

## CHAPTER IV

# INVESTMENT AND NEW INDUSTRIAL POLICIES



# INTRODUCTION

## Background and definitions

After several decades of divided opinions, industrial policy has once again become popular during the past 10 years among policymakers in both the developed and the developing world. The new generation of industrial policies, however, differs significantly, both in methods and in scope, from earlier interventions. Compared with the relatively heavy-handed industrial policies of the past, which tended to focus on the blunt protection of specific industries, industrial policies today are more agile, interactive, inclusive, flexible, integrative with other policy areas and responsive to broader issues such as sustainable development. Furthermore, FDI and MNE operations have become an integral part, either explicitly or implicitly, of contemporary industrial policies in many countries.

The definitions of industrial policy vary across studies.<sup>1</sup> However, there is agreement that they include *government policies directed at affecting the economic structure of the economy* (Rodrik, 2004). According to this definition, industrial policy has a very large ambit, covering a range of policies aimed at enabling a country to achieve its strategic objectives by enhancing domestic productive capabilities and international competitiveness. It includes both vertical policies focused on specific industries, as well as horizontal policies seeking to improve operational conditions and capabilities across several sectors. A review of industrial policies over time concludes that more recent policies rely significantly on an expanded range of support measures and instruments that aim to improve infrastructure, education and training, enterprise development, the building of clusters and linkages, entrepreneurship, innovation, access to finance and social policies (Salazar et. al. 2014). This reflects a change in the scope of industrial policies, compared with those used earlier in the context of import substitution.

With industrial policies aspiring to structurally change an economy's production structure and trajectory of growth, investment, in particular foreign direct investment (FDI), has become a prominent part of industrial policies. For instance, a detailed assessment of the empirical impact of industrial policies concluded that "*Industrial policies through FDI promotion may be more successful* than intervention in trade, in part because FDI promotion policies focus on new activities rather than on protecting (possibly unsuccessful) incumbents. If such measures are part of a broader effort to achieve technological upgrading then they may be helpful, whereas if they are implemented in isolation they are likely to fail" (Harrison et al., 2010). Likewise, Rodrik (2013: 51) states that the "focus these days may need to be more on segments of industries than on entire industries, and *more on foreign investors than locals*. But ultimately the principles of cooperative industrial policy based on public private partnerships ... still apply".

## Objectives

This chapter provides an overview of industrial policy models – based on an inventory of industrial policies adopted by over 100 countries over the past decade – and the role of investment policies within each model. It illustrates how investment policy instruments are used differently across various models. It also suggests ways to improve the impact of industrial policy through more effective and efficient investment policies.

Given the imperatives of the latest evolutionary phase of industrial policies, driven by the new industrial revolution (NIR) and by sustainability concerns, the chapter takes a specific look at the investment policy implications of the new generation of industrial policies.

## Scope

The remit of this chapter is on the foreign investment policy dimension of industrial policy. The focus is on national investment policies – including entry and establishment, screening, promotion and facilitation, incentives and performance requirements special economic zones (SEZs) and the like. International policies (international investment agreements, or IIAs) are discussed only tangentially.

Major questions about the economic choices associated with specific industrial policies, such as whether they should build on current comparative advantage and strengths or rather develop strategic advantages in new areas and defy comparative advantage (Lin, 2012; Lin and Chang, 2009; Gereffi, 2014, Buzdugan and Tüselmann, 2018) are outside the scope of this chapter.

The chapter's data analyses and broader discussion focus mainly on the manufacturing sector (though including adjunct services sector industries). This is apt, as the manufacturing sector continues to be the main source of technology-driven growth in modern economies. The sector provides the basis for economic development in many developing countries, whereas in developed countries, the erosion of industrial commons and the loss of core manufacturing activities are of concern.

## Structure

The structure of the chapter is as follows: Section IV.A provides an overview of the current proliferation of industrial policies and the many new themes they address, and broadly outlines the role of investment policies. Section IV.B identifies major industrial policy models and surveys current practices in industrial policy design, based on the inventory newly constructed by UNCTAD's Investment Division. Section IV.C analyses how investment policy instruments are being used across industrial policy models. Section IV.D puts forward ways and means to update investment policy approaches and instruments in line with the new generation of industrial policies and the sustainable development imperative, including a set of customized investment policy toolkits for different industrial policy models.

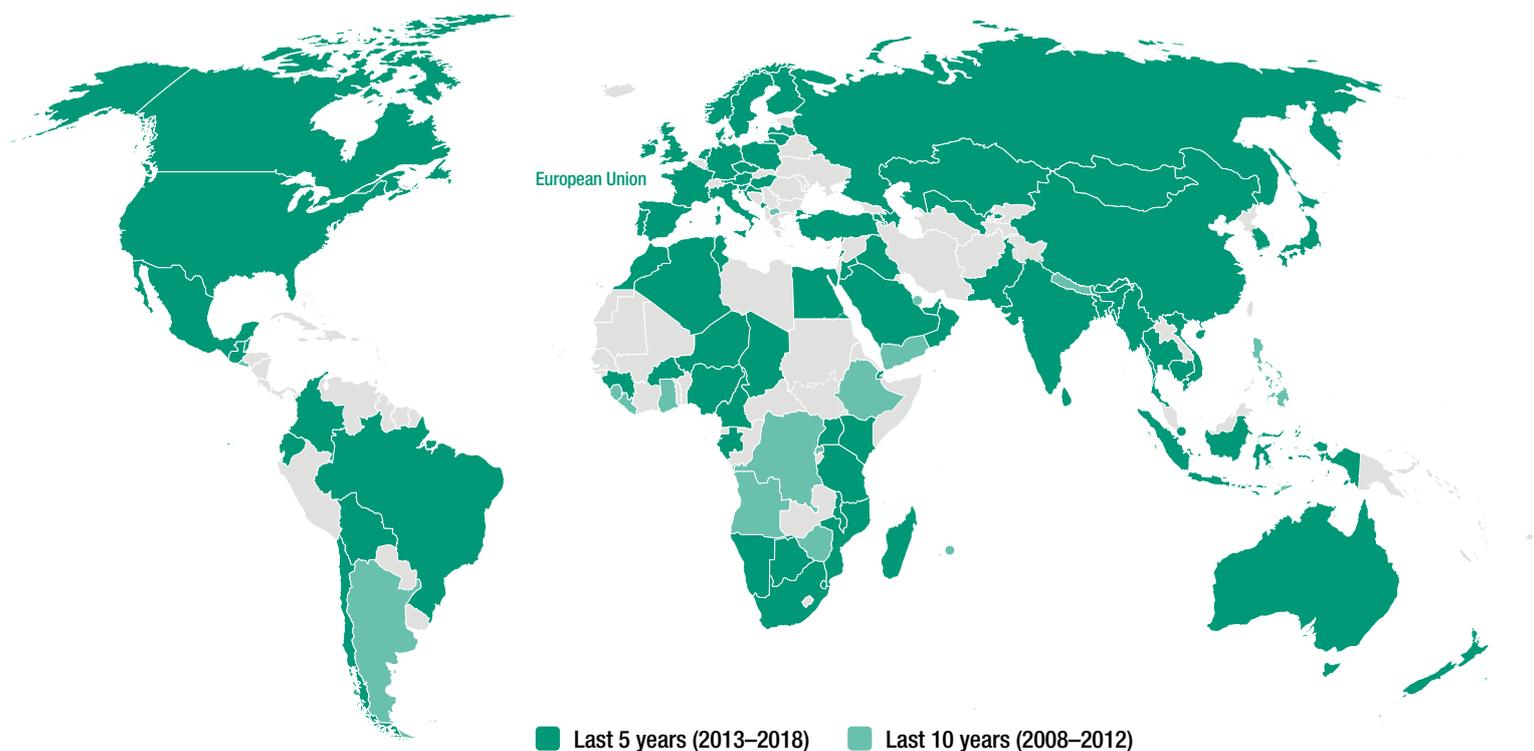
# A. INDUSTRIAL POLICY: A MODERN PHENOMENON

## 1. The recent proliferation of industrial policies

*Industrial policies have become ubiquitous. UNCTAD's global survey of industrial policies shows that, over the past five years alone, at least 84 countries – both developed and developing, accounting for about 90 per cent of global GDP – have adopted formal industrial development strategies.*

**In the decade since the global financial crisis, the number of countries adopting national industrial development strategies has increased dramatically.** The rate of adoption of both formal industrial policies and individual policy measures targeted at industrial sectors appears to be at an all-time high. Over the past five years alone, at least 84 countries have issued industrial policy statements or explicit policy frameworks for industrial development (figure IV.1). Countries at all levels of development are using targeted industrial policies, not only for economic development purposes, but also to respond to myriad contemporary challenges, such as creating jobs and reducing poverty, participating in the technological revolution and in global value chains (GVCs), promoting efficient and clean energy and greening the economy (Salazar et al. 2014).

Figure IV.1. | Industrial policies adopted since 2008



Source: UNCTAD global survey of industrial policies.

Note: Categorization of countries is not exhaustive.

### **The proliferation of industrial policy approaches across the developed and developing world is driven by several forces:**

- First, the pressure to reduce unemployment and stimulate growth after the global financial crisis has led to more proactive government action to address socioeconomic problems and to manage the negative effects of globalization.
- Second, the success of fast-growing economies in East and South-East Asia has put pressure on developed countries to respond to intensified competition in trade, investment and technology. It has also inspired low- and middle-income economies to build on their experience and push industrial development through greater participation in GVCs.
- Third, fears of premature deindustrialization in middle-income economies and of “missing the boat” in low-income countries have increased pressure for policies that support the manufacturing sector. The development of advanced manufacturing is a priority across emerging and mature markets.
- Fourth, the focus on GVCs, which include both goods and services, implies that improving the capacities of the manufacturing sector requires concomitant supportive policies for related services and the relevant regulatory and facilitating regimes.

Finally, the drive for sustainable development and inclusive growth at the global level – as embodied in the Sustainable Development Goals (SDGs) – adds further pressure on governments to steer industrial development.

**Industrial policies are now commonplace among developing and developed countries.** Policies to push productivity growth in sectors key to industrial development – manufacturing first and foremost, but also adjunct services and supporting infrastructure – are widely considered indispensable to generate economic growth and jobs and to put a brake on excessive inequality. For developing countries, despite recent evidence that a singular focus on manufacturing in most industrial policies may be too narrow (IMF, 2018), most economists have recognized for some time that very few countries have developed successfully without passing through a manufacturing-based, and often export-driven, industrialization phase (Rodrik, 2011; UNCTAD, 2016c). (The few economies that did have tended to exploit special circumstances, such as abundant natural resources, a gateway location or a favourable fiscal environment for financial services.) Developed countries are today fully engaged in industrial policies, driven in large part by the need to offset the decline of manufacturing experienced during the period of rapid globalization in the 1990s and 2000s, and during the global financial crisis. They have increasingly adopted policies aimed at rebuilding their manufacturing base (incentives, subsidies, public investment in advanced manufacturing to increase internal production capacity) and at strategic positioning in advanced technology areas.

## **2. New themes in industrial policies**

*Modern industrial policies are increasingly diverse and complex, addressing new themes and including myriad objectives beyond conventional industrial development and structural transformation, such as GVC integration and upgrading, development of the knowledge economy, build-up of sectors linked to sustainable development goals and competitive positioning for the new industrial revolution (NIR).*

**Industrial policies have evolved and are increasingly diverse.** Industrial policies generally used to focus on the protection or promotion of specific industries and on catalysing structural transformation. The gradual shift over the past decades to horizontal development strategies seeking to enhance overall industrial competitiveness, including in

international markets, has already been well documented (Singh, 2016; Andreoni, 2016; European Commission, 2010; Tarr, 2005; *WIR11*). With significant technological change, which seems to herald the beginning of a new technological paradigm, many economies have begun to focus on improving their capabilities and competitiveness in this area. Thus, modern industrial policies encompass a range that spans GVCs, the knowledge economy and the NIR. Table IV.1 provides a summary of developments, which inevitably implies a degree of generalization and overlap between phases; e.g. in the 1980s-1990s, some countries in East and South-East Asia pursued distinctly different industrial policies.

**A key driver for the modernization of industrial policies has been the adoption in many developing countries of policies to promote GVCs and GVC-led development strategies (*WIR13*).** Such policies encourage and support economic activities that generate exports in fragmented and geographically dispersed industry value chains, based on specific endowments and competitive advantages. Improving GVC participation requires timely delivery of and consistent quality in products within the value chain, efficiently combining goods and services to facilitate the chain, regulatory mechanisms, and addressing the increasing significance of private standards in global markets. This in turn implies active policies to encourage learning from GVC activities in which a country is present, to facilitate upgrading towards activities with higher value added and diversifying into higher value added chains.

**Table IV.1. Evolution in industrial policies and new themes**

	Until the 1970s	1980s–1990s	Modern industrial policies	
			2000s and ongoing	Recent/emerging themes
<b>Key features/themes</b>	<ul style="list-style-type: none"> <li>Industrialization and structural transformation</li> </ul>	<ul style="list-style-type: none"> <li>Stabilization, liberalization, laissez faire</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge economy</li> <li>GVCs</li> </ul>	<ul style="list-style-type: none"> <li>NIR</li> <li>Sustainable development</li> </ul>
<b>Policy goals</b>	<ul style="list-style-type: none"> <li>Creating markets, diversification</li> </ul>	<ul style="list-style-type: none"> <li>Market-led modernization</li> </ul>	<ul style="list-style-type: none"> <li>Specialization and increased productivity</li> </ul>	<ul style="list-style-type: none"> <li>Modern industrial ecosystem development</li> </ul>
<b>Key elements</b>	<ul style="list-style-type: none"> <li>Import substitution</li> <li>Infant industry protection</li> <li>Sector development</li> <li>Gradual and selective opening to competition</li> </ul>	<ul style="list-style-type: none"> <li>Limited government involvement</li> <li>More horizontal policies</li> <li>FDI opening</li> <li>Exposure to competition</li> </ul>	<ul style="list-style-type: none"> <li>Targeted strategies in open economies</li> <li>Enabling business environment</li> <li>Digital development (IT) and ICT diffusion</li> <li>Participation in global production networks</li> <li>FDI promotion combined with protection of strategic industries</li> <li>SME support</li> <li>Skills development</li> </ul>	<ul style="list-style-type: none"> <li>Technical capabilities development</li> <li>Innovation in production (OT)</li> <li>Learning economy</li> <li>SDG sector development</li> <li>Public-private knowledge/tech development institutions</li> <li>Acquisition of foreign technology</li> <li>Entrepreneurship development</li> </ul>
<b>Policy environment</b>	<ul style="list-style-type: none"> <li>High political legitimacy for national development strategies</li> </ul>	<ul style="list-style-type: none"> <li>Low political legitimacy for interventionist development strategies</li> <li>Limitations to policy space through international commitments</li> </ul>	<ul style="list-style-type: none"> <li>Regained legitimacy for national development strategies</li> <li>Moderate policy space in selected areas</li> </ul>	<ul style="list-style-type: none"> <li>More policy space in new fields</li> <li>More emphasis on inclusiveness</li> </ul>

Source: UNCTAD, adapted from Andreoni (2016).

Note: ICT = information and communication technology, IT = information technology, OT = operational technologies, SME = small and medium enterprise.

**Another factor in modern industrial policies is digital development,** the improvement of internet connectivity infrastructure and the wider adoption of information and communication technologies (ICTs) in firms. Information technology has provided opportunities to improve productivity across all sectors and to build new sectors. It has expanded the scope of industrial policies from a singular focus on manufacturing to include adjacent services industries. A number of countries, such as Costa Rica, India and the Philippines, have successfully increased their GVC participation through IT-based outsourcing operations.

Most recently, the technology driver of modern industrial policies is **digital transformation and operational technology (OT) development.** Growing numbers of countries are adopting policies explicitly linked to the NIR – the application of new digital technologies, advanced robotics, 3D printing, big data and the internet of things in manufacturing supply chains (UNCTAD, 2017e). Such policies can focus on promoting industrial capacity in new technology areas, safeguarding technological development or mitigating the negative side effects of disruptive technologies. These latest forms of industrial policy are proliferating even and especially among countries earlier considered averse to industrial policy.

