgrade, may be too high for countries to give up the possibility of using instruments that in the past have proved to be effective in supporting industrialization and overall production. ■

Improving the governance of global trade will need to be part of a more comprehensive and integrated package.

Notes

- 1 In this chapter, the term “policy space” refers to the availability and effectiveness of policy instruments in attaining policy targets, as introduced in *TDR 2006*. Given the chapter’s focus on rules and regulations in trade and investment agreements, it concentrates on the *de jure* components of policy space. UNCTAD (2009) discusses LDCs-specific issues in this area.
- 2 For example, in its reassessment of growth experiences, the World Bank (2005a: 83) concluded that the “role of activist industrial policies is still controversial but is likely to have been important”. See also Commission on Growth and Development, 2008, and *TDRs 1996, 2002 and 2006*.
- 3 For a discussion of the theoretical arguments in favour of proactive trade and industrial policies, see *TDR 2006*. That report emphasizes that much of the success of industrial policy depends on implementation and it examines institutional complements to industrial policy designs.
- 4 For a detailed discussion on implementation of current SDT provisions, see WTO, 2013a.
- 5 Some of the discussion in this section draws on Thrasher and Gallagher (2014), as well as on *TDR 2006* chap. V, which examined these issues in more detail. A range of other Uruguay Round agreements are of limited importance in the context of structural transformation, such as the Sanitary and Phytosanitary Measures Agreement (SPS), which sets out basic rules designed to protect human, animal or plant life and health. Other agreements concern measures that nowadays are rarely used. For example, import licences and bans, which were frequently deployed in the past to protect domestic industry and stabilize economies, are governed by the Agreement on Import Licensing Procedures.

- Its objectives are to simplify, clarify and minimize the administrative requirements necessary to obtain import licences, and make sure that the procedures used for granting such licences do not in themselves restrict trade. To ensure transparency, import licensing is reviewed annually by the Committee on Import Licensing. Quantitative restrictions and import bans are generally prohibited under the GATT 1994, except, for example, to address balance-of-payments problems (articles XII and XVIII: B), but such exceptions, as well as other safeguard measures, are further restricted in some RTAs (for details, see Prusa, 2011).
- 6 Local-content requirements are closely related to rules of origin in preferential trade agreements between developed and developing countries. The developed-country partners to such agreements can tailor the rules of origin to their needs.
 - 7 It is clear, however, that such performance requirements can be brought to dispute settlement only when they are published, which is unlikely to be the case for private understandings between governments and firms.
 - 8 Moreover, Article 4 of the TRIMs Agreement sets out certain conditions under which developing countries can “deviate temporarily from the provisions of the Agreement”.
 - 9 Compulsory licensing defines a situation when authorities license companies or individuals other than the patent owner to use the rights of the patent – to make, use, sell or import a product under patent (i.e. a patented product or a product made by a patented process) – without the permission of the patent owner. Parallel imports refer to imports of branded goods into a market, which are then sold there without the consent of the owner of the trademark in that market.
 - 10 This and the following discussion of the TRIPS Agreement are based on Correa, 2014.
 - 11 The SCM Agreement replaced the Tokyo Round Subsidies Code, a plurilateral agreement accepted by only 24 countries, which virtually exempted developing countries from all new subsidy disciplines. Article 1 of the SCM Agreement defines a subsidy as a financial contribution or price support given by a government, which confers a benefit on domestic firms. Agricultural subsidies are governed by the WTO Agreement on Agriculture.
 - 12 The SCM Agreement does not apply to LDCs. Moreover, countries that were WTO members when the URAs were concluded are excluded from this commitment until their per capita income reaches \$1,000, in constant 1990s dollars, and remains at that level for at least three consecutive years. By contrast, newly acceding countries are not exempt even if they fall below this threshold, such as Viet Nam. For a detailed discussion on SDT under the SCM Agreement, see Coppens, 2013.
 - 13 These four situations are: (i) the total ad valorem subsidization of a product exceeds 5 per cent; (ii) the subsidy covers operating losses sustained by an industry; (iii) the subsidy covers operating losses sustained by an enterprise, other than one-time measures; or (iv) direct forgiveness of debt owed by a domestic enterprise to the government.
 - 14 Article 27 of the SCM Agreement covers the provisions governing SDT for developing countries in the SCM Agreements, including flexibilities following the expiration of the transition period.
 - 15 Moreover, annex VII lists a range of countries, such as the LDCs, which, under certain circumstances, can use subsidized export credits as an instrument to promote exports.
 - 16 Some observers argue that this flexibility provides relatively larger benefits to the signatories of the OECD Arrangement, for example because the provisions may be considered as being tailored to meet the policy objectives of its members, rather than those of developing countries. Moreover, other countries would have trouble securing agreement on an alternative arrangement, as it would be difficult for the signatories of the OECD Arrangement to subscribe to such an alternative (Coppens, 2009).
 - 17 For country-specific illustrations, see Nicita et al., 2014.
 - 18 For illustration, see *TDR 2006*, figure 5.1.
 - 19 As explained by Akyüz (2005: 29, 31) “this kind of flexibility is best accommodated by binding the average tariff without any line-by-line commitment; that is, to leave tariffs for individual products unbound, subject to an overall constraint that the average applied tariffs should not exceed the bound average tariff ... [Because] of different initial conditions [this approach] ... is unlikely to be compatible with any formula-based procedure”.
 - 20 This negotiated text (WTO, 2008) also discusses flexibilities for various categories of developing countries subject to the formula. The Swiss formula is $t_{\text{new}} = (t_{\text{old}}M)/(t_{\text{old}} + M)$, where t indicates tariffs, in percentages, and M is a coefficient that indicates the maximum level of reduced tariffs. It reduces tariffs and harmonizes them at the same time. For further details, see: http://www.wto.org/english/tratop_e/dda_e/status_e/nama_e.htm.
 - 21 This tipping point has often been attributed to the efforts of member States of the European Union (EU) and European Free Trade Association (EFTA) to stabilize trade relations with Central and Eastern European countries after the dismantling of the Council for Mutual Economic Assistance (Comecon) in 1991, and competition for market access motivated other countries to follow suit (Baldwin and Jaimovich, 2012).
 - 22 For discussion of the great diversity regarding specific rules and provision in RTAs, see, e.g., World