**The objectives of industrial policy have also started to incorporate sustainable development concerns.** These find expression in the regulatory framework within which industrial firms operate, and in the sectoral preferences and selective support policies set out in industrial policies. Some countries have explicitly included sector-specific development targets focusing on new, clean energy industries. NIR-driven policies come with their own sustainable development concerns, related to inclusive growth and the employment impact of advanced manufacturing technologies.

**The result is higher complexity in industrial policies.** Basic picking-the-winner approaches and the traditional industrial policy tools of selective protection and import substitution have long given way to far more sophisticated methods to facilitate technological innovation and bridge productivity gaps, building systems and coordination mechanisms to promote interlinked activities with horizontal impact.

**Looking at trends and the vast numbers of industrial development strategies adopted in the past decade, it is clear that many countries are grappling with new approaches and models.** Traditional industrial policy elements are still common across groups of countries that need to build up basic productive capacities. Most of these are now combined with elements from other industrial policy models, especially those enhancing horizontal productivity. And while explicit industrial strategies targeting the NIR are currently adopted mostly by developed countries and a few emerging market economies, many industrial policies in developing countries are implicitly dealing with the consequences of adopting advanced technologies in manufacturing supply chains.

### 3. The central role of investment policies in industrial policies

*Investment policies (in particular FDI policies) have always been a key instrument of industrial policies. Different industrial policy models carry different investment policy prescriptions. New themes in modern industrial policies need to be reflected in investment policies. The NIR, especially, requires a strategic review of investment policies for industrial development.*

**Foreign investment policies – policies to attract, anchor and upgrade FDI and to regulate it – are an important element of industrial policies.** Investment promotion is integral to industrial policy because FDI is more than a flow of capital that can stimulate economic growth. It comprises a package of assets that includes long-term capital, technology, market access, skills and know-how, all of which are crucial

for industrial development. It can contribute to sustainable development by providing financial resources where such resources are often scarce; generating employment; strengthening export capacities; transferring skills and disseminating technology; adding to GDP through investment and value added, both directly and indirectly; and generating fiscal revenues. FDI can support industrial diversification and upgrading, and the build-up of productive capacity, including infrastructure. Importantly, it can contribute to local enterprise development through linkages with suppliers. Foreign investment is also key for integrating an industry into GVCs, given that 80 per cent of global trade is linked to the global production networks of MNEs (*WIR13*).

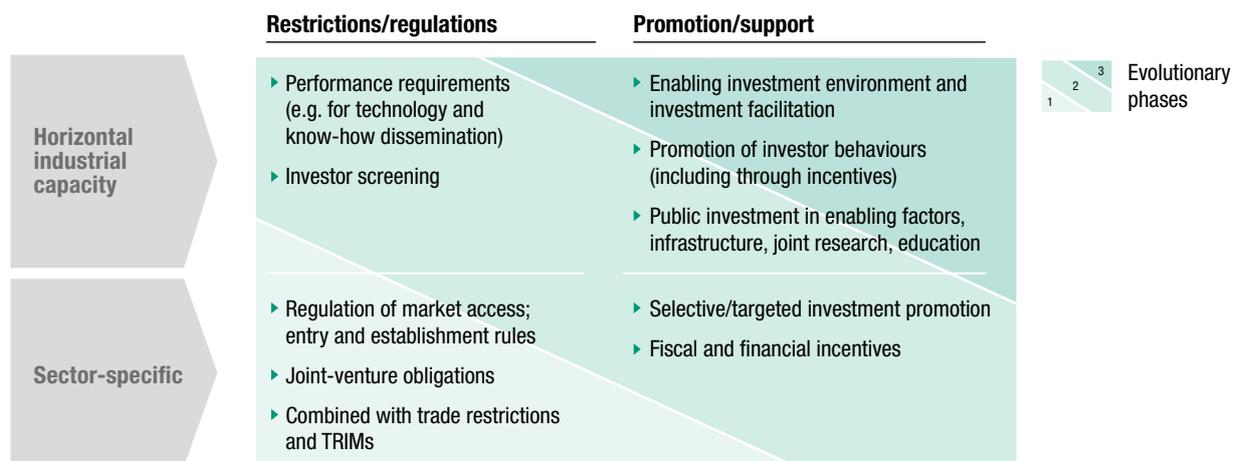
Regulation of FDI is an equally important component of industrial policies. Many of the potential benefits of investment do not materialize automatically or optimally, and policies to maximize positive spillovers for domestic industrial development are a common feature of industrial policy. Furthermore, industrial policies in some economies include foreign ownership limitations or joint-venture requirements to support domestic industrial build-up and to protect strategic industries and key technologies from foreign takeover.

Investment policies generally govern the entry and establishment of foreign investors, the treatment of foreign investors relative to that of domestic firms, the regulation of foreign investors' operations and the protection of their assets. Policies stipulate investment promotion measures (e.g. incentives) and investment facilitation approaches (e.g. single windows for investors), and influence operating conditions for investors by improving the ease of doing business. Investment policy includes efforts to maximize positive spillovers from the activities of foreign affiliates, e.g. by stimulating the dissemination of technology and know-how and by promoting linkages with domestic suppliers, and to minimize potential negative effects, e.g. through social and environmental safeguards. Taking a broader perspective, aspects of investment policy play an integral role in a host of closely interlinked policy areas, including trade, competition, tax, intellectual property, labour and other policies. For the full range of policy areas, options and approaches, see UNCTAD's Investment Policy Framework for Sustainable Development (IPFSD). In addition to national investment policies, investment is also addressed in international investment agreements, including comprehensive trade and investment treaties.

With such a broad scope, investment policy necessarily employs a wide variety of approaches and instruments. Over time, as industrial policy has gone through different phases and models, the way in which the investment policy toolkit has been deployed has evolved too. Early industrial policies – primarily related to import substitution – made extensive use of foreign investment restrictions and performance requirements. Export-oriented industrial policies brought a sharp increase in the use of selective investment promotion tools and measures to maximize positive spillovers (Zhan, 2011). More recently, horizontal investment facilitation measures and investor targeting have become more prominent. Different industrial policy choices require different sets of investment policy measures (figure IV.2).

**The composition of the investment policy package varies significantly depending on industrial policy choices and phases.** For the overall design of the package, policymakers can draw on a vast body of research, both on the potential contributions of foreign investment to industrial development and on the impact of specific investment policy measures on investment attraction and on the behaviour of investors. The latest phase of industrial development strategies, driven by the NIR and by emerging themes in the context of sustainable and inclusive development, may change the current logical nexus between investment policies and industrial policies, and require that additional aspects of this relationship be considered.

**Figure IV.2. Examples of investment policies across industrial policy models**



Source: UNCTAD.

# B. INDUSTRIAL POLICY MODELS

## 1. The complexity of modern industrial policy packages

*In its recent incarnation, industrial policy is best seen as a package of interactive strategies and measures aimed at (i) building enabling industrial systems (infrastructure, financial system) and productive capacity (including productive assets, technology and skills), and (ii) supporting the development of internal and export markets. These objectives require initiatives at the firm, industry and economy levels. Each of these components has investment policy elements.*

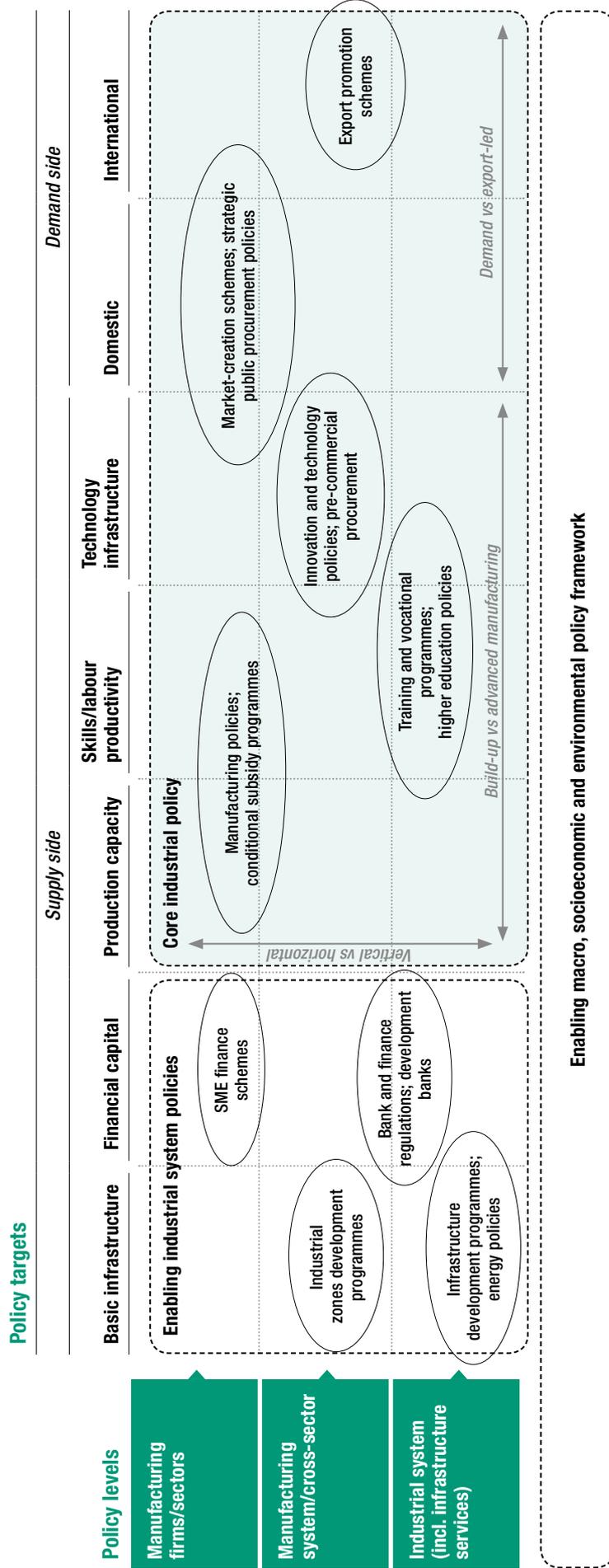
**Industrial policy is often not a single integrated policy framework.** It generally consists of multiple policy frameworks addressing different aspects of an economy's industrial system, different factors of production, different institutional layers and different targets. Even countries that do not intentionally formulate an explicit and integrated industrial policy nonetheless influence and steer industrial development through the implementation of combined individual policy measures ranging from subsidies to sector regulations.

**Industrial policy is best seen as a combination of interactive strategies and measures,** and of top-down and bottom-up policy interventions. Figure IV.3 illustrates how individual policy measures can target different factor inputs of a country's manufacturing system, including enabling infrastructure, finance, technology and skills. It also shows the multilayered character of industrial policy packages, with impacts at the firm, industry, and industrial system levels. The latter goes beyond manufacturing to comprise complementary services and infrastructure that are crucial for the creation of productive capacity. Policy measures to improve the overall macroeconomic, social and environmental setting in which industry develops form the foundation of the overall industrial policy package. Multilayered and multidimensional models have emerged in response to the need for flexibility and selectivity in the design of these packages.

**Policy measures across the overall package are highly interdependent and need to be complementary and synergistic.** The same policy measure in different policy packages can have different effects and implications. Each individual industrial policy measure can be more or less selective, and its effectiveness will depend on its integration in a package of interactive measures.

**The design of the overall industrial policy package is informed by a country's industrial structure, development or growth opportunities, and institutional setting.** At various stages of development, countries are characterized by different industrial structures, i.e. sectoral and export compositions, technological infrastructure, manufacturing system organization and degree of market concentration. As a result of these structural differences, countries face different challenges. Developing countries might need to build up entirely new sectors, upgrade their industrial structures to move up the value chain, absorb or adapt technologies, or meet quality or other standards required in international markets. Industrialized countries might prioritize efforts to connect scale-production capacity to their innovation systems, improve links between research and development (R&D) institutions and industry, or promote renewable energy generation and use.

**Figure IV.3. The industrial policy packages matrix (illustrative)**



Source: UNCTAD, based on Andreoni (2016).

**Table IV.2. Examples of industrial policy packages**

Selected economies	Industrial policy packages (illustrative elements)		
<b>Developed</b>	<b>Germany</b>	<ul style="list-style-type: none"> <li>• Industrie 4.0 – Smart Manufacturing for the Future</li> <li>• ZIM (Central innovation programme, Mittelstand)</li> <li>• New High-Tech Strategy Innovations for Germany</li> <li>• Collective Industrial Research (IGF)</li> <li>• Mittelstand-Digital</li> </ul>	<ul style="list-style-type: none"> <li>• Make It in Germany</li> <li>• INVEST (venture capital grant)</li> <li>• Go-Cluster Programme</li> <li>• Digital Strategy 2025</li> </ul>
	<b>Japan</b>	<ul style="list-style-type: none"> <li>• New Robot Strategy</li> <li>• Japan Revitalization Strategy</li> <li>• Industrial Cluster Policy</li> <li>• Industrial Competitiveness Enhancement Act</li> </ul>	<ul style="list-style-type: none"> <li>• Initiatives for Promoting Innovation</li> <li>• Basic Law on the Promotion of Manufacturing Technology</li> <li>• Support for SMEs' New Business Activities in Japan</li> </ul>
	<b>United States</b>	<ul style="list-style-type: none"> <li>• National Strategic Plan for Advanced Manufacturing</li> <li>• Small Business Jobs Act of 2010</li> <li>• National Export Initiative (NEXT)</li> <li>• American Recovery and Reinvestment Act</li> </ul>	<ul style="list-style-type: none"> <li>• Making in America: U.S. Manufacturing Entrepreneurship and Innovation</li> <li>• America COMPETES Act</li> </ul>
<b>Developing</b>	<b>Brazil</b>	<ul style="list-style-type: none"> <li>• National Science, Technology and Innovation Strategy</li> <li>• ProFuturo Production of the Future, ICT Plan for Advanced Manufacturing in Brazil</li> <li>• Brazilian Strategy for Digital Transformation (E-Digital)</li> </ul>	<ul style="list-style-type: none"> <li>• Master Plan of Information Technology and Communications</li> <li>• Strategic Information Technology Plan</li> <li>• Digital Governance Strategy (EGD)</li> </ul>
	<b>China</b>	<ul style="list-style-type: none"> <li>• Made in China 2025</li> <li>• Internet Plus Strategy</li> <li>• Next Generation Artificial Intelligence Development Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Intelligent Manufacturing Plan 2016–2020</li> <li>• Guiding Catalogue of Key Products and Services for Strategic Emerging Industries (2016 Edition)</li> </ul>
	<b>India</b>	<ul style="list-style-type: none"> <li>• National Policy on Skill Development</li> <li>• National Policy on Universal Electronic Accessibility</li> <li>• National Manufacturing Policy</li> <li>• Science, Technology &amp; Innovation Policy 2013</li> </ul>	<ul style="list-style-type: none"> <li>• National Policy for Skill Development and Entrepreneurship 2015</li> <li>• National Steel Policy, 2017</li> </ul>
	<b>South Africa</b>	<ul style="list-style-type: none"> <li>• National Industrial Policy Framework</li> <li>• Industrial Policy Action Plan</li> <li>• Automotive Production Development Programme</li> <li>• Integrated National Export Strategy (Export 2030)</li> <li>• DTI Strategic Plan (SP) 2014–2019</li> </ul>	<ul style="list-style-type: none"> <li>• National Advanced Manufacturing Technology Strategy for South Africa</li> <li>• Integrated Strategy on the Promotion of Small, Medium and Micro-Sized Enterprises (SMMEs)</li> </ul>
	<b>Viet Nam</b>	<ul style="list-style-type: none"> <li>• Industrial Development Strategy, Vision Toward 2035</li> <li>• Strategy for Science and Technology Development for the 2011–2020 Period</li> <li>• Automobile Industry Development Plan of Vietnam</li> <li>• Development Plan of Garment and Textiles Industry of Vietnam to 2020, Vision to 2030</li> <li>• Strategy of Using Clean Technology to 2020</li> </ul>	<ul style="list-style-type: none"> <li>• National Programme on Improving Productivity and Quality of Products of Vietnamese Enterprises to 2020</li> <li>• Target Programme on Development of Information Technology Industry to 2020, Vision to 2025</li> <li>• Science and Technology Programme for New Countryside Construction in the period of 2016–2020</li> </ul>
	<b>Bangladesh</b>	<ul style="list-style-type: none"> <li>• National Industrial Policy 2016</li> <li>• Perspective Plan of Bangladesh 2010–2021</li> <li>• Information and Communication Technology (ICT) Status, Issues and Future Development Plans of Bangladesh</li> </ul>	<ul style="list-style-type: none"> <li>• Strategic Priorities of Digital Bangladesh</li> <li>• National Motorcycle Industry Development Policy</li> <li>• National Science and Technology Policy 2011</li> </ul>
<b>LDCs</b>	<b>Rwanda</b>	<ul style="list-style-type: none"> <li>• National Industrial Policy</li> <li>• Small and Medium Enterprises (SMEs) Development Policy</li> <li>• Digital Development Strategy</li> <li>• Rwanda Private Sector Development Strategy</li> </ul>	<ul style="list-style-type: none"> <li>• Rwanda Craft Industry Strategic Plan</li> <li>• SMART Rwanda Master Plan 2015–2020</li> <li>• Rwanda Vision 2020</li> <li>• Special Economic Zones Policy</li> </ul>
	<b>Uganda</b>	<ul style="list-style-type: none"> <li>• Uganda Vision 2040</li> <li>• National Textile Policy – a Framework for the Textile Subsector Transformation, Competitiveness and Prosperity</li> <li>• National Industrial Policy</li> </ul>	<ul style="list-style-type: none"> <li>• National Information and Communication Technology Policy for Uganda</li> <li>• Uganda Micro, Small and Medium Enterprise (MSME) Policy</li> </ul>

Source: UNCTAD.