- Bank (2005b) on services, investment and intellectual property; te Velde and Fahnbulleh (2006) on investment-related provisions; various chapters in Estevadeordal et al. (2009) on market-access provisions, technical barriers to trade, and provisions on services and on competition; Prusa and Teh (2011) on contingent protection rules; and UNCTAD (2011b) on customs and trade facilitation.
- 23 It should be noted that these statistics refer to notification requirements, rather than simply the number of RTAs. This means that an RTA that covers both goods and services necessitates two notifications. For regular updates, see: http://www.wto.org/english/tratop_e/region_e/region_e.htm.
- 24 Assessing the scope and depth of these agreements requires screening the very large number of RTAs on the basis of item codes, and the scope and coverage of existing databases vary widely. Dür et al. (2013) claim that their dataset on the Design of Trade Agreements (DESTA), which is based on 587 agreements coded for more than 1,000 items, is the most comprehensive one. However, Kohl et al. (2013) claim that, in spite of covering fewer agreements, their dataset, which builds on those used by Horn et al. (2010) and WTO (2011), is superior because it explicitly identifies whether provisions are legally enforceable. Horn et al. (2010) indicate that legal enforceability may be judged according to how precisely the agreements are drafted (e.g. use of the word “shall”), and whether the agreements’ terminology indicates the intent to have them “governed by international law”. The complexity of these agreements is evident on examining the dataset of Horn et al. (2010), which is updated by WTO (2011) and synthesizes RTA provisions into 14 WTO-plus and 38 WTO-extra areas. Kohl et al. (2013) provide a wide range of detailed examples of enforceable and non-enforceable provisions of the 13 WTO-plus and 4 WTO-extra areas that their study emphasizes. For a comparison between legally enforceable and other provisions of RTAs with the EU, Japan and the United States, see also Baldwin, 2012.
- 25 According to Horn et al. (2010: 1587), who use the term preferential trade agreements (PTAs) instead of the term RTAs adopted in this chapter, “the fact that much of the ‘legal inflation’ occurs in development-related provisions, which are unique to the EC agreements, suggests that the EU has a greater need than the US to portray its PTAs as not driven solely by commercial interests.” However, from the political science perspective, it could also be argued that this feature may reflect the objective of the EU to use RTAs as an instrument of foreign policy, thus serving as a precursor of political integration.
- 26 For further details, see Fink, 2011.
- 27 For a more detailed discussion, see also chapter VI of this *Report*.
- 28 Labour mobility is covered in the GATS, but several RTAs offer greater liberalization by including (i) full national treatment and market access for service suppliers as well as facilitation for groups, including those other than service providers; (ii) access to the labour market; (iii) temporary movement of business persons, including those involved in investment or trade in goods; (iv) non-discriminatory conditions for workers; and (v) labour mobility for business visitors, independent professionals, intra-corporate transferees and contractual services suppliers. For assessments of the effects of RTAs on labour mobility, see, for example, Goswami and Saéz, 2013; and Orefice, 2014.
- 29 For further discussion see, for example, Brusick et al., 2005; Dawar and Holmes, 2011; and WTO, 2011.
- 30 See also chapter VI of this *Report*.
- 31 Issues relating to the settlement of investment disputes are further discussed in chapter VI of this *Report*.
- 32 It is also interesting to note that a recent study which presents the IMF’s institutional view indicates that “most of the current bilateral and regional agreements addressing capital flow liberalization do not take into account macroeconomic and financial stability” (IMF, 2012: 33). Indeed, they pose serious challenges to macro-prudential policies that receiving countries may want to apply, as further discussed in chapter VI of this *Report*.
- 33 For a discussion regarding the United States American Recovery and Reinvestment Act of 2009, see Cimino et al., 2014.
- 34 These preference programmes have two aspects in common: they are conditional and discretionary. The preference-granting country can establish, according to its own political choices, the programme’s eligibility criteria and related concessions, as well as the procedures through which exceptions and waivers to country- and product-specific limitations and ceilings are granted, modified or withdrawn. Since unilateral and voluntary concessions are not bound under the WTO, developing countries have no recourse to challenge such changes. One example in this context is the United States’ suspension of Argentina’s designation as a GSP beneficiary developing country in March 2012 following Argentina’s alleged non-compliance with provisions in a bilateral investment treaty (White House, 2012).
- 35 Evenett (2013b) provides a detailed assessment of the measures taken by the G20 countries that were denounced by the GTA as “murky protectionism”. He also compares these with the measures taken by the “next 10 largest trading nations”, comprising Chile, the Islamic Republic of Iran, Israel, Malaysia, Norway, Singapore, Switzerland, Thailand, the United Arab Emirates and Viet Nam.
- 36 For example, in May 2012, the then Director General of the WTO, Pascal Lamy, promoted the idea of

- exploring this relationship as a way to break the stalemate in the Doha Round; see http://www.wto.org/english/news_e/news12_e/gc_rpt_01may12_e.htm. Henn and McDonald (2014) use GTA data to investigate the effect of policy measures implemented since 2008 on global trade flows, with the implicit suggestion that these data be used in future trade negotiations.
- 37 From a traditional, neoclassical perspective, this is in contrast to “horizontal” or “functional” industrial policies, which aim at a general improvement of economic conditions for all sectors and firms, such as improving a country’s infrastructure, regulatory and competition environments, and the general business climate. However, any of these measures may effectively have sector-specific impacts. This is because specific sectors have different characteristics, so that functional policies applied economy-wide are likely to affect different sectors in different ways (Chang, 2011). Moreover, since their implementation may be too expensive, even policymakers who want to implement sectorally neutral policies will need to take sector-specific decisions. For example, for infrastructure development, it will be necessary to consider whether to focus, for example, on urban or rural areas; on ports that will favour industries producing bulky goods (such as motor vehicles and machinery) or on airports that will favour goods with high unit values (such as pharmaceuticals). More nuanced variants of this approach (e.g. Lin and Treichel, 2014) recognize the important role of government agencies in overcoming market failures by addressing information, coordination and externality issues inherent in the development of new activities and sectors, but emphasize that such structural change should follow the trajectory of “latent comparative advantage”, rather than “defying comparative advantage”.
- 38 For example, the National Institutes of Health, which are State-funded, constitute a major knowledge base in the biopharmaceutical sector. They produce about three-fourths of all new molecular entities, while private laboratories essentially produce minor variations of existing drugs. Mazzucato (2013) also credits this kind of State-funded research for several innovations – such as the Internet, the global positioning system (GPS) and a virtual personal assistant known as SIRI – that allowed, for example, Apple to develop the iPhone and several other products. In these three cases, the State funded the risky early stages of their development from its military budget.
- 39 The main institutions associated with this type of industrial policy have been (i) the Defense Advanced Research Projects Agency, created in 1958 in response to the launching of Sputnik by the then Soviet Union with a view to maintaining global technological leadership by having its officials “working directly with firms in identifying and pursuing the most promising innovative paths” (Mazzucato, 2013: 79); (ii) the Small Business Innovation Research (SBIR) programme, created in 1982, which has required government agencies with large research projects to earmark part of their research funding to support small firms for which SBIR has often been the first source of funding for technological innovations; (iii) the Orphan Drug Act, adopted in 1983, which provides tax incentives, subsidies and fast-track approval for drugs for treating rare conditions; and (iv) the National Nanotechnology Initiative, launched in 2000. Other developed countries have also adopted SBIR programmes. For example, in 2009 the United Kingdom reformed its SBIR programme, established in 2001, to resemble more closely that of the United States. In addition to some tangible effects in the pharmaceutical industry, this programme has been particularly successful in indicating the sectors where potential follow-on investment from the private sector may be profitable (Bound and Puttick, 2010).
- 40 According to Sperling (2013: 7), “The actual loss in *absolute* manufacturing jobs over the past 50 years primarily took place [in the] last decade, where we lost over 5 million manufacturing jobs, roughly one-third of the manufacturing workforce. From 1965 until 2000, we steadily grew manufacturing production at roughly 4 percent per annum, in line with real GDP growth. From 2000 to 2010, our production stagnated and underperformed the economy by a consistent margin for the first time” (emphasis added).
- 41 In addition, in February 2012 President Obama created the Interagency Trade Enforcement Center to monitor and enforce trade provisions through, for example, the use of safeguard measures and initiating a range of cases against China before the WTO’s DSM (Sperling, 2013).
- 42 In addition to the NNMI, the Advanced Manufacturing National Programme launched by President Obama includes three other main initiatives: the National Nanotechnology Initiative (NNI), the Materials Genome Initiative (MGI) and the National Robotics Initiative (NRI). The NNI is a multi-agency initiative that expedites the discovery, development and deployment of nanoscale science, engineering and technology to serve the public good through a programme of coordinated research and development. Besides advancing a world-class nanotechnology research programme, the NNI has the primary mandate to foster the transfer of new nanotechnologies to products for commercial and public benefit. A major aim of the Materials Genome Initiative is to create new knowledge, tools and infrastructure that will enable domestic industries to discover, manufacture and deploy advanced materials twice