**As a result of different situations and objectives, policy packages differ substantially.** For example, among industrialized countries, Japan, which built its strong export performance primarily on the automotive and electronics industries, has implemented measures to diversify and strengthen its manufacturing resilience. Germany, with its longstanding diversified manufacturing system, has focused on technological upgrading and a renewable energy agenda. The United States, where manufacturing has shrunk to less than 15 per cent of GDP and where major industrial MNEs have offshored a large part of their production to low-cost locations, has begun to direct more investment towards rebuilding manufacturing competencies linked to its innovation system.

Most emerging economies also have horizontal competitiveness-enhancing policies to develop skills, improve quality or foster entrepreneurship, as well as programmes focused on technology such as digital development or clean energy (for an illustrative set of industrial policy packages, see table IV.2). They integrate these horizontal policies with strategic industry development plans, which can target emerging high-tech industries (e.g. China's Seven Strategic Emerging Industries), traditional heavy-industry sectors (e.g. South Africa's Automotive Production Development Programme) or sectors typical of early development that nonetheless provide important shares of national employment (e.g. Viet Nam's Development Plan of Garment and Textiles Industry).

Countries at earlier stages of development, in particular LDCs, tend to have a higher number of industry-specific programmes in their industrial policy packages, as well as initiatives that focus on segments of the economy that are key to their development, such as the Craft Industry Strategic Plan in Rwanda or the Micro, Small and Medium Enterprise Policy in Uganda (such initiatives are very common among lower-income countries). But even in these countries, modern industrial policy packages contain numerous initiatives to build horizontal productive capacity.

**Most, if not all, elements of the overall industrial policy package have investment policy components.** Many countries adopt explicit (foreign) investment strategies (e.g. China's Foreign Investment Industrial Guidance Catalogue, India's Consolidated FDI Policy, Kenya's National Investment Promotion Strategy). In others, foreign investment constitutes an important element of their industrial strategy (e.g. the recent industrial strategy of the United Kingdom specifically highlights the importance of attracting new FDI and shifting existing FDI towards higher value added activity). However, investment policy is not just a discrete package within the overall industrial policy framework. Rather, it permeates most strategies and measures that together constitute industrial policy. Investment policy can focus on the key supply-side factors of production, from the promotion of investment in infrastructure to policies stimulating business linkages between foreign investors and local SMEs to build skills and disseminate technology. It can target all policy levels, from incentives for individual firms to broad investment facilitation measures to support the industrial system. Measures to stimulate domestic demand, e.g. public procurement policies, are also closely linked to investment policy (especially where such policies discriminate against foreign investors). Finally, strategies to promote exports and increase participation or support upgrading in GVCs are an integral part of investment policy. (UNCTAD's IPFSD provides an overview of the multitude of policy areas and their links to investment policy.)

**Differences in industrial policy design result in significant variation in investment policy and regulatory frameworks among countries.** Investment policy is guided by industrial development strategies. Regulatory frameworks in many LDCs tend to focus largely on the protection of investors, to overcome structural deficiencies in attracting investment. As such measures are unable to distinguish between types of investments and their relative contribution to industrial development, such frameworks on their own are not sufficient. Emerging economies tend to have investment regulatory systems that have been

built on traditional models of industrial policies. Such investment regulatory frameworks are gradually being supplemented to include both a specific focus on particular sectors as well as more system-oriented horizontal policies. In addition, the policy framework requires the flexibility to address new and emerging issues as they become relevant. The wide range of resource endowments across countries results in diverse industrial policies, together with a recognition that changes in economic opportunities and technological conditions require more focused policy efforts to sustain competitiveness in global markets. Developed economies have long shunned selective investment policies and regulatory frameworks. With the return of industrial policy, they too are now looking to implement more selective investment regulations and screening mechanisms.

**Both design and effective implementation also critically depend on institutional capacities.** The way in which policy packages are designed depends on countries' institutional setting. A wide variety of government agencies, departments, development banks, R&D institutions, industry associations, chambers of commerce and other actors are involved. Countries at initial stages of development – especially LDCs, but also countries that have experienced de-industrialization, such as the United Kingdom and the United States – not only face the challenge of having to build or rebuild their industrial system. They also have to rebuild, at all levels of government, the institutional capacity to effectively support policy implementation (Andreoni, 2016). Governance is multilayered, with interventions at local, regional and national, or even supranational levels (e.g. European Union (EU) industrial policy). Such multilayered policy regimes by their nature run the risk of incoherence and of different levels undermining each other. Thus, even developed economies now need to focus on fostering and maintaining policy coherence, a priority which has long been associated mainly with low-income economies.

**Investment authorities and IPAs are key implementation arms for industrial policy.** Among the myriad institutions involved, IPAs are critically important. UNCTAD's annual survey of IPAs confirms that some two-thirds of them carry out their mandate on the basis of an overarching national industrial development strategy – 80 per cent in developing countries and 50 per cent in developed economies. These figures illustrate the significant role that an explicit national policy has in aligning institutions and promoting coherence and consistency in implementation. IPAs also wield some of the most effective industrial policy instruments. Survey results show the range of promotional tools at their disposal to support technological upgrading in industry, from general administrative facilitation to specific fiscal and financial incentives and special industrial zones.

**The new industrial revolution (NIR), which is based on digital and advanced manufacturing supply-chain technologies, poses new challenges** for the design of investment policies as part of industrial development strategies. The NIR is changing the investment planning processes of MNEs, with important implications for cross-border investment patterns. The NIR affects key decisions:

- *Whether to invest.* More firms are choosing to serve overseas markets through non-equity modes of operations and services trade rather than internal manufacturing capacity. Reverse investments and re-shoring are picking up. Also, new technologies such as M2M (machine-to-machine) communication and 3D printing could provide firms with significant flexibility to change the location of their operations more frequently than at present.
- *In what configuration.* New technologies are projected to lead to fundamental changes in international production networks; for example, from regional mass production hubs to distributed manufacturing.
- *Where to invest.* Locational decisions of MNEs are increasingly based on different criteria, with regard to both factors of production (e.g. from labour costs to skills,

and from physical to digital infrastructure) and the policy environment (e.g. from the protection of physical to intangible assets).

The NIR is also likely to affect investor behaviour in host countries, affecting the readiness of firms to engage in joint ventures, to share technology or data, to train local staff or to build supplier capacity, as well as the relative footlooseness of operations.

**This has profound implications for the design of investment policies in the context of industrial development strategies**, for both developed and developing economies. As investment determinants evolve, the competitive advantages of countries for the attraction of FDI change. Strategic investor targeting, and investment promotion and facilitation policy packages, need to take these changes into account. Investment restrictions and regulations need to keep pace with changes in investor behaviour and with the changing landscape of high-tech, advanced manufacturing and digital investors.

Investment policymakers in mature market economies are taking a closer look at investment regulations and restrictions that had not been part of policy consideration for decades under previous industrial development models. Emerging-market policymakers are increasingly looking at outward FDI policies as an integral part of industrial development strategies. Developing-economy policymakers are trying to assess the consequences of the diminished importance of low-cost labour and the increased weight of relatively sophisticated local supplier bases as selling points to attract foreign investment. The impact of the NIR is also relevant not only for countries that explicitly aim to support manufacturing industries; intelligent robots, for example, may equally affect foreign investment in the services sector, such as in call centres or back-office business processes, which have become significant economic growth pillars in numerous developing countries (UNCTAD, 2017d).

**The NIR will not only bring challenges for industrial development in developing countries, it will also lead to new opportunities.** Even though the current impact of the NIR in most developing countries is comparatively low, some could become early adopters and leapfrog to globally competitive levels with locally developed or adapted high-tech products and services. Distributed manufacturing for local and regional markets could lead to new opportunities to attract investment in product markets where they were previously importers. Reconfigured supply chains for advanced manufacturing could yield new opportunities to connect to GVCs. And, taking a macroeconomic perspective, a new wave of industrial development in emerging markets could give renewed impetus to dormant patterns of investment and industrialization flow, both through diffusion of new technologies and through lower-wage countries attracting industries that become uncompetitive in their higher-wage neighbours.

**Industrial development strategies are taking on new themes, in which sustainable development plays a central role.** Developing countries have further opportunities to use foreign investment to develop capacities in new industries or to exploit comparative advantages, e.g. for the generation of renewable energy (Rodrik, 2014). Sustainability is also becoming a major emphasis of the standards that are required for participation in GVCs. Greater emphasis on sustainable development objectives is now a part of countries strategies, owing to both local and international emphasis on these issues.

## 2. Recent industrial policy designs

*Some 40 per cent of recently adopted industrial development strategies contain vertical policies for the build-up of specific industries. Just over a third focus on horizontal competitiveness-enhancing policies designed to catch up to the productivity frontier. And a quarter focus on positioning for the NIR. Among industrial policies, about 90 per cent*

*stipulate detailed investment policy tools, mainly fiscal incentives and SEZs, performance requirements, investment promotion and facilitation, and, increasingly, screening mechanisms.*

**To improve coordination among multiple policy packages and institutions, overarching national industrial policies are now common.** As discussed above, the interdependent nature of industrial policy measures requires policy coordination and coherence, and alignment over time (Andreoni, 2016). Economies that adopted a top-down governance model for industrial development early on, such as those in East Asia, connected policy measures and initiatives with an overarching strategy to ensure coherence and to take effective action when high levels of investment were needed. Many other economies, notably developed ones, have tended to rely on a bottom-up model of governance, with industrial support measures taken at many different levels of government and in diverse institutions. However, multiple decentralized, initiative-based measures may lack coherence or may conflict or overlap. To counter this, many such economies have now defined national industrial policies as a coordination tool at national or regional levels, contributing to the mushrooming of new industrial policies.

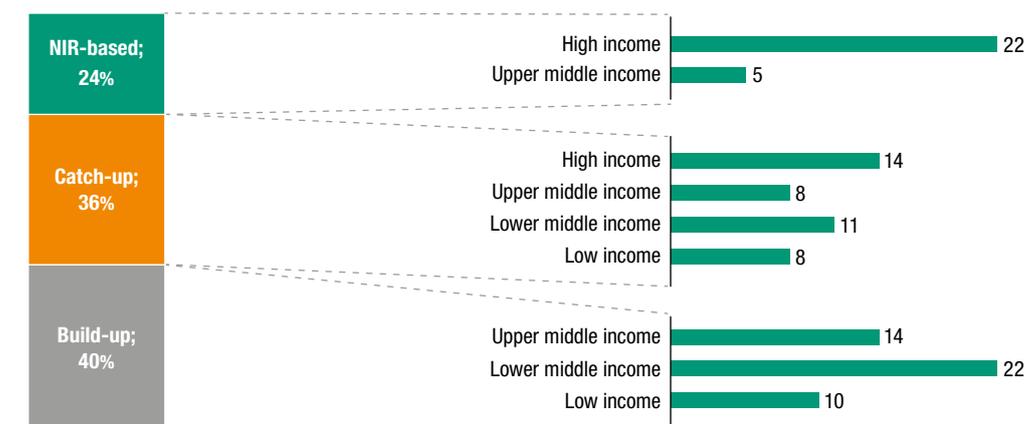
**Overarching industrial policies take different forms.** Some countries issue comprehensive formal strategies or even laws on industrial policy, with implementation schedules and legislative plans; in such cases, industry-specific laws and regulations can often be traced to the industrial strategy. Others issue statements on their industrial development strategy, at the national level or for specific industries, but with less clear paths to specific legislation or policy initiatives. Such strategies can be stand-alone or part of broader development strategies. Numerous countries formulate broadly scoped development plans addressing overall wealth creation, human development targets, social and cultural development goals, and other aspirations; industrial policy in such plans can be a means to an end, much like investment policy is an instrument of industrial policy.

**UNCTAD has conducted a survey of recent industrial policies and industrial development strategies.** The proliferation of overarching national policies makes it possible to collect a relatively homogenous (in terms of comparability) set of industrial development strategies. The survey considers only strategies that have been formally adopted by governments since 2008, with specific industrial development objectives, focusing on manufacturing industries, adjacent services sectors and enabling industrial infrastructure. It does not include issue-specific strategies (e.g. SME, entrepreneurship, digital development strategies), single-industry-specific strategies or strategies focusing on broad infrastructure services only – the focus is on overarching industrial policies. On the basis of these criteria, 114 formal policies are included, from 101 economies.<sup>2</sup>

The sample covers strategies from economies across all regions. It includes 30 strategies formulated by developed economies (including an EU-wide strategy), and 84 policies issued by developing and transition economies, including the 5 BRICS (Brazil, Russian Federation, India, China, South Africa) countries and 24 LDCs. More than three-quarters of the strategies in the sample were adopted in the past five years.

Some countries are covered by more than one industrial policy. These countries might have a national industrial policy focusing on advanced manufacturing and positioning for the NIR, but also maintain an industrial policy – usually preceding the NIR-based policy – to enhance general industrial competitiveness and boost specific manufacturing sectors. For example, Hungary has its Irinyi Plan for general industrial development as well as the Industry 4.0 National Technology Platform aimed at the NIR. Argentina has an industrial development plan as well as a technology and innovation plan. Some countries have integrated their industrial development plans in broader economic development strategies.

**Figure IV.4. Recent industrial policy models**  
Share of sample (per cent), and number of strategies per country grouping



Source: UNCTAD.

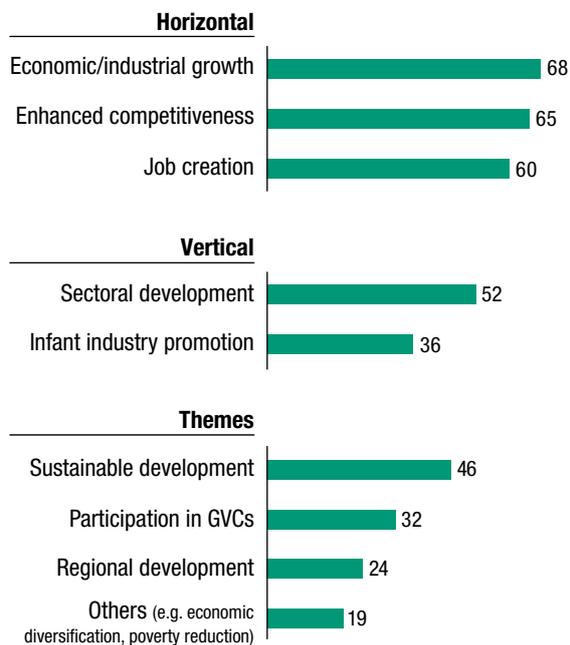
**The surveyed policies can be grouped into three broadly defined categories.** The vast majority of the surveyed strategies contain horizontal policies for broad-based industrial development, industrial capacity building, technology upgrading and skill building. None of them focuses exclusively on vertical, industry-specific development. About 40 per cent combine horizontal facilitation policies with measures to promote the *build-up* of specific industrial sectors – mostly focusing on natural-resource-based (processing) industries and light manufacturing. Just over a third focus mainly on horizontal policies, in some cases adding industry-specific *catch-up* objectives in higher-skill manufacturing industries (e.g. engineering industries). A quarter of the surveyed strategies – mostly in developed countries – specifically focus on advanced manufacturing industrial development, driven by the NIR (*NIR-based*).<sup>3</sup> Figure IV.4 divides the sample into policies that specifically aim to build up individual industries, those focusing on horizontal catch-up policies, and those driven by the NIR.