- as fast as today. In particular, this initiative intends to accelerate the lower cost insertion of advanced materials into United States manufacturing. The goal of the National Robotics Initiative is to accelerate the development and use of robots in the United States that work beside, or in cooperation with, people. It addresses the entire life cycle, from fundamental research and development to manufacturing and deployment. This programme strives to develop the next generation of robotics and to encourage existing and new communities to focus on innovative application areas. For a detailed discussion of the National Network for Manufacturing Innovation, see, for example, Hart et al., 2012.
- 43 See: <http://www.gsa.gov/portal/content/103527>.
- 44 For a discussion of these legal issues, see, for example, Brunel and Hufbauer, 2009, and Chukwumerije, 2010.
- 45 According to Warwick (2013), a number of countries responded to the global economic and financial crisis in 2008–2009, by providing direct support to the automotive industry and encouraging car sales, including Canada, China, Estonia, France, Israel, Japan, the Netherlands, Norway, Portugal, the Republic of Korea, Spain, the United Kingdom and the United States.
- 46 Under the umbrella of this EU-wide framework, many EU members have continued to design and implement their own national industrial strategies, in part because “the EU was less and less regarded as having solutions and progressively seen as an impediment to industrial restructuring” (Cohen, 2007: 222–223). For example, France complemented the Lisbon Strategy with a package of national measures in the early 2000s (*TDR 2006*). More recently, France launched a programme for “industrial renaissance” that follows similar concepts and ideas as the Horizon 2020 in that it intends to promote key technologies and facilitate their commercialization. For further details, see: http://www.redressement-productif.gouv.fr/files/nouvelle_france_industrielle_english.pdf.
- 47 European Parliament, General principles of EU industrial policy; available at: http://www.europarl.europa.eu/aboutparliament/en/displayFtu.html?ftuId=FTU_5.9.1.html# (accessed 9 April 2014).
- 48 Key enabling technologies “are knowledge and capital-intensive technologies associated with high research and development (R&D) intensity, rapid and integrated innovation cycles, high capital expenditure and highly skilled employment. Their influence is pervasive, enabling process, product and service innovation throughout the economy. They are of systemic relevance, multidisciplinary and trans-sectorial, cutting across many technology areas with a trend towards convergence, technology integration and the potential to induce structural change” (European Commission, 2011: 10).
- 49 For details on the allocation of these €80 billion and the principles governing their distribution, see http://europa.eu/rapid/press-release_MEMO-13-1085_en.htm.
- 50 In addition, EU industrial policy seems notable for the absence of a specific pattern or common strategy for adoption by all the member countries. This is because the Treaty on the Functioning of the EU (see: <http://old.eur-lex.europa.eu/en/treaties/new-2-47.htm>) treats industrial policy as an area where the Union may only “carry out actions to support, coordinate or supplement the actions of the member states, without thereby superseding their competence” and where legally binding acts of the Union “shall not entail harmonisation of member states’ laws or regulations” (articles 6 and 173).
- 51 For this motivation see, for example, European Commission, Europa press release, “State aid: Commission authorises Romanian temporary aid scheme to grant compatible aid of up to €500 000”; available at: http://europa.eu/rapid/press-release_IP-09-1876_en.htm. See also Heimler and Jenny (2012), who discuss the provisions that govern the granting of State aid in the EU in non-exceptional circumstances. Views on the appropriateness of these provisions may differ widely across member States (see, for example, “Aides publiques: Montebourg dénonce les ‘talibans du droit’ à Bruxelles”, *Le Monde*, 20 February 2014; available at: http://www.lemonde.fr/economie/article/2014/02/20/aides-publiques-montebourg-denonce-les-talibans-de-droit-a-bruxelles_4370721_3234.html).
- 52 This and the following two paragraphs are based on Thoburn, 2013, Nguyen et al., 2014, and Thrasher and Gallagher, 2014.
- 53 Nguyen et al., (2014: table 1) provide an overview of Viet Nam’s industrial policy matrix.
- 54 With regard to IPRs, for example, Fergusson et al. (2013: 34) point to “negotiation of provisions that go beyond the level of protection provided in the WTO Trade Related Aspects of Intellectual Property (TRIPS) Agreement, most recently with the TPP negotiations. For example, the United States has sought to have its partner countries sign the World Intellectual Property Organization’s (WIPO’s) Performances and Phonograms Treaty, an agreement to which Brunei, Malaysia, New Zealand, and Vietnam are not parties.”
- 55 China’s treatment of FDI is an important issue in the current negotiations of a United States-China BIT, as discussed, for example in Price and Smart, 2013.
- 56 For more detailed accounts of China’s industrial policy, see, for example, Studwell, 2013; Wu, 2013; and Lo and Wu, 2014.
- 57 Moving towards a so-called “circular economy” has become an official development strategy in China, as explained, for example, by Su et al., 2013.
- 58 For example, such measures may fall under the environment-related provisions of article 8 of the