The three categories do not correspond to “industrial policy phases” as commonly discussed in the literature (Salazar et al., 2014). Instead, they capture the different kinds of aspirations embodied in industrial policy strategies and show some important overlap and distinctions among policies followed by countries at different levels of development. Purely vertical policies, aiming only at the build-up of specific industries through classical “infant-industry-type” industrial policy tools, are no longer common. In modern industrial policies, even such build-up policies are embedded in broader horizontal measures, and they rarely use primarily protective policy tools.

**The three categories do, to some extent, correspond to stages of development, but they are not mutually exclusive.** NIR-driven policies are clearly largely confined to high- and upper-middle-income countries. But these countries might also include catch-up elements in their industrial policy mix (as is the case, e.g., in the recent industrial strategy of the United Kingdom). The distribution by income group of catch-up and build-up policies is even less linear. A key reason is that a number of (upper-middle-income) emerging markets combine elaborate catch-up policies with separately issued build-up policies for specific industries. The distinction then is in the relative emphasis of vertical versus horizontal policies, and in the tools employed for implementation.

The stated goals of industrial policies are numerous (figure IV.5). They mostly share the objectives of enhancing competitiveness, creating jobs and generally promoting economic growth and development. About half the strategies aim to develop specific industries,

**Figure IV.5. Stated objectives of industrial development strategies**  
Share of surveyed strategies (Per cent)



Source: UNCTAD.

including new or infant industries. Almost half emphasize sustainable development. Regional (subnational) development is pursued in about a quarter of cases, although national industrial policies may often be adapted for regions in separate strategies. One-fifth of the surveyed strategies mention other goals, such as economic diversification, poverty reduction or the protection of national security. For example, one strategy lists the goal of “ensuring the country’s defence and state security”, blurring the lines between economic development and security policies. Some strategies also mention gender issues (box IV.1).

**Although many strategies do not contain specific implementation schedules or legislative plans, most identify a specific policy approach and the principal means to achieve industrial policy objectives.** Most strategies set out horizontal measures to support technological upgrading, R&D and skill building. About 70 per cent of the strategies refer to export promotion tools. Classical industrial policy instruments also continue to be part of the toolbox of modern industrial policies; for example, 27 strategies refer

to import substitution as a possible means for the development of domestic productive capacity. However, only 10 per cent of the strategies explicitly set out measures to protect the domestic market. In these cases, the strategies recognize the low level of domestic industrialization and the need to protect local companies at early stages of development. To achieve this goal, the strategies mention policy tools such as incubation support for nascent industries or temporary tariffs. It is significant to note that the few countries that have mentioned temporarily increasing tariffs recognize that doing so would entail relying on exceptions within their existing trade agreements, including under the World Trade Organization (WTO).

Most strategies specifically detail policy approaches to fund or attract the investment required for industrial development. More than 90 per cent set out public spending intentions in support of industrial development, to fund, e.g., industrial infrastructure, industrial zones or high-tech parks, or research or skills programmes.<sup>4</sup> Public-private partnerships (PPPs) – either purely for financing purposes, or to link public and private research or educational institutions – feature in more than two-thirds of recent industrial policies. PPPs are also used to stimulate activity in areas where the private sector alone may be reluctant to invest (e.g. where industrial policies aim to develop rural or remote areas, as envisaged in the strategies issued by India and Cambodia).

Almost 90 per cent of industrial policies stipulate measures to promote private investment in industrial activity or to stimulate investment in technological upgrading by private firms. About 60 per cent of industrial development strategies specifically aim to promote FDI (although only about 20 per cent refer to or contain specific measures to either liberalize or restrict FDI).

**All strategies mentioned investment promotion measures most often as concrete implementation mechanisms.** Many strategies include the introduction of investment incentives in the form of tax and tariff cuts or financial support through grants and loans in

## Box IV.1. Gender issues in industrial development strategies

UN Sustainable Development Goal number 5 calls to end all forms of discrimination against all women and girls, and encourages countries to adopt and strengthen sound policies and enforceable legislation to promote gender equality and the empowerment of all women and girls at all levels. Among other objectives, it seeks to ensure women's full and effective participation in, and equal opportunities for, leadership at all levels of decision-making in political, economic and public life. Its objective is also to ensure that women have equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.

In industrial policies, gender equality has not yet received the attention required. UNCTAD's research finds that just over a third of analysed industrial development strategies (39) refer to gender issues. Although such references are more common in general economic development strategies (71 per cent), very few specific industrial development strategies (23 per cent) and especially new industrial strategies (7 per cent) mention gender issues. However, even countries that do not include gender issues in their industrial policy have focused programmes to address gender issues. To the extent that industrial policies are increasingly incorporating social and sustainable development objectives, it would be suitable to include relevant aspects of gender issues within industrial policies themselves.

When strategies do address this issue, they mostly acknowledge the need to promote women's participation or mainstream gender issues in government policies. Some strategies do refer to concrete policy instruments, such as gender reviews and mainstreaming, awareness and training strategies for stakeholders, establishment of gender focal points, dedicated vocational and technical education, financial support for women entrepreneurs or prioritization of women entrepreneurs in funding programs.

Hardly any of the strategies go beyond promoting women's entrepreneurship or labour participation to include issues such as closing the salary gap between women and men or providing equal opportunities in terms of job promotion and leadership positions in businesses. This is also the case for other relevant issues, such as access to good-quality and affordable childcare facilities, facilitating part-time and flexible work arrangements or improving parental benefits for private sector employees.

By providing high-level and long-term direction to policymakers and legislators, industrial development strategies play a pivotal role in the promotion of gender equality and women's empowerment. Therefore, as a minimum, gender issues should be mainstreamed into all industrial policies, and ideally, they should provide concrete policy guidance on how to improve the position of women in industries.

*Source:* UNCTAD review of industrial policies and United Nations, Sustainable Development Knowledge Platform, accessible at <https://sustainabledevelopment.un.org>.

target sectors. Also included are measures to facilitate investment, for instance by reducing red tape or by providing necessary information through one-stop shops. Special economic zones, clusters, incubators and technology parks are other policy tools commonly found in industrial strategies.

Other investment policy tools, in particular FDI restrictions or (mandatory) performance requirements, are less commonly used in recent industrial policies, and hardly used in NIR strategies.

Investment promotion tools are heavily used in modern industrial policy across all models. NIR-based industrial development strategies almost exclusively use investment promotion tools (table IV.3). Build-up strategies rely relatively more on FDI restrictions and performance requirements, as well as investment facilitation. Almost 90 per cent (at least 101 strategies) cover more than one investment policy instrument.

**Table IV.3. Investment policy tools in industrial development strategies, by type** (Per cent of sample)

Industrial policy model	Incentives	Special zones/ incubators	Investment facilitation	Entry and establishment		
				Liberalization	Restriction	Performance requirements
<b>Build-up</b>	87	85	85	20	7	30
<b>Catch-up</b>	93	76	88	17	2	5
<b>NIR-based</b>	100	74	48	4	0	4

*Source:* UNCTAD.

Table IV.4

## Investment policy tools in industrial development strategies, by economic grouping

(Per cent of sample)

Economic grouping	Incentives	Special zones/ incubators	Investment facilitation	Entry and establishment		Performance requirements
				Liberalization	Restriction	
<b>Developed economies</b>	97	83	67	3	0	3
<b>Developing economies</b>	92	78	82	18	5	20
<b>LDCs</b>	96	92	88	17	8	25

Source: UNCTAD.

Looking at country groupings, most promotion tools are used practically to the same extent across all countries. Investment facilitation tools are used relatively less commonly in developed countries. FDI-specific liberalization and restriction measures are used relatively more commonly in developing countries and LDCs (table IV.4). This is because most mature markets are already mostly open to foreign investment, and certainly to investment in the manufacturing sector. (The recent introduction of new screening measures does not feature in national industrial policy statements.) Performance requirements are largely confined to LDCs, which have more flexibility in their use (due to exceptions in WTO rules). They do occur also in other developing countries, linked to incentives.

More than half of the strategies (60 per cent) call for international industrial cooperation, with a focus on science and technology cooperation, the development of common technical standards and cross-border infrastructure links, as well as the promotion of bilateral and regional investments through the conclusion of IIAs. For example, these strategies recognize the potential benefits of cooperation and collaboration in regional industrial development through regional integration initiatives, intend to position the country as a regional platform for knowledge sharing and innovation, or announce that the country will develop strategic technologies jointly with other countries. Such collaboration becomes important even in the context of GVCs, where collaborative efforts are needed in regulatory regimes and in learning from successful cases.

### 3. Basic models and stages of development

*Build-up, catch-up and NIR-based strategies are all modern versions of industrial policy, appropriate for sequential stages of development. They are not discrete models; all build-up policies contain horizontal competitiveness-enhancing measures, catch-up models promote innovation and the adoption of new technologies, and NIR-based models use build-up mechanisms for new industries. Investment policy packages across the three models use similar instruments, with different focus and intensity.*

As shown in the previous section, industrial policies are a complex package of strategies and measures, and any approach to labelling industrial policy models runs the risk of oversimplification. In modern industrial policy development, countries tend to take a pragmatic approach, using a strategic blend of measures that mix import substitution with export promotion (so-called dual-track approaches), and industry-specific support measures with horizontal business facilitation and capacity-building elements. Nevertheless, the empirical evidence presented in the previous section shows that it is still possible to identify broad categories of industrial policies, on the basis of a few fundamental criteria (table IV.5). These criteria mostly revolve around the degree of sector specificity of policies (with build-up strategies containing more vertical policies); the degree of government

**Table IV.5. Key dimensions defining industrial policy models**

Key dimension	Industrial policy model		
	Build-up	Catch-up	NIR-based
Degree of sector specificity	Mostly vertical (industry-specific)	Mostly horizontal, combined with objectives for multiple industries	Mostly horizontal, with new industry-specific elements
Degree of intervention	Relatively more government-led	More market-led, focused on enablers	Mixed, with protection and support for new industries, and PPPs
Degree of openness to external competition	Selective and gradual opening to competition	Focus on external competitiveness	Mostly open, with safeguards for strategic technologies
Degree of export orientation	Domestic and regional demand driven	Export oriented, GVC integration	Mixed

Source: UNCTAD.

intervention (although all industrial policies are a form of government intervention in economic development, some catch-up and NIR-based forms are relatively more market-led); the degree of openness to external competition (with build-up and, paradoxically, NIR-based strategies taking a more careful approach to external market forces); and the degree of export orientation (with build-up strategies relying relatively more on production for domestic and regional markets).

The three types can be further distinguished by their main focus. Build-up strategies tend to put more emphasis on the improvement of physical infrastructure, roads, ports, airports, power and telecommunication infrastructure as an integral part of industrial policy. In addition to focusing on the build-up of a number of specific industrial sectors, they often push enterprise development and aim to improve access to finance for micro, small and medium-sized enterprises (MSMEs). Catch-up strategies put relatively more emphasis on skills development, SME support and promotion of linkages, export promotion, and strategic public procurement as a tool to promote domestic enterprise development. NIR-based strategies emphasize the strengthening of industrial eco-systems, with innovation-driven PPPs, R&D institutions and soft infrastructure common elements.

An additional taxonomic criterion could be the governance model and the degree of comprehensiveness and detail of industrial development strategies. Numerous strategies adopt a broad top-down approach, covering all aspects of industrial development and setting explicit development targets as well as lines of action for how these targets should be achieved (e.g. those of East Asian economies, as well as Brazil, India and South Africa). Catch-up and NIR-based models rely more on several measures and programs each targeting a specific component of the competitive strength of the country (e.g. those of the United States). The national industrial development strategy in the latter case fulfils a coordinating role between multitudes of bottom-up initiatives.

# C. INVESTMENT POLICY PACKAGES

## 1. Industrial policy as the key driver of investment policy practice

*More than 80 per cent of investment policy measures recorded since 2010 are directed at the industrial system (manufacturing, complementary services and industrial infrastructure) and about half of these clearly serve an industrial policy purpose. Most are cross-industry; about 10 per cent target specific manufacturing industries. In line with industrial policy models, the most frequent measures relate to incentives and performance requirements, SEZs, investment facilitation and investor targeting, and screening and monitoring procedures.*

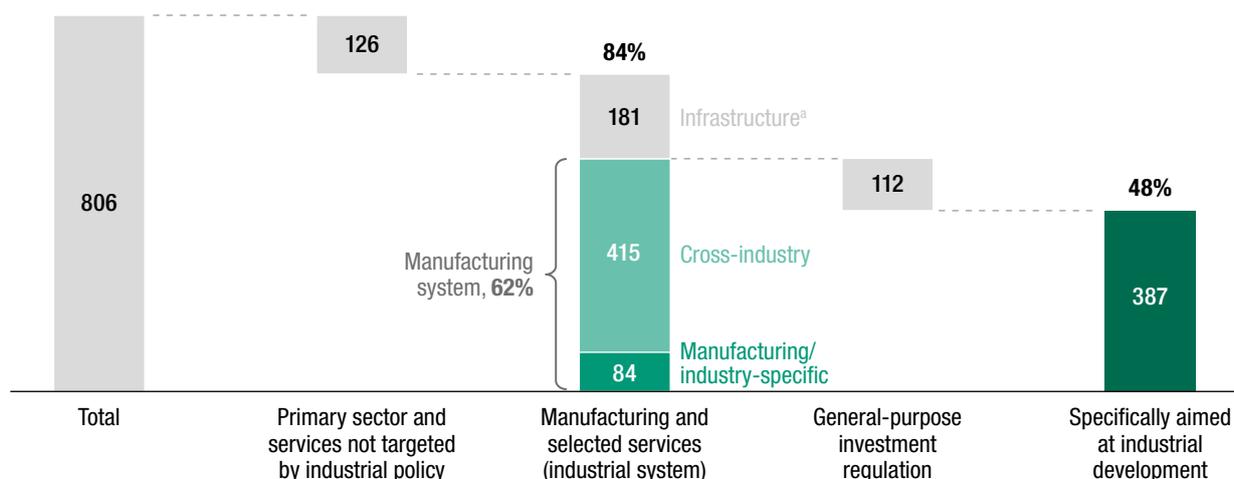
Industrial development strategies are often formulated with general fiscal or financial support programmes. Such support, e.g. in the form of investment incentives, is usually subject to requirements related to development in certain industries or regions, or linked to specific development goals, such as export promotion, job creation, technology transfer and upgrading. Incentives and subsidies are also used to help developing industries where as yet there is no sufficiently large market (e.g. renewables).

Industrial policies and their general support programmes interact closely with (foreign) investment policies. Industrial policies can give direction to investment policymakers on the use of foreign investment for industrial development. Vice versa, investment policies provide governments with an important set of regulatory instruments for the development of individual industries, the integration of domestic industries into GVCs and the general technological upgrading of the domestic industrial base. The overall objective of both industrial and investment policies, working synergistically, is to enhance sustainable development (see UNCTAD's Investment Policy Framework for Sustainable Development).

Among the most important investment policy tools that countries use for industrial policy are incentives and performance requirements (mandatory requirements or voluntary requirements linked to investment incentives), SEZs, investment facilitation and investor targeting, as well as FDI entry rules and screening procedures. Other investment policy instruments, in particular investment protection and dispute settlement rules (often regulated by national investment laws) do not directly serve industrial policies but can affect them indirectly. Such indirect impacts can consist of promoting investment flows, but also reducing the regulatory space of host countries.

Examining the range of investment policy tools for industrial development purposes applied in practice confirms the importance of these instruments. Of 806 investment policy measures recorded in UNCTAD's database since 2010, about 84 per cent of measures (680) apply to the manufacturing sector and to adjacent services and infrastructure industries relevant for industrial policy. Among these, about three-quarters (499) were investment policy measures for the manufacturing sector (either alone or in combination with other sectors). Of these, 387 policy measures clearly serve industrial policy purposes; the remainder concern updates of investment laws, transparency provisions or other general regulatory measures (figure IV.6).

**Figure IV.6.** Investment policy measures for industrial policy purposes, 2010–2017 (Number and per cent of total)



Source: UNCTAD, Investment Policy Monitor database, accessible at <http://investmentpolicyhub.unctad.org>.

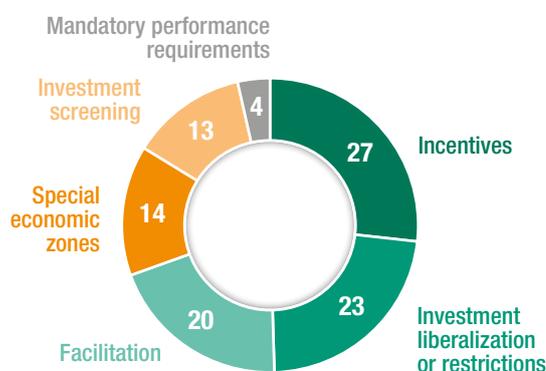
<sup>a</sup> Physical and basic infrastructure industries, finance, construction.

Among the investment policy measures serving industrial policy purposes, more than one-fourth dealt with investment incentives (27 per cent), followed by FDI liberalization and/or restriction (23 per cent) and investment facilitation (20 per cent). Investment screening in strategic industries or for national security reasons as well as mandatory performance requirements accounted for 13 per cent and 4 per cent respectively (figure IV.7).

By region or economic grouping, Africa (65 per cent), North America (56 per cent) and developing Asia (51 per cent) were most active in introducing investment policy measures for the manufacturing sector. The ratio was relatively lower in Latin America and the Caribbean and in Europe. In terms of numbers of investment policy measures, developing Asia and Africa also have the highest shares (figure IV.8).

Industrial policy may also be pursued through selective FDI restrictions and screening procedures. In the past, restrictive FDI policy has been applied mainly to promote infant industries or for sociocultural reasons (e.g. land ownership restrictions). Nowadays, this relatively narrow policy scope has given way to a broader approach, under which numerous countries have strengthened their FDI-related policy instruments, in particular with regard to approval and screening procedures, and the beneficiaries of government protection also include national champions, strategic enterprises and critical infrastructure. Moreover, governments may see a need to protect ailing domestic industries and companies in times of financial crisis or to discourage or restrict outward foreign investment in order to keep employment at home. Increasingly, industrial policy considerations used to justify FDI

**Figure IV.7.** Investment policy measures for industrial policy purposes, by type, 2010–2017 (Per cent of total, n = 387)

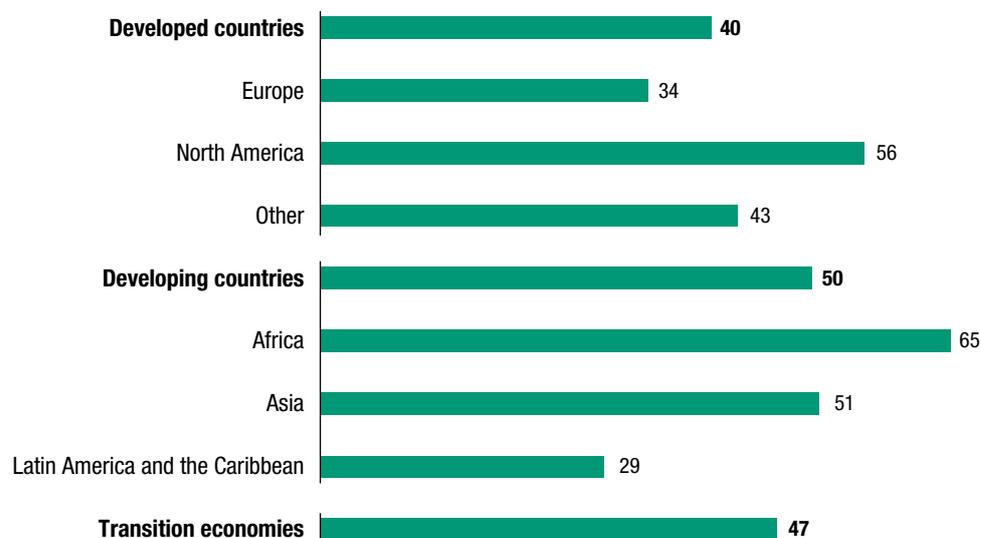


Source: UNCTAD, Investment Policy Monitor database, accessible at <http://investmentpolicyhub.unctad.org>.

Note: Some policy measures are categorized under more than one type.

**Figure IV.8.****Investment policy measures for industrial policy purposes, by region**

(Share of total investment policy measures undertaken in the region, n = 387)



Source: UNCTAD, Investment Policy Monitor database, accessible at <http://investmentpolicyhub.unctad.org>.

restrictions have become blurred with other policies to protect national security, thus further enlarging the scope of State intervention relative to foreign investors. In this context, the role of instruments that reduce risks for FDI and provide greater stability becomes an important aspect of investment policy.

## 2. Investment policy as an instrument for industrial development – the evidence

As observed previously, all three basic models of industrial development strategies – build-up, catch-up and NIR-based strategies – use similar broad categories of investment policy instruments such as incentives or special zones. The main differences across these models, as well as across countries with different levels of development, lie in different emphases and at a more granular level. Incentives can target different priority sectors; they can take different forms; and they can be combined with different performance requirements. Similarly, SEZs can focus on general industrial activity development for employment generation or be specifically targeted at GVC participation or high-tech sectors. And FDI entry limitations and screening procedures may apply to different industries and have different degrees of intensity.

In addition, the key investment policy instruments for industrial policy are part of a broader investment policy remit that comprises initiatives and activities that are less easily categorized, mostly because they often do not translate into laws or policy measures – such as the aftercare activities of IPAs, business linkages programmes, skill-building programmes involving MNEs and suppliers, or research partnerships bringing together public institutions and firms. These broader policies play a central role in industrial upgrading and structural transformation.

The focus in this section is on the four key areas singled out in industrial policy packages as the most frequently used instruments, in order to identify current practices and key challenges in the context of new industrial policy themes.

## a. Incentives and performance requirements

*Incentives remain the most commonly used tool for industrial policy. Significant progress has been made in making incentives more effective instruments for industrial development. Two-thirds of incentives schemes apply to manufacturing sectors, and even horizontal schemes tend to focus on specific activities, such as R&D, or other industrial development contributions. Performance requirements (mostly conditions attached to incentives) are also widely used to maximize MNE contributions to industrial development, but much of their functionality could be achieved by better-designed, cost-based incentive mechanisms.*

**Investment incentives are a key instrument of industrial policy used in almost every policy package and at every stage of industrial development.** They are common in developed countries, where incentives packages have at times been custom-designed for specific investment projects, often in competition with neighbouring locations (including among EU countries or between states in the United States). Their use is widespread in developing countries; three-quarters of developing economies use fiscal incentives such as tax holidays, preferential tax rates or tax allowances (World Bank, 2017).

New incentives schemes continue to be introduced, and existing schemes often become increasingly generous. Almost half of all countries introduced new tax incentives or increased existing ones in at least one sector in the five-year period to 2016 (World Bank, 2017). Fewer than a quarter abolished tax incentives or made them less generous in at least one sector over the same period. The strongest growth in incentives was in sub-Saharan Africa, where 65 per cent of countries introduced new or more generous incentives.

**Traditionally, many incentives schemes are not specifically aimed at sectors relevant to industrial policy, but recent practice is more targeted.** One of the main concerns with incentives is that they are often redundant. Tax incentives are clearly more effective in attracting efficiency-seeking investors looking for locations with the lowest production costs. Yet many developing countries still offer incentives indiscriminately, including to market- and resource-seeking FDI. Some 40 per cent of developing countries have incentive systems that grant fiscal incentives or low corporate income tax rates across all or most sectors of the economy (World Bank, 2017).

However, the manufacturing sector and adjacent services sector, owing to their high propensity to generate employment and exports and to contribute to industrial development, do attract significantly more incentives than other sectors. Signs of increasingly targeted incentives are also evident in recently adopted schemes, which often focus on innovative, pioneering or strategic industries (box IV.2).

A survey of recent Trade Policy Reviews indicates that investment incentives benefiting the manufacturing sector cover three types of schemes: horizontal, sector-specific and

### Box IV.2. Policy examples: investment incentives

In 2013, *Canada* launched the Technology Demonstration Programme, which will provide non-repayable contributions of up to 50 per cent of eligible project costs for large-scale technology demonstration projects in the aerospace, defence, space and security sectors.

*The Sudan* ratified the National Investment Encouragement Act 2013, which offers tax and customs privileges in strategic industries.

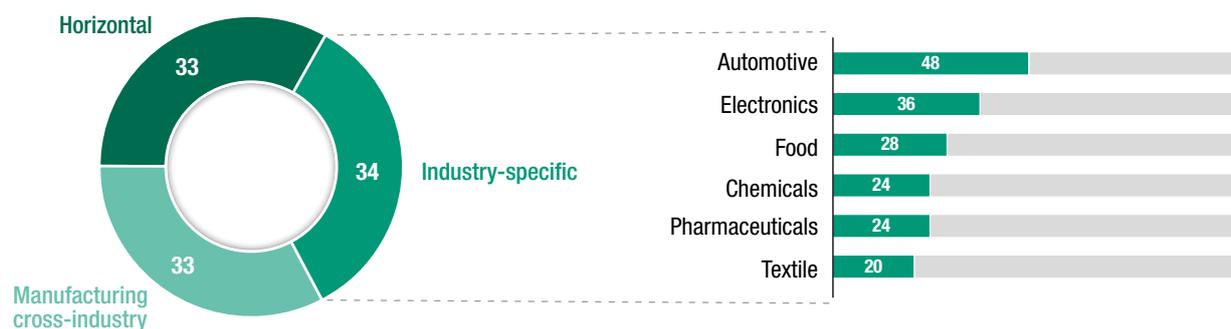
In 2017, *Nigeria* published a list of 27 industries newly eligible to enjoy the Pioneer Status incentive.

In 2016, *Singapore* amended its Economic Expansion Incentives Act to support “pioneering” activities.

In 2016, *Turkey* introduced an extensive support package for R&D and innovation-related activities.

*Source:* UNCTAD, Investment Policy Monitor database, accessible at <http://investmentpolicyhub.unctad.org>.

**Figure IV.9. Investment incentives benefitting the manufacturing sector, by type and by industry (Per cent)**



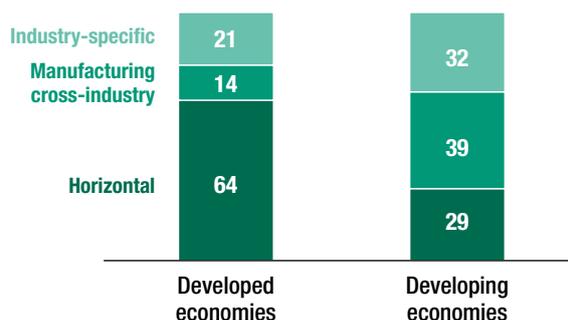
Source: UNCTAD, based on WTO Trade Policy Reviews conducted since 1 January 2015, plus complementary research to cover EU member States and non-WTO members.

industry-specific. Horizontal schemes cover all sectors, but they are typically directed towards specific activities deemed critical for industrial development, such as R&D, and therefore not necessarily applied indiscriminately. Sector-specific schemes focus on the manufacturing sector as a whole. Industry-specific schemes are limited to enterprises in one or more manufacturing industries. In such schemes the automotive industry was the industry most commonly targeted, followed by electronics and food (figure IV.9). Such schemes are significantly more common in developing countries, consistent with their use in build-up industrial policy models (figure IV.10). In the industries most targeted by incentives, corporate income tax reductions, financial grants and customs duty reductions are the most common tools.

**Although financial incentives are used for priority sectors, fiscal incentives account for the bulk.** In 80 selected schemes benefiting the manufacturing sector across 50 countries, fiscal incentives accounted for more than half of all incentives, with corporate income tax breaks alone representing 26 per cent. Customs duty reductions or exemptions, at 20 per cent of the total, are also important (figure IV.11).

**Despite the progress towards more efficient and effective incentive schemes, significant problems remain.** These include administrative and governance issues, such as lack of transparency, cumbersome procedures and high costs. The importance of independent governance of incentives schemes based on predetermined and transparent criteria is well documented and set out in detail in UNCTAD's IPFSD.

**Figure IV.10. Investment incentives, by country grouping (Per cent)**



Source: UNCTAD, based on WTO Trade Policy Reviews.

The effectiveness of incentives schemes also depends on the overall investment climate in a country. Fiscal incentives cannot compensate for infrastructure deficiencies or major shortcomings in the general investment climate. They are effective only when part of a broader approach to address investment climate constraints. Efficiency-seeking FDI is particularly sensitive to the quality of the investment climate and especially to transport costs, and it is prone to clustering in the most competitive locations.

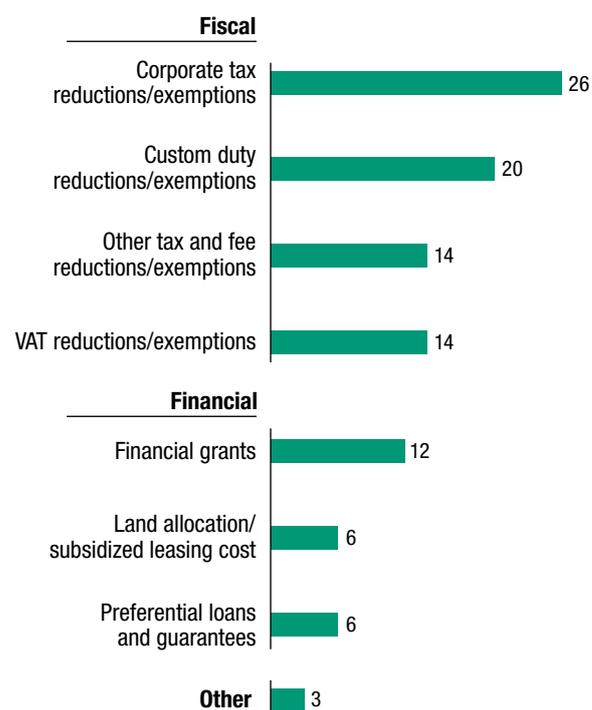
**Besides targeting, the design of incentive schemes is of critical importance for industrial policy.** To date, tax holidays and preferential rates —

i.e. profit-based incentives — remain the most widely used instruments in developing countries. More than half of developing countries offer tax holidays in at least one sector (World Bank, 2017). The duration of tax holidays is on average 10 years, but they often get extended, too often automatically or without critical review. Preferential rates for specific sectors or investors are also common, with 40 per cent of countries offering them for at least one sector (World Bank, 2017). Far fewer countries use tax allowances or credits that grant investors the right to deduct investment expenses from taxable income or credit them against payable taxes, even though this type of incentive is much more effective, because “cashing in” the incentive depends on making specific investments, such as R&D or the purchase and installation of new machinery or technology.

With profit-based incentives, host countries can lose substantial revenue when firms become highly profitable. The risk of tax avoidance is also higher for profit-based incentives, because firms can artificially allocate profits within the firm to an affiliate that enjoys preferential tax treatment (WIR15). The widespread use of these incentive instruments in developing countries is a significant shortcoming in the design of tax incentives. Cost-based instruments are more effective for industrial policy purposes because they lower the cost of a specific production factor and because it is proportional to the size of the investment.

Incentives and performance requirements are closely linked. **In most cases, performance requirements are a condition to qualify for investment incentives.** Performance requirements that are imposed independent of incentives (so called mandatory performance requirements) make up only about 4 per cent of recently adopted investment policy measures applicable to individual industries. Most aim to safeguard local producers. Countries tend to relax mandatory performance requirements as the capabilities of domestic industries improve (box IV.3).

**Figure IV.11. Investment incentives, by type**  
(Per cent)



Source: UNCTAD, based on WTO Trade Policy Reviews.

### Box IV.3. Policy examples: mandatory and voluntary performance requirements

#### Mandatory

In 2017, *Indonesia* increased the minimum local content requirement for domestically produced 4G smartphones sold in the Indonesian market from 20 per cent to 30 per cent.