- SCM Agreement, mentioned above (discussed in detail in *TDR 2009*: 156–159).
- 59 The length of time any of these alternatives to changing the composition of domestic output can be pursued largely depends on the external economic environment, and they can quickly spiral into a balance-of-payments crisis as well. For further discussion, see *TDR 2013*, chap. II.
- 60 A recent paper by Cubeddu et al. (2014) provides econometric support for this evidence. It highlights the sizeable contribution of external demand from developed economies to the growth performance of non-commodity-exporting developing countries during the first decade of the 2000s. On the other hand, for the commodity exporters among developing countries, it was external demand from large emerging economies that played a more important role as a growth driver. The paper also shows that the contribution from external demand was greatest for those developing countries which had the largest share of exports in GDP, and that, despite the increase in South-South trade, their growth remained more sensitive to demand from developed than from developing countries.
- 61 This form of trade within production networks has been called the “second unbundling”. The “first unbundling” referred to the progressive integration of national economies through a reduction in trade costs, mainly resulting from lower transportation costs, which allowed the production and consumption of goods to be geographically separated but maintained production stages bundled spatially in factories in order to minimize communication and coordination costs. The “second unbundling” refers to the unbundling of factories as a result of the spatial dispersion of production stages. This was made possible by a reduction in the costs of communication and information-sharing and associated changes in working methods and product designs that make production more modular (Baldwin, 2006).
- 62 Nolan (2012: 21) indicates, for example, “that just two firms produce 75 per cent of the global supply of braking systems for large commercial aircraft, ... three firms produce 75 per cent of the global supply of constant velocity joints for automobiles, [and] ... three firms produce 80 per cent of the global supply of industrial gases”.
- 63 For an early assessment of the domestic value-added content of developing-country manufactured exports, see *TDR 2002*. Analysing data for the period 1980–1997, the assessment’s main conclusion was that developing countries were “trading more but earning less”. In other words, their share in global manufactured exports had increased, but their share in global manufacturing value added had fallen.
- 64 These initiatives for measuring value-added trade rely partly on reported statistics provided in the Trade in Value Added (TiVA) Inter-Country Input-Output model, operated by the OECD and the WTO, and the World Input-Output Database (WIOD) funded by the European Commission, which is based on supply-use tables from national statistics compiled by a consortium of 11 institutions and available from the University of Groningen. These data, on 18 industrial sectors, cover 57 economies (including all OECD countries, Brazil, China, India, Indonesia, the Russian Federation and South Africa) spanning the period 1995–2009. They have been used, for example, to assess the extent to which individual countries are involved in vertically fragmented production processes (e.g. Backer and Miroudot, 2013). By contrast, the data used in UNCTAD (2013) rely on input-output tables derived from the Eora project’s global multi-region input-output (MRIO) table. This dataset relies on reported data with interpolations and exploratory estimates to provide continuous time series for the period 1990–2010 on 187 countries, including a large number of developing, and sometimes data-poor, countries. For details on the trade-offs between data coverage and statistical rigor, see UNCTAD (2013: 124).
- 65 The same phenomenon can be observed within Latin America and the Caribbean, where the share of domestic value added in a country’s exports is significantly higher for the more resource-based economies in South America than it is for countries in Central America and the Caribbean, whose participation in value chains is based more on manufacturing (UNCTAD, 2014: figure II.12).
- 66 Given its focus on developed economies, the TiVA database offers limited evidence for developing countries. However, the OECD (2013: 56) shows that “China’s exports currently involve assembly work with a high level of foreign content, leading to a significant fall in its domestic value added to output ratio between 2005 and 2009.” On the other hand, the domestic content of China’s exports has increased. The reason for this is closely related to the declining importance in China’s total trade of processing trade with its high levels of foreign content (OECD, 2013: 147). However, domestic value added in China’s processing trade increased only slightly, from about 38 per cent to about 40 per cent between 2007 and 2011. The same source does not provide data for Mexico for the same period, but it does show that Mexico’s share of domestic value added in processing trade also increased slightly between 2000 and 2006, though it remained below 30 per cent (OECD, 2013: 147). Even though the economic outcomes during the two different time periods were clearly also affected by different external economic environments, taken together, this evidence would suggest that the larger share of domestic value added in China’s exports of processed goods was associated

with China's more proactive trade and industrial policies. This argument receives further support from the different outcomes in the automobile industries in Mexico and Brazil (UNCTAD, 2014: 65–69).

- 67 Part of this paragraph draws on Disdier et al., 2013.
 68 For example, reshoring of manufacturing operations in the United States is expected to occur as a result of falling prices in that country's gas market, as noted by UNCTAD (2014: 12).
 69 According to Moser (2013: 40), "Historical evidence suggests that in countries with patent laws, the

majority of innovations occur outside of the patent system. Countries without patent laws have produced as many innovations as countries with patent laws during some time periods, and their innovations have been of comparable quality." This may be taken to indicate that "[p]atents as such do not create innovation incentives. They respond to incentives that result from market opportunities, which patentees may or may not capture by virtue of their exclusive rights" (Max Planck Institute for Innovation and Competition, 2014: 3).