#### Voluntary

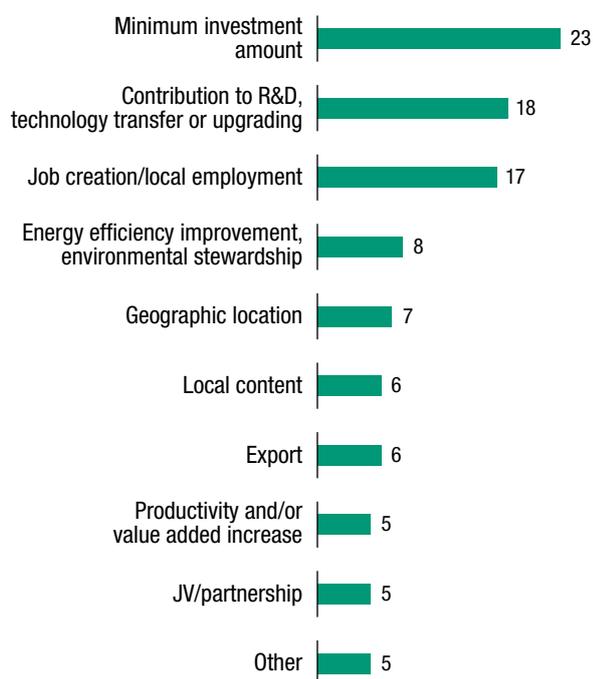
In 2015, *Angola* adopted Law No. 14/15, introducing performance requirements such as job creation, local partnerships and export activities for certain tax incentives.

In 2016, *Namibia* adopted the new Investment Act. Among other elements, the Act introduced the concept of performance agreements if deemed appropriate, on which the minister may sign an agreement with an investor.

In 2017, *Egypt* adopted the Investment Law with performance requirements including labour-intensive projects and geographical location for certain investment incentives.

Source: UNCTAD, Investment Policy Monitor database, accessible at <http://investmentpolicyhub.unctad.org>.

**Figure IV.12.** Performance requirements linked to investment incentives in the manufacturing sector (Per cent)



Source: UNCTAD, based on WTO Trade Policy Reviews.

**Performance requirements linked to incentives are almost as common as incentives themselves.**

Full tax holidays are almost always granted on condition of location requirements; about 80 per cent of developing countries link such incentives to SEZ locations or requirements to establish in a designated region of the country (World Bank, 2017). Numerous developing countries have a myriad of other requirements in place. Common objectives for imposing performance requirements include the strengthening of the industrial base and increasing of domestic value added; generation of employment opportunities; linkage promotion; export generation and performance; trade balancing; regional development promotion; and technology transfer.

UNCTAD's survey of recent Trade Policy Reviews confirms that about 80 per cent of incentives schemes use performance requirements. In manufacturing, the most frequent requirement linked to incentives is a minimum capital investment (23 per cent of cases), followed by contributions to R&D and technological innovation (18 per cent), and local job creation and employment (17 per cent) (figure IV.12).

The most common types of performance requirements attached to incentives – in particular minimum investment requirements, but also other types that can be considered an expense for firms, such as R&D or training – would effectively become largely redundant if the design of the incentives programmes to which they are attached would move more in the direction of cost-based schemes, rather than profit-based schemes.

R&D requirements are still widely used – 59 per cent of IPAs responding to UNCTAD's annual survey indicate that they use R&D performance requirements linked to incentives – but they are gradually becoming rarer in developing countries (Moran, 2015). That is because countries increasingly recognize that firms are unlikely to set up R&D activities in the absence of local capabilities and technical skills to absorb, adapt and develop technology and know-how. In comparison with the availability and quality of appropriately skilled labour, the provision of fiscal or financial incentives is of limited relevance for R&D investments.

Similarly, technology transfer requirements are also becoming less common. The main reason is that enforcing and monitoring such requirements is exceedingly difficult. It is hard to measure objectively the extent of technology transfer and to identify the types of technology that would be most appropriate for a given economy at a given point in time. Furthermore, as in the case of the establishment of R&D activities in a host country, successful technology transfer is dependent upon local absorptive capacity.

Job creation targets are common, especially in the case of incentives that are custom-designed for specific investment projects. In addition, incentives might come with training requirements to induce firms to engage more actively in human resource development activities or to encourage the expansion of skill-intensive functions. However, the extent to which requirements in this area are effective depends on the value they create for the investors. The more companies themselves need enhanced skills in their workforce (or in suppliers and distributors), the more receptive they will be.

#### Box IV.4. Performance requirements potentially conditioned by IIAs

- Local content requirements
- Trade-balancing requirements
- Requirements to establish a joint venture with domestic participation
- Requirements for a minimum level of domestic equity participation
- Requirements to locate headquarters for a specific region
- Employment requirements
- Export requirements
- Restrictions on sales of goods or services in the territory where they are produced or provided
- Requirements to supply goods produced or services provided to specific region exclusively from a given territory
- Requirements to act as the sole supplier of goods produced or services provided
- Requirements to transfer technology, production processes or other proprietary knowledge
- Research and development requirements

Source: Adapted from UNCTAD (2003).

Local content requirements and export requirements are less common, mainly because such requirements in most countries risk conflict with WTO rules, in particular with the TRIMs agreement. However, World Bank findings suggest that 30 per cent of countries have them in place, and the WTO has observed an upward trend in their use. In some instances, this is due to industrial development strategies. For example, Ghana's industrial policy states that it will enact a local content law to support SME development. Kenya's industrial policy also announces local content requirements, including for its steel industry.

Joint-venture requirements (i.e. foreign ownership ceilings) are common in many countries, but they are rare in manufacturing and adjacent services industries. They are still numerous (in both developed and developing countries) in strategic resource sectors and sectors with a public service responsibility. In manufacturing industries, they have been used in the past, mainly to promote more rapid transfer of know-how and technology. However, in many countries, it has proven difficult to effectively implement domestic equity requirements in FDI projects, especially where host-country governments are in a relatively weak bargaining position – often the case in efficiency-seeking manufacturing projects that have a choice of locations. Countries that have small domestic markets or that are part of a common market where alternative sites and tariff-free access are available are in a weak position to implement domestic equity requirements effectively, and these requirements have in many cases been found to adversely affect the quality of technology transfer (leading to the use of older technologies) (Moran, 2015).

The range of existing performance requirements indicates that there is still room for them in industrial policies, especially when they are imposed as a condition for incentives. However, international commitments, in particular IIAs, can limit various types of performance requirements (box IV.4).

### b. Special economic zones

*SEZs continue to diversify. In most countries, the transition from pure export processing zones to value added zones is complete or well advanced, but new types of zones are still emerging. Targeted strategies to attract specific industries and link multiple zones*

have supported industrial development and GVC integration in some countries that have adopted build-up and catch-up industrial policies, although enclave risks remain. High-tech zones and industrial parks are also becoming a key tool for NIR-driven industrial policies.

**Special economic zones (SEZs) are an important instrument of industrial development in many countries.** Many governments have created them to attract foreign investment, integrate local firms into GVCs, promote export-oriented growth and generate employment. They are widely deployed to kick-start industrial sectors and to promote technology transfer to local economies.

SEZs are geographic areas where the rules of business are different. In general, the business environment in an SEZ is more liberal from a policy perspective and more effective from an administrative perspective than in the rest of the country. These zones usually offer fiscal incentives, infrastructure and services, streamlined business registration and customs procedures, facilitated processing of labour and immigration permits, and other investment facilitation services.

Since the 1970s, most zones have been created in developing countries. In 1986, the International Labour Organization's database of SEZs listed 176 in 47 countries; in 1995, there were an estimated 500; by 2006, the number had grown to 3,500 in 130 countries. There are now estimates of over 4,500 SEZs worldwide, and they are still front of mind for investment policymakers (UNCTAD, 2015a). Numerous recent investment policy measures relate to SEZs, including the establishment of new zones or the modification of incentives schemes linked to existing ones (box IV.5).

Today, economies with the highest levels of zone-based exports tend to be developing countries, including China, Egypt, Indonesia and the Philippines. Although zones in developed countries, such as those in Ireland, New Zealand and the United States, are among the largest in terms of export quantity, developing economies have a much higher dependency on zones for their exports, on average.

SEZs have often played a catalytic role in supporting structural transformation in developing countries. In East Asia, China used SEZs as platforms to support the development of export-oriented manufacturing. In Latin America and the Caribbean, the Dominican Republic, El Salvador and Honduras used export processing zones (EPZs) to take advantage of preferential access to the United States market. These zones generated large-scale manufacturing sectors in economies previously dependent on agricultural commodities. In West Asia and North Africa, SEZs played an important role in promoting diversification in Egypt, Morocco and the United Arab Emirates, among others. Although most countries in

#### Box IV.5. Policy examples: special economic zones

In 2012, *Armenia* approved the establishment of its first free economic zone (FEZ) for high-tech industries such as electronics, engineering, biotechnology and information technologies. FEZ occupants can enjoy preferential treatment on corporate profit tax, VAT, property tax and customs duties.

In 2012, *Uzbekistan* issued a Decree establishing a special industrial zone called "Angren" to attract foreign and domestic investors in modern high-tech enterprises and produce internationally competitive goods with high value added.

In 2013, *Ethiopia* put into effect the "Bole Lemi Industrial Zone" Directive. It was designed to help companies such as agro-processors, pharmaceutical makers and textile manufacturers produce and sell value added goods and boost revenue from exports.

In 2014, *Mozambique* approved the Mocuba Special Economic Zone in the Lugela District, which focuses on establishing agro-processing industries.

Source: UNCTAD, Investment Policy Monitor database, accessible at <http://investmentpolicyhub.unctad.org>.

sub-Saharan Africa did not operationalize SEZ programmes until the 1990s or 2000s, today the majority have active SEZs, most of which function as traditional EPZs and industrial parks (World Bank, 2017).

**There are many types of SEZs, and they continue to evolve.** SEZs take different forms depending on the industrial structure of the country, the institutional environment and the broad policy objectives they aim to achieve (Farole and Akinci, 2011). For example, SEZs can serve to alleviate high levels of unemployment; the SEZs of Tunisia and the Dominican Republic are examples of programmes that were implemented first and foremost to create jobs. SEZs can be used as part of broader economic reform strategies, in particular for the development and diversification of exports, while keeping protective barriers in place; examples include SEZs in China, the Republic of Korea and Mauritius. SEZs can also function as laboratories for experimentation with new policies and approaches, such as China's largest SEZs, where FDI, legal, land and labour policies were tested before being extended to the rest of the economy.

SEZs are often general-purpose zones, attracting investors in a wide range of manufacturing and services industries. Some countries have developed SEZs that are specialized in specific industries or activities reflecting economic strengths (e.g. zones for IT and business process outsourcing in the Philippines). High-tech, aerospace and biotech parks, as well as digital incubator zones, are being developed in many countries to create a competitive advantage in new industries. High-tech zones such as the Electronic City in Bangalore, India, or renewables zones such as Masdar City in Abu Dhabi, can be used to pursue specific innovation objectives. Export generation is no longer the only feature of many SEZs, and numerous new forms have been developed around the world for specific purposes (table IV.6).

SEZs typically offer a suite of infrastructure and services to firms operating in the zone. They often facilitate rapid transfer of goods at lower costs, offering shipping ports, roads or direct linkages to airports. Key infrastructure includes stable power and water supplies, which can be a challenge to maintain in many developing countries. They often provide telephone and fibre-optic or internet connectivity. In addition to these infrastructure benefits, many offer management assistance to companies operating within the zone, such as for business licensing application or tax filing procedures (figure IV.13). Some provide assistance with labour-related issues, e.g. through an on-site labour and human resources bureau that helps resolve labour disputes, or with (environmental) compliance issues.

However, despite the range of services on offer, few zones to date offer specific services to help investors within the zone meet sustainability targets. Sustainable development-oriented services can consist of policies, infrastructure and administrative support provided to companies to assist with and promote improved social and environmental practices, such as responsible labour practices, environmental standards, worker health and safety, good governance. A 2015 UNCTAD survey of zones found that such services are not widely promoted or available. It did find a handful of leading examples that offer services across multiple areas of sustainable development (UNCTAD, 2015a).

**The contribution of SEZs to industrial development can be significant, especially where they foster the creation of clusters.** An industrial cluster is a group of interconnected firms and institutions, often located near each other. Clusters frequently include educational and research institutions, finance providers and government agencies. Both developed and developing countries use clusters to promote industrial development; they can be a mechanism to induce firms to join efforts and resources to work with a government to improve international competitiveness.

**Table IV.6. Types of special economic zones**

Selected economic zone	Description
<b>Industrial zone or industrial estate</b>	Facility promoting colocation and clustering of industrial activity through the provision of low-cost land, infrastructure and on-site services. Usually cover industrial and services sectors and target both foreign and domestic investors, providing an array of incentives and facilities.
<b>Export processing zone (EPZ)</b>	A specialized industrial estate located outside the customs territory and predominantly oriented to export production. Enterprises located there are allowed to import capital equipment and raw materials free from duties, taxes and other import restrictions.
<b>Free zone, e.g. free industrial zone (FIZ), free trade zone (FTZ)</b>	A designated and secured area in which commercial and industrial activities are carried out. Investment projects often benefit from incentives and are usually for export purposes. Customs checkpoints control the movement of goods at the entry and exit points. Zones can also cover commercial, trading and entrepôt trade activities. Many are located near a port.
<b>Science and technology park</b>	Facility or area that supports and promotes technological development, including through research and attracting technology-based companies. The purpose is to facilitate innovation and knowledge-based economies. Such parks provide an environment and ecosystem (e.g. proximity to research institutes, universities) conducive to innovation, knowledge-based work, and research and development activities.
<b>Special pilot zone</b>	Designed to experiment with economic reform measures and provide demonstrative effects.
<b>Border special economic zone</b>	An SEZ located in an area bordering neighbouring countries to facilitate investment, trade, services and production linkages.
<b>Regional economic corridor</b>	Large economic area involving a number of contiguous States or provinces. Their development draws on the sectoral and geographical strengths of the constituent areas to support economic clusters and benefit from economies of scale.

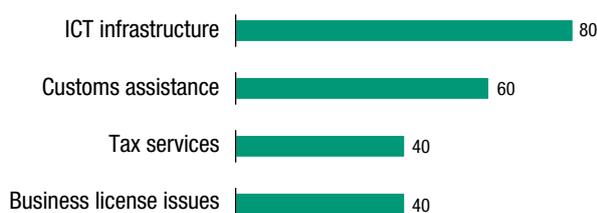
Source: Adapted from ASEAN Secretariat and UNCTAD, 2017.

Clusters are considered particularly important in NIR-driven industrial development strategies because they can foster innovation. Clustering offers opportunities for firms to take advantage of links between the economy’s knowledge sector and its business sector. Such linkages have the potential to stimulate learning and innovation. Innovative clusters can operate in any industry; they are not confined to high-tech industries.

Facilitating the formation, growth or scale-up of industrial clusters is complex. Many efforts have failed, especially in countries with lower implementation capacities. Clusters

in developing countries are initially formed mostly by chance or through market forces. Because governments have more control over the building and management of SEZs, zones can be a key policy tool to proactively influence the process of building clusters. Examples of SEZs that have been successfully used for cluster development include zones focusing on automotive and electronics industries in South-East Asia, where firms located in these zones produce for major SEZ anchor companies in the same or in nearby zones (supply linkages between zones are also common) (ASEAN Secretariat and UNCTAD, 2017).

**Figure IV.13. Traditional business features provided by SEZs (Number of SEZs)**



Source: UNCTAD review of public information on 100 SEZs.

Note: Figure lists only business services and excludes other SEZ benefits, such as incentives.

**Not all SEZs are successful, and there are many challenges.** Despite the advantages of SEZs and clear success cases such as in China, SEZs have a mixed record. Investments in zone infrastructure have in many cases resulted in zones that cost more to maintain than the benefit they bring to the economy is worth. SEZs can become zones where investors take advantage of tax breaks without delivering substantial employment or export earnings. Many zones have failed to extend benefits outside their enclaves or to contribute to upgrading domestic skills and the production base. Many traditional EPZs have been successful in attracting investment and creating employment in the short term but became uncompetitive when wages started to rise or when trade preferences disappeared. In general, because SEZs are a form of preferential treatment for specific firms or sectors, they can be seen as market distorting and a second-best solution compared with policies that promote competitiveness in the wider economy.