References

- Akyüz Y (2005). The WTO negotiations on industrial tariffs: What is at stake for developing countries? Trade & Development Series No. 24. Penang, Third World Network.
- Akyüz Y, Chang HJ and Kozul-Wright R (1998). New perspectives on East Asian development. *Journal of Development Studies*, 34(6): 4–36.
- Backer KD and Miroudot S (2013). Mapping global value chains. Trade Policy Paper No. 159. OECD, Paris.
- Baldwin RE (2006). Globalisation: The great unbundling(s). Geneva, Graduate Institute of International Studies; available at: http://graduateinstitute.ch/files/live/sites/iheid/files/sites/ctei/shared/CTEI/Baldwin/Publications/Chapters/Globalization/Baldwin_06-09-20.pdf.
- Baldwin RE (2012). WTO 2.0: Global governance of supply-chain trade. Policy Insight No. 64, Centre for Economic Policy Research (CEPR), London, December.
- Baldwin RE (2014). Multilateralising 21st century regionalism. OECD Global Forum on Trade, 11 February; available at: <http://www.rieti.go.jp/en/events/bbl/13070401.html>.
- Baldwin RE and Evenett SJ (2012). Beggar-thy-neighbour policies during the crisis era: Causes, constraints, and lessons for maintaining open borders. *Oxford Review of Economic Policy*, 28(2): 211–234.
- Baldwin RE and Jaimovich D (2012). Are free trade agreements contagious? *Journal of International Economics*, 88(1): 1–16.
- Block FL (2008). Swimming against the current: The rise of the hidden developmental state in the United States. *Politics and Society*, 36(2): 169–206.
- Bound K and Puttick R (2010). Buying power? Is the Small Business Research Initiative for procuring R&D driving innovation in the UK? Research Report, National Endowment for Science, Technology and the Arts (NESTA), London; available at: http://www.nesta.org.uk/sites/default/files/buying_power_report.pdf.
- Brunel C and Hufbauer G (2009). Money for the auto industry: Consistent with WTO rules? Policy Brief No. 09-4. Peterson Institute for International Economics, Washington DC, February.
- Brusick P, Alvarez AM and Cernat L, eds. (2005). *Competition Provisions in Regional Trade Agreements: How to Assure Development Gains*. UNCTAD/DITC/CLP/2005/1, New York and Geneva, United Nations.
- Cattaneo O, Gereffi G, Miroudot S and Taglioni D (2013). Joining, upgrading and being competitive in global value chains. Policy Research Working Paper No. 6406, World Bank, Washington, DC.
- Chanda R (2002). GATS and its implications for developing countries: Key issues and concerns. Discussion Paper No. 25. ST/ESA/2002/DP.25, United Nations Department of Economic and Social Affairs, New York.
- Chandrasekhar CP (2014). National Development Banks in a Comparative Perspective. Jawaharlal Nehru University, New Delhi, February.

- Chang HJ (2011). Industrial policy: Can we go beyond an unproductive confrontation? In: Lin JY and Pleskovic B, eds, *Lessons from East Asia and the Global Financial Crisis*. Proceedings of the Annual World Bank Conference on Development Economics – Global 2010. Washington, DC, World Bank: 83–109.
- Chukwumerije O (2010). Obama's trade policy: Trends, prospects, and portends. *Journal of International Law and Policy*, 16(1): 39–79.
- Cimino A, Hufbauer GC and Schott JJ (2014). A proposed code to discipline local content requirements. Policy Brief 14-6, Peterson Institute for International Economics, Washington, DC.
- Cohen E (2007). Industrial policies in France: the old and the new. *Journal of Industry, Competition and Trade*, 7(3–4): 213–227.
- Commission on Growth and Development (2008). *The Growth Report. Strategies for Sustained Growth and Inclusive Development*. Washington, DC, World Bank.
- Copeland P and Papadimitriou D, eds. (2012). *The EU's Lisbon Strategy: Evaluating Success, Understanding Failure*. London, Palgrave Macmillan.
- Coppens D (2009). How much credit for export credit support under the SCM Agreement? *Journal of International Economic Law*, 12(1): 63–113.
- Coppens D (2013). How special is the special and differential treatment under the SCM Agreement? A legal and normative analysis of WTO subsidy disciplines on developing countries. *World Trade Review*, 12(1): 79–109.
- Correa C (2014). Intellectual property: How much room is left for industrial policy? Background paper for the *Trade and Development Report 2014*. Geneva, UNCTAD.
- Cubeddu L, Culiuc A, Fayad G, Gao Y, Kochhar K, Kyobe A, Oner C, Perrelli R, Sanya S, Tsounta E and Zhang Z (2014). Emerging markets in transition: Growth prospects and challenges. Staff Discussion Note 14-06, IMF, Washington, DC.
- Di Tommaso MR and Schweitzer SO (2013). *Industrial Policy in America: Breaking the Taboo*. Cheltenham and Northampton, Edward Elgar.
- Dawar K and Holmes P (2011). Competition policy. In: Chauffour JP and Maur JC, eds, *Preferential Trade Agreement Policies for Development. A Handbook*. Washington, DC, World Bank: 347–366.
- Deere C (2009). *The implementation game: The TRIPS Agreement and the global politics of intellectual property reform in developing countries*. Oxford, Oxford University Press.
- Department of Trade and Industry (South Africa) (2007). *National Industrial Policy Framework*. Pretoria.
- Dezan Shira & Associates (2011). *Foreign Investment Industrial Guidance Catalogue* (2011 version). Hong Kong (China SAR).
- Disdier AC, Fontagné L and Cadot O (2013). North-South standards harmonization and international trade. Policy Research Working Paper No. 6710, World Bank, Washington, DC.
- Dür A, Baccini L and Elsig M (2013). The design of international trade agreements: Introducing a new dataset. *The Review of International Organizations*: 1–23; available at: <http://rd.springer.com/article/10.1007/s11558-013-9179-8>.
- Eichengreen BJ and Irwin D (2010). The slide to protectionism in the Great Depression: Who succumbed and why? *The Journal of Economic History*, 70(4): 871–897.
- Eichengreen BJ and Kenen PB (1994). Managing the world economy under the Bretton Woods system: an overview. In Kenen PB, ed, *Managing the World Economy: 50 Years After Bretton Woods*. Washington, DC, Institute for International Economics: 3–57.
- Estevadeordal A, Suominen K and Teh R, eds. (2009). *Regional Rules in the Global Trading System*. Cambridge, Cambridge University Press.
- European Commission (1990). Industrial policy in an open and competitive environment: Guidelines for a Community approach. Document COM(1990) 556, Brussels.
- European Commission (2004). Community guidelines on State Aid for rescuing and restructuring firms in difficulty. *Official Journal of the European Union*, 2004/C 244/02, October; available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2004:244:0002:0017:EN:PDF>.
- European Commission (2011). High Level Expert Group on Key Enabling Technologies: Final Report; available at: http://ec.europa.eu/enterprise/sectors/ict/files/kets/hlg_report_final_en.pdf.
- European Commission (2013). Draft guidelines on State aid for rescuing and restructuring non-financial undertakings in difficulty; available at: http://ec.europa.eu/competition/consultations/2013_state_aid_rescue_restructuring/draft_guidelines_en.pdf.
- Evenett SJ (2012). Executive summary. In: Evenett SJ, ed, *Débâcle: The 11th GTA Report on Protectionism*. Centre for Economic Policy Research, London.
- Evenett SJ (2013a). *What Restraint? Five years of G20 Pledges on Trade. The 14th GTA Report*. Centre for Economic Policy Research, London.
- Evenett SJ (2013b). Mapping crisis-era protectionism in Latin America and the Caribbean. Discussion paper no. 9782. Centre for Economic Policy Research, London.
- Evenett SJ (2013c). Mapping crisis-era protectionism in the Asia-Pacific region. Discussion paper no. 9783, Centre for Economic Policy Research, London.
- Felipe J, Abdon A and Kumar U (2012). Tracking the middle-income trap: What is it, who is in it, and why? Working paper no. 715, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