Common obstacles to zone success are poor site locations, requiring heavy capital expenditures; anti-competitive policies (e.g. excessive reliance on tax holidays, overly rigid performance requirements); poor labour policies and practices; poor zone development practices (e.g. inappropriately designed facilities, inadequate maintenance practices); and poor governance (e.g. inadequate administrative structures or too many bodies involved in zone administration).

Many zones, across all regions of the world, have failed to attract sufficient investment. In Africa, with the exception of zones in Mauritius and some successes in Kenya, Madagascar and Lesotho, most zones have attracted limited investment and failed to significantly improve exports and employment (World Bank, 2017). To date, only Mauritius has successfully used SEZs to support the process of structural transformation. Even where SEZs have had some initial success, the quality of investment and employment has often been poor, undermining their sustainability. Part of the reason is that, because many African countries launched their zones relatively late, they faced already established global competition. However, weak planning, implementation and governance capacity as well as lack of institutional coordination have also played a key role.

**SEZs and regional economic cooperation initiatives can be synergistic.** There is an apparent contradiction in the use of SEZs as part of regional economic cooperation initiatives, or regional trade agreements (RTAs). As a result, RTAs often face challenges in incorporating SEZs into their regulatory frameworks. This is because SEZs are tools for the promotion of investment and exports for an individual country, potentially in competition with RTA partners. Especially when SEZ programs provide firms with fiscal or tariff-related incentives, they can conflict with provisions in RTAs.

However, SEZs and RTAs can also generate significant synergies. Specifically, by lowering barriers to regional trade and facilitating economies of scale in regional production, RTAs stimulate investment by both domestic and foreign firms. By providing serviced land, infrastructure and an improved regulatory environment, SEZs lower the cost and risk for firms that undertake such investments. In addition, the growth of intraregional trade may create opportunities for specialized zones, for example, focusing on logistics or cross-border trade. Border SEZs, positioned to produce for regional production networks, are becoming increasingly common, especially in Asia. This confirms that, within the right cooperative framework, synergies can outweigh intraregional competitive downsides.

### **c. Investment facilitation and IPAs**

*Modern industrial policies have boosted investment facilitation, which until recently played a secondary role in investment policy frameworks. Many developing countries, especially, have made investment facilitation one of the key horizontal measures in industrial*

*development strategies. Targeted investment promotion (beyond incentives and SEZs) also remains important: two-thirds of IPAs are guided by industrial policies in defining priority sectors for investment promotion, and three-quarters have specific promotional schemes to upgrade technology in industry.*

Investment facilitation is the set of policies and actions aimed at making it easier for investors to establish and expand their investments, as well as to efficiently conduct their day-to-day business in host countries. It focuses on alleviating ground-level obstacles to investment, for example, through improvements in transparency and information available to investors, more efficient and effective administrative procedures, or enhanced predictability and stability of the policy environment. Investment facilitation is distinct from investment promotion, which is about promoting a location as an investment destination (e.g. through marketing and incentives) and is therefore often country-specific and competitive in nature (UNCTAD, 2017a).

Investment facilitation is a horizontal policy instrument, applying to all sectors and industries. It may indirectly help industrial policies by attracting investment that contributes to better production capacities, skills development and improvements of the technological infrastructure – all important objectives of new industrial development strategies. Investment facilitation can also indirectly promote other industrial policy goals, such as faster integration into GVCs. In some instances, countries have opted to prioritize facilitation efforts for specific industries (see the example of Bangladesh in box IV.6).

Investment facilitation is an issue particularly for developing countries, where administrative hurdles are often cited by investors as an important impediment to doing business. UNCTAD's database on national investment policies shows that between 2010 and 2017, at least 261 new investment promotion and facilitation policies were introduced

#### Box IV.6. Policy examples: investment facilitation

In 2014, *Kazakhstan* established the office of an Investment Ombudsman.

*Angola* enacted new legislation in 2015 to reduce the bureaucracy surrounding procedures for the establishment of investments. The new regulations stipulate a “fast lane” to speed up procedures and technical support units in each ministry.

In 2015, *Indonesia* introduced a fast-licensing process for certain categories of investors planning to open businesses.

In 2016, the *Bangladesh* Investment Development Authority was established as a platform for foreign investors, identifying high-priority industries, priority industries and potential industries for investment, and providing clear information on investment areas and incentives available. In addition, it provides information about all laws and regulations relevant for foreign investment.

In 2016, *Cambodia* launched an online single window or business registration portal that enables existing and new businesses to register their companies.

In 2016, *Kazakhstan* introduced a one-stop shop, enabling investors to apply for more than 360 types of permits and licenses without having to visit multiple ministries or government agencies.

In 2016, the *Philippines* launched “Project Repeal: The Philippine Red Tape Challenge” to clean up regulations by revoking provisions that are no longer necessary or that may be detrimental to the economy.

In 2016, *Saudi Arabia* simplified licensing procedures for foreign investors by reducing the number of documents required for new licenses.

In 2016, *Tunisia* introduced a new Investment Law, which, among other reforms, creates a High Investment Authority to act as a focal point for foreign investors and to facilitate administrative procedures in an effort to reduce bureaucracy.

In February 2018, the *United Republic of Tanzania* established an online registration system, which simplifies investment registration processes, significantly reducing time and costs.

Source: UNCTAD, Investment Policy Monitor database, accessible at <http://investmentpolicyhub.unctad.org>.

worldwide. About 30 per cent of these measures were specifically meant to facilitate investment by, for example, setting up one-stop shops or online registration systems for investors.

Investment facilitation has long been a secondary issue in investment policies. An UNCTAD analysis of 115 investment laws from 111 developed, developing and transition economies shows that investment facilitation aspects, such as the transparency of laws and regulations or more effective administrative procedures, are still largely absent in these instruments (figure IV.14).

In recent years, the focus on investment facilitation has increased substantially. UNCTAD's 2016 Global Action Menu for Investment Facilitation has supported numerous countries in developing and updating their investment facilitation policies and in making them more conducive for industrial development purposes.

Many countries have established IPAs to attract foreign investment, target specific investors and support investors through facilitation, aftercare services and policy advocacy (box IV.7). Through their work, IPAs contribute to a variety of mostly economic objectives, above all job creation, export promotion, technology dissemination and diffusion, linkages with local industry and domestic value added, as well as skills development.

IPAs have mostly been engaged in the promotion of investment projects prioritized according to scale or potential impact, such as the number of jobs created. Although these criteria remain important, the new industrial revolution (NIR) calls for an approach that also takes into account other factors, such as the contribution of the investment to technological upgrading, skills development and innovation. A recent UNCTAD survey of IPAs also shows that investment facilitation is increasingly used to attract advanced technologies; more than 80 per cent of surveyed countries (out of a total of 80 responses) use facilitation to promote technological upgrading.

**Figure IV.14.** Presence of or references to key investment facilitation concepts  
(Per cent share in 115 national investment laws analysed)



Source: UNCTAD.

#### Box IV.7. Policy examples: IPAs

In 2010, *The Gambia* adopted the Investment and Export Promotion Agency Act to establish an IPA.

In 2012, *Oman* issued a Royal Decree to reorganize the Public Authority for Investment Promotion and Export Development, placing the agency under the jurisdiction of the Ministry of Foreign Affairs. The decree also gives power to the chairman to design an overall strategy to promote the investment framework that is consistent with the general policy of the state, and to prepare necessary plans and conduct studies and research in the field of investment promotion.

In 2015, *Chile* promulgated a new Framework Law for Foreign Investment. Among other things, it establishes a Foreign Investment Promotion Agency with the mission of implementing the State policy to attract all types of foreign capital and investment to the country. The only body authorized to undertake this task, it works in coordination with the country's regional governments.

In 2017, the Investment and Export Promotion Agency of *Benin* officially launched an intelligence platform (iGuide) to facilitate investment. It is an online tool for directing and informing domestic and foreign investors about operating costs, salaries, taxes and laws they need to know in order to build and develop their business plans.

Source: UNCTAD, Investment Policy Monitor database, accessible at <http://investmentpolicyhub.unctad.org>.

## d. Entry rules and screening procedures

*Manufacturing sectors are rarely affected by outright foreign ownership restrictions. Restrictions remain common in some infrastructure industries relevant for industrial development, however. Most measures adopted over the past decade have removed or relaxed foreign ownership restrictions, but entry rules – or rather procedures – have still been tightened in some cases through new screening processes or requirements, including in developed countries following NIR-driven industrial policy models.*

Most countries maintain sector-specific foreign investment restrictions. Such restrictions vary significantly by industry and country. **However, today, countries tend to impose fewer formal investment restrictions for industrial policy purposes** – in contrast to earlier models of industrial policy. According to World Bank data, restrictions are mostly confined to transportation, media and utilities sectors because of their political sensitivity. Manufacturing is one of the sectors with the lowest number of entry restrictions; more than 95 per cent of economies allow full foreign ownership of manufacturing facilities.<sup>5</sup>

The broad openness to foreign investment in industrial sectors in most countries is the result of an ongoing trend to relax formal FDI restrictions. About 80 per cent of the policy measures taken since 2010 in relation to FDI ownership eased or abolished foreign ownership limits (box IV.8).

**Although the number of formal ownership restrictions has waned, many countries apply foreign investment screening mechanisms**, which might ultimately result in blocking investments. Although this instrument emerged primarily for national security considerations, it increasingly encompasses broader national interests, including the protection of strategic industries, critical infrastructure and key technologies (see also *WIR16*).

In most cases, screening procedures affect strategic and defence-related industries, the energy sector and other tertiary sector industries with important public service elements, including transportation, telecommunication and utilities (critical infrastructure). The manufacturing, high-tech and other sectors that feature more prominently in industrial policies are generally not explicitly singled out in screening legislation or administrative procedures. Looking at a sample of screening procedures across 17 countries with formal screening rules,<sup>6</sup> five explicitly apply screening to certain manufacturing sectors and two single out investment related to “key technologies”. However, most countries have created sufficient flexibility to apply screening across the board for national security purposes.

Investments by foreign State-owned enterprises in strategic industries are particularly sensitive. For example, the United States Foreign Investment and National Security Act

### Box IV.8. Policy examples: Liberalization

In 2015, *India* introduced a comprehensive FDI liberalization strategy and relaxed FDI rules in 15 major sectors, including manufacturing.

In 2016, *Bahrain* amended its Commercial Companies Law, allowing 100 per cent foreign ownership in technical activities and manufacturing.

In its new “Negative List of Investment” of 2016, *Indonesia* increased the allowed ceiling for foreign investment in a number of sectors.

In 2017, *Viet Nam* amended the list of “conditional business lines” in the Law on Investment. It removed 24 business lines (e.g. management and operation services for common infrastructure facilities) from the list, and added 16 new ones (e.g. manufacturing, assembling and import of automobiles).

*Source:* UNCTAD, Investment Policy Monitor database, accessible at <http://investmentpolicyhub.unctad.org>.

requires an obligatory investigation in case of a foreign government-controlled investment. In the Russian Federation, State-owned enterprises are prohibited from gaining majority interests in businesses entities of strategic importance for national defence and state security, and governmental approval is mandatory for minority stakes. Under the Foreign Acquisitions and Takeovers Act 1975, foreign government investors in Australia have to comply with additional notification requirements and generally are required to obtain prior governmental approval.

Investment review mechanisms can be broadly categorized in three groups, depending on the scope and depth of the review process. First, some countries apply cross-sectoral screening procedures with broad and flexibly defined review criteria, such as national security (United States), public interest (United Kingdom) or the fundamental interests of society (Finland) (table IV.7).

Second, foreign investment screening can target specific sectors clearly identified in national legislation as sensitive (table IV.8). This approach provides more predictability for foreign investors, as an anticipated engagement in a sector not listed in the legislation will not be subject to a review. The sectors that fall most frequently under these screening procedures are utilities, telecommunication, transportation and media. The manufacturing sector is rarely included.

**Table IV.7. Examples of national cross-sectoral general screening mechanisms**

Country	Stated screening criteria	Statutory act
<b>Australia</b>	National interest	Foreign Acquisitions and Takeover Act 1975
<b>Canada</b>	Net benefit	Investment Canada Act
<b>China</b>	National economic security	National Security Law Interim Provisions on Mergers and Acquisitions of Domestic Enterprises by Foreign Investors
<b>Finland</b>	Fundamental interests of society	Act on the Monitoring of Foreign Corporate Acquisitions in Finland
<b>United Kingdom</b>	Public interest	Enterprise Act 2002
<b>United States</b>	National security	Foreign Investment and National Security Act

Source: UNCTAD.

**Table IV.8. Examples of sector-specific investment screening mechanisms in manufacturing**

Country	Sectors covered (not exhaustive)	Stated screening criteria	Statutory act
<b>India</b>	Brownfield projects in pharmaceuticals	-	Foreign Exchange Management Regulations 2017
<b>Japan</b>	Aviation and space industry Nuclear industry Pharmaceuticals Fur and leather industry	Significant adverse effects on the smooth management of the economy	Foreign Exchange and Foreign Trade Act
<b>Lithuania</b>	High-technology activities	National security interests	Law on Enterprises and Facilities of Strategic Importance to National Security and Other Enterprises of Importance to Ensuring National Security
<b>Russian Federation</b>	Aviation and space industry Nuclear-related sectors	-	Federal Law N57-FZ, "Procedures for Foreign Investments in the Business Entities of Strategic Importance for Russian National Defense and State Security"
<b>United Kingdom</b>	Manufacturing undertakings with special importance to national interests	-	Industry Act 1975

Source: UNCTAD.

The third approach focuses predominantly on investment in key technologies considered of high economic value, independent of the sector in which the investment is made (table IV.9). This category of screening may be utilized in addition to cross-sectoral or sector-specific reviews.

**In recent years, national investment screening mechanisms have been strengthened, particularly in developed countries.** The main reason behind this development is the wish to improve control over the planned acquisition of strategic firms, critical infrastructure and key technologies by foreign investors, especially where such technologies are seen as crucial for the long-term competitiveness of the domestic economy (box IV.9).

The trend is likely to continue, as discussions on further tightening the regulatory framework continue in a number of countries. For example, in the wake of increased involvement of foreign State-owned enterprises in the EU and their search for cutting-edge technologies – and as a response to FDI barriers in their home markets – the European Commission has proposed an EU-wide regulatory framework for FDI screening.<sup>7</sup> The French Government

Table IV.9.		Examples of national cross-sectoral, technology-targeted investment screening mechanisms	
Country	Scope	Screening (not exhaustive)	Statutory act
China	Key technologies	Effect on the national steady economic growth and the basic social living order	Circular of the General Office of the State Council on the Establishment of Security Review System Regarding Merger and Acquisition of Domestic Enterprises by Foreign Investors
Republic of Korea	National core technologies (with high technological and economic value in the Korean and overseas markets or bringing high growth potential to related industries, or with strategic importance for national security)	Serious effect on national security	Act on Prevention of Divulgence and Protection of Industrial Technology

Source: UNCTAD.

**Box IV.9. Policy examples: investment screening**

In 2012, *Italy* established a new mechanism for Government review of transactions regarding assets of companies operating in strategic industries. In 2017, it also extended the Government's powers to block takeovers by non-EU companies in high-tech sectors that may pose a threat to essential national interests or present a risk to national security.

In 2015, *China* passed a National Security Law which allows the State to establish, inter alia, a national security review and oversight mechanism for foreign investment.

In 2015, *Poland* adopted a law requiring investors to obtain approval from the Government to buy a stake of 20 per cent or higher in strategic industries.

In 2016, a presidential order based on the investigation of the Committee on Foreign Investment in the *United States* (CFIUS) prevented the acquisition by the Chinese company Fujian Chip Investment Fund of Aixtron, Inc., an American subsidiary of a German semiconductor producer.

In 2017, *Germany* expanded its national security reviews to encompass critical industries.

In 2017, the *Russian Federation* required prior Government approval for foreign investment in certain transactions involving assets of strategic importance for national defence and state security.

In the *United States*, the CFIUS investigated the bid of Singapore-based Broadcom for Qualcomm – a leading American ICT company engaged in 5G technology development. The bid was subsequently blocked (in March 2018) by presidential decision.