- Fergusson IF, Cooper WH, Jurenas R and Williams BR (2013). The Trans-Pacific Partnership (TPP) negotiations and issues for Congress. Document R42694, Congressional Research Service, Washington, DC; available at: <http://fas.org/sgp/crs/row/R42694.pdf>.
- Ferraz JC, Kupfer D and Marques FS (2014). Industrial policy as an effective developmental tool: Lessons from Brazil. In: Salazar-Xirinachs JM, Nübler I and Kozul-Wright R, eds, *Transforming Economies. Making Industrial Policy Work for Growth, Jobs and Development*. Geneva, International Labour Organization (ILO): 291–305.
- Fink C (2011). Intellectual property rights. In: Chauffour JP and Maur JC, eds, *Preferential Trade Agreement Policies for Development. A Handbook*, Washington, DC, World Bank: 387–405.
- Fosu AK, ed. (2013). *Achieving Development Success. Strategies and Lessons from the Developing World*. Oxford, Oxford University Press.
- Fugazza M and Nicita A (2013). The direct and relative effects of preferential market access. *Journal of International Economics*, 89(2): 357–368.
- Gereffi G (2014). Global value chains in a post-Washington Consensus world. *Review of International Political Economy*, 21(1): 9–37.
- Goswami AG and Sáez S (2013). How well have trade agreements facilitated temporary mobility? In: Sáez S, ed. *Let Workers Move: Using Bilateral Labor Agreements to Increase Trade in Services*. Washington, DC, World Bank: 17–38.
- Grabas C and Nützenadel A, eds. (2014). *Industrial Policy in Europe after 1945: Wealth, Power and Economic Development in the Cold War*. Basingstoke, Palgrave Macmillan.
- Hart DM, Ezell SJ and Atkinson RD (2012). Why America needs a national network for manufacturing innovation. Washington, DC, The Information Technology & Innovation Foundation; available at: <http://www.itif.org/publications/why-america-needs-national-network-manufacturing-innovation>.
- Heimler A and Jenny F (2012). The limitations of European Union control of state aid. *Oxford Review of Economic Policy*, 28(2): 347–367.
- Henn C and McDonald B (2014). Crisis protectionism: The observed trade impact. *IMF Economic Review*, 62(1): 77–118.
- Horn H, Mavroidis PC and Sapir A (2010). Beyond the WTO? An anatomy of EU and US preferential trade agreements. *The World Economy*, 33(11): 1565–1588.
- ICCT (2013). Brazil's Inovar-Auto incentive program. International Council on Clean Transportation; available at: http://www.theicct.org/sites/default/files/publications/ICCTupdate_Brazil_InovarAuto_feb2013.pdf.
- IMF (2012). *The Liberalization and Management of Capital Flows: An Institutional View*. Washington, DC, International Monetary Fund.
- Kaldor N (1968). Productivity and growth in manufacturing industry: A reply. *Economica*, 35(140): 385–391.
- Ketels CHM (2007). Industrial policy in the United States. *Journal of Industry, Competition and Trade*, 7(3–4): 147–167.
- Kohl T, Brakman S and Garretsen H (2013). Do trade agreements stimulate international trade differently? Evidence from 296 trade agreements. University of Groningen, unpublished; available at: http://www.tristankohl.org/site/KohlBrakmanGarretsen_296A_greements.pdf.
- Kozul-Wright R (1995). The myth of Anglo-Saxon Capitalism: Reconstructing the history of the American State. In: Chang HJ and Rowthorn R, eds. *The Role of the State in Economic Change*. Oxford, Clarendon Press: 235–251.
- Krugman PR (1993). Toward a counter-counterrevolution in development theory. In: Summers LH and Shah S, eds. *Proceedings of the World Bank Annual Conference on Development Economics 1992, Supplement to The World Bank Economic Review and The World Bank Research Observer*. Washington, DC, World Bank: 15–62.
- Lewis WA (1954). Economic development with unlimited supplies of labour. *The Manchester School*, 22(2): 139–191.
- Lin JY and Treichel V (2014). Making industrial policy work for development. In: Salazar-Xirinachs JM, Nübler I and Kozul-Wright R, eds. *Transforming Economies: Making Industrial Policy Work for Growth, Jobs and Development*. Geneva, ILO: 65–78.
- Lo D and Wu M (2014). The State and industrial policy in Chinese economic development. In: Salazar-Xirinachs JM, Nübler I and Kozul-Wright R, eds. *Transforming Economies. Making Industrial Policy Work for Growth, Jobs and Development*. Geneva, ILO: 307–326.
- Maggi G and Rodriguez-Clare A (1998). The value of trade agreements in the presence of political pressures. *Journal of Political Economy*, 106(3): 574–601.
- Manger MS and Shadlen KC (2014). Political trade dependence and North–South trade agreements. *International Studies Quarterly*, forthcoming.
- Manova K and Zhang Z (2012). Export prices across firms and destinations. *Quarterly Journal of Economics*, 127(1): 379–436.
- Marin AG and Voigtländer N (2013). Exporting and plant-level efficiency gains: It's in the measure. Working paper no. 19033, National Bureau of Economic Research, Cambridge, MA.
- Maur JC and Shepherd B (2011). Product standards. In: Chauffour JP and Maur JC, eds. *Preferential Trade Agreement Policies for Development. A Handbook*. Washington, DC, World Bank: 197–216.
- Max Planck Institute for Innovation and Competition (2014). Declaration on patent protection: Regulatory

- sovereignty under TRIPS; available at: <http://www.ip.mpg.de/en/pub/news/patentdeclaration.cfm>.
- Mazzucato M (2013). *The Entrepreneurial States. Debunking Public vs. Private Sector Myths*. London, Anthem Press.
- McMillan M, Rodrik D and Verduzco-Gallo I (2014). Globalization, structural change, and productivity growth, with an update on Africa. *World Development*, forthcoming.
- Milberg W and Bernhardt T (2013). Does industrial upgrading generate employment and wage gains? In: Bardhan A, Jaffee D and Kroll C, eds. *The Oxford Handbook of Offshoring and Global Employment*. Oxford, Oxford University Press: 490–531.
- Milberg W and Winkler D (2013). *Outsourcing Economics: Global Value Chains in Capitalist Development*. Cambridge, Cambridge University Press.
- Milberg W, Jiang X and Gereffi G (2014). Industrial policy in the era of vertically specialized industrialization. In: Salazar-Xirinachs JM, Nübler I and Kozul-Wright R, eds. *Transforming Economies. Making Industrial Policy work for Growth, Jobs and Development*. Geneva, ILO: 151–178.
- Miroudot S (2011). Investment. In: Chauffour JP and Maur JC, eds. *Preferential Trade Agreement Policies for Development. A Handbook*. Washington, DC, World Bank: 307–326.
- Moser P (2013). Patents and innovation: Evidence from economic history. *Journal of Economic Perspectives*, 27(1): 23–44.
- Natsuda K and Thoburn J (2013). Industrial policy and the development of the automotive industry in Thailand. *Journal of the Asia Pacific Economy*, 18(3): 413–437.
- Naudé W (2010). Industrial policy: Old and new issues. Working paper no. 2010/106, UNU-WIDER, Helsinki.
- Neumayer E, Nunnenkamp P and Roy M (2014). Are stricter investment rules contagious? Host country competition for foreign direct investment through international agreements. Working paper ERSD-2014-04, WTO, Geneva.
- Nguyen TTA, Luu MD and Trinh DC (2014). The evolution of Vietnamese industry. Working paper 2014/076, World Institute for Development Economics Research (WIDER), Helsinki.
- Nicita A, Olarreaga M and Silva P (2014). Cooperation in the tariff waters of the World Trade Organization. Policy Issues in International Trade and Commodities Study Series No. 62. UNCTAD, Geneva.
- Nolan P (2012). *Is China Buying the World?* Cambridge and Malden, Polity.
- Nübler I (2014). A theory of capabilities for productive transformation: Learning to catch up. In: Salazar-Xirinachs JM, Nübler I and Kozul-Wright R, eds. *Transforming Economies. Making Industrial Policy Work for Growth, Jobs and Development*. Geneva, ILO: 113–149.
- OECD (2013). *Interconnected Economies. Benefiting from Global Value Chains*. Paris.
- Orefice G (2014). International migration and trade agreements: The new role of PTAs. *Canadian Journal of Economics*, forthcoming.
- Orefice G and Rocha N (2014). Deep integration and production networks: An empirical analysis. *The World Economy*, 37(1): 106–136.
- Owen G (2012). Industrial policy in Europe since the Second World War. What has been learnt? Occasional paper no. 1/2012, European Centre for International political Economy, Brussels.
- Pack H and Saggi K (2006). The case for industrial policy: A critical survey. Policy Research Working Paper No. 3839, World Bank, Washington, DC.
- Poon D (2014). China's development trajectory: A strategic opening for industrial policy in the South. UNCTAD discussion paper, forthcoming. Geneva, UNCTAD.
- Price DM and Smart MJ (2013). BIT by BIT: A Path to Strengthen US-China Economic Relations. Paulson Policy Memorandum. Chicago, The Paulson Institute; available at: http://www.paulsoninstitute.org/media/102532/bit_by_bit_pricesmart_english_final.pdf.
- Prusa TJ (2011). Trade remedy provisions. In: Chauffour JP and Maur JC, eds. *Preferential Trade Agreement Policies for Development. A Handbook*. World Bank, Washington, DC: 179–196.
- Prusa TJ and Teh R (2011). Contingent protection rules in regional trade agreements. In: Bagwell KW and Mavroidis PC, eds. *Preferential Trade Agreements. A Law and Economics Analysis*. Cambridge, Cambridge University Press.
- Ranis G and Fei JC (1961). A theory of economic development. *American Economic Review*, 51(4): 533–565.
- Ravenhill J (2014). Global value chains and development. *Review of International Political Economy*, 21(1): 264–274.
- Redding SJ (2011). Theories of heterogeneous firms and trade. *Annual Review of Economics*, 3: 77–105.
- Reyes JD (2012). The pro-competitive effect of international harmonization of product standards. In: Cadot O and Malouche M, eds. *Non-tariff Measures: A Fresh Look at Trade Policy's New Frontier*. London and Washington, CEPR and World Bank, 167–185.
- Rodrik D (2008). Industrial policy: Don't ask why, ask how. *Middle East Development Journal*, Demo Issue, 1–29.
- Rohatyn FG (2009). *Bold Endeavors: How Our Government Built America, and Why It Must Rebuild Now*. New York, Schuster & Schuster.
- Roncolato L and Kucera D (2014). Structural drivers of productivity and employment growth: A decomposition analysis for 81 countries. *Cambridge Journal of Economics*, forthcoming.
- Salazar-Xirinachs JM, Nübler I and Kozul-Wright R (2014). Industrial policy, productive transformation

- and jobs: Theory, history and practice. In: Salazar-Xirinachs JM, Nübler I and Kozul-Wright R, eds. *Transforming Economies. Making Industrial Policy Work for Growth, Jobs and Development*. Geneva, ILO: 1–38.
- Schrank A and Whitford J (2009). Industrial policy in the United States: A neo-Polanyian interpretation. *Politics and Society*, 37(4): 521–553.
- Simmons BA (2014). Bargaining over BITS, arbitrating awards: The regime for protection and promotion of international investment. *World Politics*, 66(1): 12–46.
- Sperling G (2012). Remarks by Gene Sperling at the conference on the Renaissance of American Manufacturing; Washington DC, The National Press Club; available at: http://www.whitehouse.gov/sites/default/files/administration-official/sperling_-_renaissance_of_american_manufacturing_-_03_27_12.pdf.
- Sperling G (2013). The case for a manufacturing renaissance. Remarks at the Brookings Institution; available at: http://www.whitehouse.gov/sites/default/files/docs/the_case_for_a_manufacturing_renaissance_gene_sperling_7-25-2013_final_p....pdf.
- Starrs (2014). The Chimera of Global Convergence. *New Left Review*, 87(May/June): 81–96.
- Studwell J (2013). *How Asia Works: Success and Failure in the World's Most Dynamic Region*. London, Profile Books.
- Su BW, Heshmati A, Geng Y and Yu XM (2013). A review of the circular economy in China: Moving from rhetoric to implementation. *Journal of Cleaner Production*, 42(March): 215–227.
- Taglioni D and Winkler D (2014). Making global value chains work for development. Economic Premise No. 143, World Bank, Washington, DC.
- te Velde DW and Fahnbulleh M (2006). Investment-related provisions in regional trade agreements. In: te Velde DW, ed. *Regional Integration and Poverty*. Aldershot, Ashgate.
- Thirlwall AP (1979). The balance of payments constraint as an explanation of international growth rate differences. *Banca Nazionale del Lavoro Quarterly Review*, 128: 45–53.
- Thoburn J (2013). Vietnam as a role model for development. In: Fosu AK, ed. *Achieving Development Success: Strategies and Lessons from the Developing World*. Oxford, Oxford University Press: 99–118.
- Thrasher RD and Gallagher K (2008). 21st century trade agreements: Implications for long-run development policy. The Pardee Papers, No. 2, Boston University, Boston, MA; available at: <http://www.bu.edu/pardee/files/documents/PP-002-Trade.pdf>.
- Thrasher RD and Gallagher K (2014). The soft foundations and hard consequences of “soft protectionism”. Background paper prepared for UNCTAD’s *Trade and Development Report 2014*. Boston University, Boston, MA, unpublished.
- Tilford S and Whyte P (2010). The Lisbon Scorecard X: The road to 2020. London, Centre for European Reform; available at: http://www.cer.org.uk/sites/default/files/publications/attachments/pdf/2011/rp_967-251.pdf.
- UNCTAD (2009). *The Least Developed Countries Report 2009 – The State and Development Governance*. United Nations publication, sales no. E.09.II.D.9, New York and Geneva.
- UNCTAD (2011a). Report of the Secretary-General of UNCTAD to UNCTAD XIII, Development-led Globalization: Towards Sustainable and Inclusive Development Paths. Document UNCTAD (XIII)/1, United Nations, New York and Geneva.
- UNCTAD (2011b). Trade Facilitation in Regional Trade Agreements. Document UNCTAD/DTL/TLB/2011/1, United Nations, New York and Geneva.
- UNCTAD (2013). *World Investment Report 2013 – Global Value Chains: Investment and Trade for Development*. United Nations publication, sales no. E.13.II.D.5, New York and Geneva.
- UNCTAD (2014). *World Investment Report 2014 – Investing in the SDGs: An Action Plan*. United Nations publication, sales no. E.14.II.D.1, New York and Geneva.
- UNCTAD (forthcoming). Global Value Chains and the Growth of South-South Trade. United Nations publication, New York and Geneva.
- UNCTAD (TDR 1994). *Trade and Development Report, 1994*. United Nations publication, sales no. E.94.II.D.26, New York and Geneva.
- UNCTAD (TDR 1995). *Trade and Development Report, 1995*. United Nations publication, sales no. E.95.II.D.16, New York and Geneva.
- UNCTAD (TDR 1996). *Trade and Development Report, 1996*. United Nations publication, sales no. E.96.II.D.6, New York and Geneva.
- UNCTAD (TDR 1998). *Trade and Development Report, 1998. Financial instability. Growth in Africa*. United Nations publication, sales no. E.98.II.D.6, New York and Geneva.
- UNCTAD (TDR 2002). *Trade and Development Report, 2002. Developing Countries in World Trade*. United Nations publication, sales no. E.02.II.D.2, New York and Geneva.
- UNCTAD (TDR 2003). *Trade and Development Report, 2003. Capital accumulation, growth and structural change*. United Nations publication, sales no. E.03.II.D.7, New York and Geneva.
- UNCTAD (TDR 2006). *Trade and Development Report, 2006. Global Partnership and National Policies for Development*. United Nations publication, sales no. E.06.II.D.6, New York and Geneva.
- UNCTAD (TDR 2009). *Trade and Development Report, 2009. Responding to the Global Crisis: Climate Change Mitigation and Development*. United Nations

- publication, sales no. E. 09.II.D.16, New York and Geneva.
- UNCTAD (2013). *Trade and Development Report, 2013. Adjusting to the changing dynamics of the world economy*. United Nations publication, sales no. E.13.II.D.3, New York and Geneva.
- UNIDO (2013). *Industrial Development Report 2013. Sustaining Employment Growth: The Role of Manufacturing and Structural Change*. Vienna, United Nations Industrial Development Organization.
- Wade R (2014). The paradox of US industrial policy: The developmental state in disguise. In: Salazar-Xirinachs JM, Nübler I and Kozul-Wright R, eds. *Transforming Economies. Making Industrial Policy Work for Growth, Jobs and Development*. Geneva, ILO: 379–400.
- Wagner J (2012). International trade and firm performance: A survey of empirical evidence since 2006. *Review of World Economics*, 148(2): 235–267.
- Warwick K (2013). Beyond industrial policy: Emerging issues and new trends. Science, Technology and Industry Policy Paper No. 2, OECD, Paris.
- White House (2012). To modify duty-free treatment under the Generalized System of Preferences and for other purposes. Proclamation of the Office of the Press Secretary, The White House, Washington, DC; available at: <http://www.whitehouse.gov/the-press-office/2012/03/26/modify-duty-free-treatment-under-generalized-system-preferences-and-oth>.
- World Bank (2005a). *Economic Growth in the 1990s: Learning from a Decade of Reform*. Washington, DC, World Bank.
- World Bank (2005b). *Global Economic Prospects. Trade, Regionalism, and Development*. World Bank, Washington, DC.
- WEF (2012). *The Shifting Geography of Global Value Chains: Implications for Developing Countries and Trade Policy*. Geneva, World Economic Forum.
- WTO (2008). Fourth revision of draft modalities for non-agricultural market access. TN/MA/W/103/Rev.3, Geneva.
- WTO (2011). *World Trade Report 2011. The WTO and Preferential Trade Agreements: From Co-existence to coherence*. Geneva.
- WTO (2013a). Special and differential treatment provisions in WTO agreements and decisions. WT/COMTD/W/196, Geneva.
- WTO (2013b). WTO Dispute Settlement: One-Page Case Summaries (1995–2012). Geneva.
- WTO (2013c). *World Trade Report 2013. Factors shaping the future of world trade*. Geneva.
- Wu HX (2013). Rethinking China's path of industrialization. In: Szirmai A, Naudé W and Alcorta L, eds. *Pathways to Industrialization in the Twenty-First Century: New Challenges and Emerging Paradigms*. Oxford University Press, Oxford: 155–192.
- Yang C (2014). Market rebalancing of global production networks in the post-Washington Consensus globalizing era: Transformation of export-oriented development in China. *Review of International Political Economy*, 21(1): 130–156.
- Zalk N (2014). Industrial policy in a harsh climate: The case of South Africa. In: Salazar-Xirinachs JM, Nübler I and Kozul-Wright R, eds. *Transforming Economies. Making Industrial Policy Work for Growth, Jobs and Development*. Geneva, ILO: 327–354.
- Zeng DZ (2011). How do special economic zones and industrial clusters drive China's rapid development? Policy Research Working Paper No. 5583, World Bank, Washington, DC.