Source: UNCTAD, Investment Policy Monitor database, accessible at <http://investmentpolicyhub.unctad.org>.

is also preparing a strengthened review mechanism for foreign acquisitions in strategic sectors to extend them to information and communication technology (ICT), artificial intelligence, nanotechnologies, robotics, space, data storage and financial infrastructure.

Review of the use of FDI screening mechanisms in surveyed countries indicates that they have a cooling effect on anticipated transactions; instances of formal blocking of investments are relatively rare (table IV.10). For example, in the United States, between 2014 and 2016, only 0.65 per cent of investment review cases resulted in a negative decision for the investor, while in 11 per cent of cases, investors withdrew their application and discontinued the investment process. It has been noted that one of the reasons for this “preventive” effect can be that the process provides a platform for dialogue between investors and State authorities, enabling investors to adjust projects to the industrial and investment policy objectives of the host country. It should be noted, however, that most of the data on the outcomes of foreign investment screening procedures are not publicly available.

### 3. The role of international investment agreements

*IIAs can both support and constrain industrial policy. They can foster investment by protecting it and liberalizing rules, but they can also limit policy space – for example, by precluding the use of certain restrictions or performance requirements or by regulating the use of subsidies. A number of flexibility mechanisms exist to mitigate the constraining effect of IIAs.*

The interaction between international investment policy (IIAs) is characterized by the dual nature of IIAs, potentially both supporting and constraining industrial policy. With respect to their potential to support industrial policy, IIAs are expected to encourage foreign investment by (i) protecting and liberalizing investment (e.g. by easing entry or by offering national treatment), (ii) improving the overall investment policy framework and/or (iii) enlarging markets. In addition, some modern IIAs include specific promotion- or facilitation-oriented provisions. As most IIAs apply on a cross-sectoral basis, the potential enhancement of foreign investment would occur horizontally for all industries.

IIAs also have the potential to constrain investment-related industrial policy. Provisions that deserve most attention in this context include IIA rules regarding (i) the entry of foreign investors (e.g. potentially precluding countries from restricting foreign investment at the entry level), (ii) performance requirements (e.g. potentially constraining policies designed to generate certain local linkages or ensure positive spillovers from foreign investment); (iii) national treatment (e.g. potentially precluding countries from granting subsidies exclusively to domestically owned enterprises) and (iv) fair and equitable treatment (FET) (e.g. potentially limiting certain policy changes (e.g. those that affect investors’ legitimate expectations).

**Table IV.10. FDI screening cases, selected countries** (Number of cases)

Country	Data available for last reporting cycle <sup>a</sup>				Data available for previous reporting cycle			
	Filed	Approved	Rejected	Withdrawn	Filed	Approved	Rejected	Withdrawn
<b>Australia</b>	-	662	0	-	-	592	0	-
<b>Canada</b>	737	-	3	-	641	-	1	-
<b>New Zealand</b>	-	11	0	-	-	11	0	-
<b>United States</b>	172	-	1	27	143	-	1	13

Source: UNCTAD.

Note: Excludes real estate transactions.

<sup>a</sup> For Australia it is 2015–2016, for Canada 2016–2017, for New Zealand 2016 (2017 data not comparable), and for the United States 2016.

Industrial policy-related measures have been the subject of investor–State dispute settlement (ISDS) cases; for example, a challenge to a requirement to invest a certain minimum amount in R&D activities; a challenge to a condition of a tax advantage on the exclusive use of a certain production input; and several challenges to changes to incentives under renewable energy schemes.

To avoid creating undue policy constraints, a number of flexibility mechanisms have been developed in some IIAs, taking the form of exceptions and/or exclusions to the treaty or of country-specific lists of reservations. Those particularly relevant for industrial policy include the following:

- Excluding certain industries (although most reservations in existing treaties relate to services industries)
- Excluding certain policies, such as taxation, subsidies or government procurement
- Circumscribing key protection standards and including general or national security exceptions, which have become highly relevant in the context of industrial policy

Managing the interaction between international investment policy and industrial policy implies striking a balance between liberalizing and protecting FDI, while preserving space for the dynamics of industrial policy. This challenge extends to identifying industries and existing or potential future domestic policies, for which flexibility is most needed; identifying IIA provisions that are particularly likely to affect industrial policy; and recognizing that industrial policy is likely to change over time. The latter is important in light of the so-called “lock-in” effect, implying that once a commitment is made to open an industry to foreign investment, host countries are bound by it as long as the IIA remains in force. The problem is further exacerbated if pre-establishment treaties contain rollback commitments with regard to remaining FDI restrictions, or so-called “ratchet clauses” according to which regulatory changes towards further liberalization are automatically reflected in a country’s commitments under the IIA. In response, some selected IIAs establish a procedure for IIA signatories to modify or withdraw commitments in their schedules.

# D. INVESTMENT AND NEW INDUSTRIAL POLICIES: THE WAY FORWARD

## 1. Design criteria for modern industrial-investment policies

*Modern industrial policies, be they of the build-up, catch-up or NIR-driven variety, need to incorporate a number of design features in pursuit of countries' development objectives. These include openness, sustainability, NIR readiness and inclusiveness. Investment policy choices should be guided by these design criteria and by the need for policy coherence, flexibility and effectiveness.*

Modern industrial policies, be they of the build-up, catch-up or NIR-driven variety, tend to follow a number of principles or design criteria. Industrial-investment policy choices should be guided by these design criteria.

The first is relative *openness*. Industrial policies are today more geared towards international competitiveness, designed to maximize the benefits of attracting external know-how and technology to improve domestic productive capacity, and focused on promoting sectors that can support higher participation in GVCs for the economy as a whole.

The second is *sustainability*. Sustainable development is now an imperative for all industrial policy packages. More and more overarching industrial policies emphasize environmental impact and social inclusiveness, incentivize the use of renewable energy or promote specific industries that respond to the global climate change challenge. Many countries have drawn up dedicated national strategies for this purpose.

Third, *NIR readiness*. Because of their number and distinct characteristics, this chapter has put NIR-driven industrial policies in a separate category. But it has also shown that build-up and catch-up industrial policies can no longer ignore the consequences of the NIR. This is especially important in the investment policy sphere, where patterns of international production and cross-border investment are already being shaped by the impact of advanced manufacturing technologies on global supply chains and location decisions.

Fourth, *inclusiveness*. A central objective of industrial policy is generally the creation of jobs. The very reason to pursue structural transformation through manufacturing is that it can generate large amounts of employment opportunities. Modern industrial policies have a more delicate balance to strike between the objectives of upgrading productivity and creating jobs. The NIR, in particular, can lead to jobs being replaced with technology; it also risks exacerbating the labour-displacing impact of international trade and investment. Modern industrial policies contain mitigating measures and often specific initiatives targeted at vulnerable regions or populations. In addition, some also include provisions to encourage better gender balance.

Fifth, *coherence*. By nature, industrial policy spans interventions across factors of production, from infrastructure and finance to skills and technology. It affects firm, sector and industrial system levels. It comprises national and international trade and investment issues. Measures in each of these areas are interdependent. More and more countries are finding that the measures- and initiatives-driven approach, often governed bottom-up

by lower levels of government, agencies and industry associations, is leading to myriad coordination problems. They are increasingly adopting national overarching industrial policies to improve coherence and consistency in implementation.

Sixth, *flexibility*. Many countries – including those that until recently might have shunned the idea of industrial policy – are now adopting national industrial development plans to improve coordination. In most cases, they are not supplanting bottom-up implementation capacity with rigid, plan-based systems. Many new industrial policies set a broad strategic direction, leaving space for initiative at multiple levels. Industrial policy packages can comprise dozens of narrower-scope packages focused on specific sectors, factors of production or layers of the industrial system. The flexibility that such bottom-up governance can provide is even more important in the NIR, given the high rate and uncertain directions of technological change.

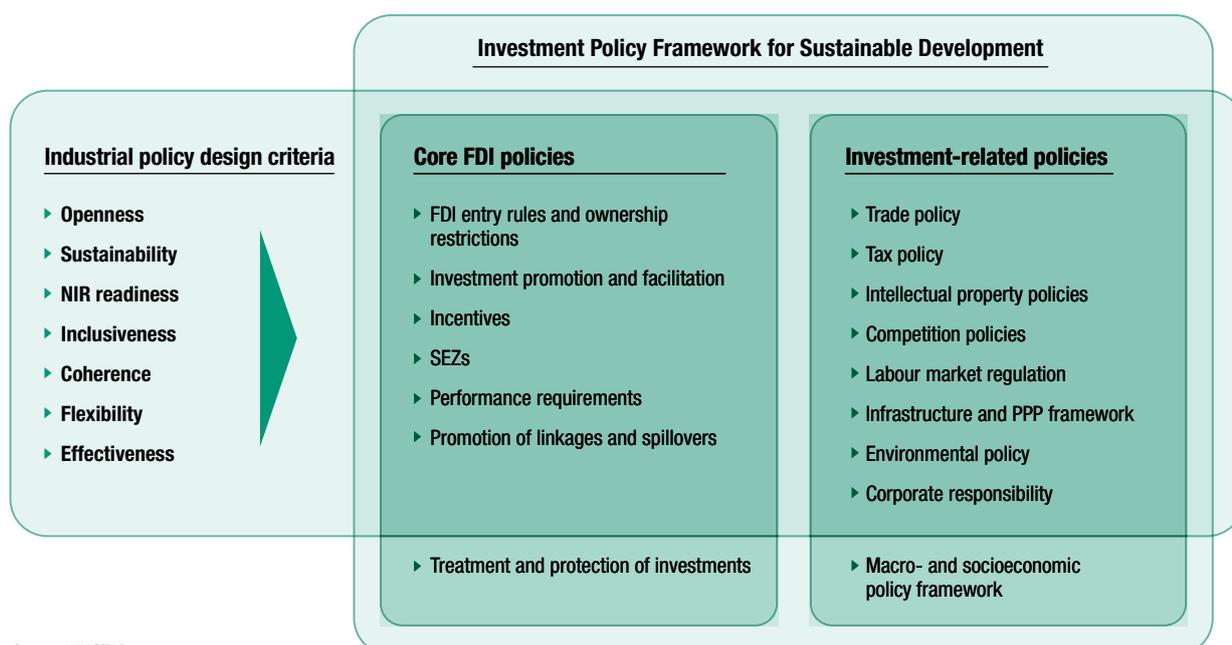
Seventh, *effectiveness*. Effective interaction between industrial policies and investment policies implies choosing the “right” investment policy tools for specific industrial policy purposes and creating synergies between them. It also means monitoring the success of investment policies in pursuit of industrial policies and the readiness to correct ineffective policy interactions.

These industrial policy design criteria need to be reflected across the full range of core investment policies and other areas relevant to both industrial policy and investment policy – usually referred to as investment-related policy areas by investment policymakers and in UNCTAD’s Investment Policy Framework for Sustainable Development. Figure IV.15 shows how, conceptually, the design criteria apply to key elements of investment policy.

The IPFSD Guidelines can help policymakers examine the relevant investment policies. Box IV.10 provides a set of strategic investment policy priorities, which also indicate the priorities that would likely be part of an effective industrial policy regime.

The multitude of policy areas that are part of industrial policy packages include investment, trade, tax, intellectual property, competition, labour market and environmental policies, as

**Figure IV.15. UNCTAD's IPFSD and the interaction between industrial and investment policies**



Source: UNCTAD.

<b>1.1 Strategic investment policy priorities</b>	<p>1.1.1 Investment policy should be geared towards the realization of national sustainable development goals (which may be linked to globally defined sustainable development goals, or SDGs) and grounded in a country's overall development strategy. It should set out strategic priorities, including:</p> <ul style="list-style-type: none"> <li>• Investment in specific economic activities, e.g. as an integral part of an industrial development strategy, or in specific priority sectors for sustainable development ("sustainable-development sectors").</li> <li>• Areas for mutual reinforcement of public and private investment (including a framework for public-private partnerships).</li> <li>• Investment that makes a significant development contribution by creating decent work opportunities, enhancing sustainability, and/or by expanding and qualitatively improving productive capacity (see 1.2) and international competitiveness.</li> </ul> <p>Investment policy priorities should be based on a thorough analysis of the country's competitive advantages and development challenges and opportunities, and should address key bottlenecks for attracting FDI.</p>
<b>1.2 Investment policy coherence for productive capacity building</b>	<p>1.2.2 The potential for the dissemination of appropriate technologies and know-how should be one of the criteria for determining investment priorities. Where investment priorities are driven by the objective to increase participation in and benefits from global value chains (GVCs), technology and skill requirements along GVC development paths, as well as upgrading opportunities, should inform policy.</p> <p>1.2.5 The potential for FDI to generate business linkages and to stimulate local enterprise development should be a key criterion in defining investment policy and priorities for FDI attraction.</p>
<b>2.1 Entry and establishment of foreign investors</b>	<p>2.1.2 Ownership restrictions or limitations on the entry of foreign investment, in full accordance with countries' right to regulate, should be justified by legitimate national policy objectives and should not be influenced by special interests. They are best limited to a few explicitly stated aims, including:</p> <ul style="list-style-type: none"> <li>• Protecting the national interest, national security, control over natural resources, critical infrastructure, public health and the environment; or</li> <li>• Promoting national development objectives in accordance with a published development strategy or investment strategy.</li> </ul> <p>2.1.3 Restrictions on foreign ownership in specific industries or economic activities should be clearly specified.</p>
<b>2.4 Promotion and facilitation of investment</b>	<p>2.4.8 The work of national and subnational IPAs, as well as that of authorities promoting investment in special economic zones, should be closely coordinated to ensure maximum efficiency and effectiveness.</p> <p>2.4.24 Governments should specifically consider measures to improve access to finance for SMEs and entrepreneurs with the potential to supply foreign investors, e.g. through guarantee schemes; encouragement of supplier finance programmes; banking sector development programmes; and programmes that build the financial skills of entrepreneurs and SMEs (see UNCTAD's Entrepreneurship Policy Framework, or EPF).</p>

Source: UNCTAD.

well as the overall macroeconomic and social policy framework. The overlaps call for greater policy coordination within government and between policymakers and the private sector. Policymakers need to coordinate and discuss details with various relevant government departments and public institutions, as well as with the private sector, to implement the system-oriented initiatives required for contingent policy issues (see chapter III).

With regard to the new industrial revolution, the relationship between intellectual property (IP) rights regimes, on the one hand, and industrial policies and investment policies, on the other hand, is important. All 191 WIPO member States and the 164 WTO Members have IP regimes. The great majority of IP rights in developing countries are granted to foreigners. These rights may be an important source of technology transfer through voluntary agreements between foreign investors and local firms.

## 2. Updating investment policy instruments for industrial policies

*Investment policy practices in the core industrial policy-relevant areas of incentives, SEZs, investment facilitation and targeted promotion, as well as FDI entry rules and screening procedures, all need to evolve in light of modern industrial policy development and the new industrial revolution (NIR).*

### a. Reorienting investment incentives

Investment incentives will remain an important policy tool in the new era of industrial policies. On the basis of the key challenges in investment incentives discussed in previous sections and the design criteria for modern industrial-investment policies, there are several options for their reorientation.

**Horizontal but targeted incentives.** Significant progress has been made in improving the targeting of investment incentives towards industrial development and in reducing the extent to which incentives are granted indiscriminately. Targeted incentives for specific industries can play a key role in industrial policy. However, horizontal incentives packages are also fully compatible with modern industrial policies, which highlight the importance of capacity building in technology development and innovation, and adoption of new technology in manufacturing supply chains. Incentives applicable across industries can target, for instance, R&D, training of personnel or technology infrastructure development.

**Better “nudging” policies through smart incentive mechanisms.** Although performance requirements are still widely used, and nudging policies aimed at maximizing the contribution of investors to industrial development are an important part of industrial policy, in many countries they have proved ineffective or difficult to implement and monitor. Cost-based tax incentives, which, by their nature, are granted only when desired investment expenditures are made, can effectively achieve many of the objectives of performance requirements. They are also less costly and less prone to abuse than profit-based tax incentives.

**Monitoring effectiveness of investment incentives.** Considering the new industrial policy design criteria, the realization that industrial policy can take a trial-and-error approach and that implementation therefore needs to be flexible is key for incentives, which are a costly investment policy tool. For industrial policy, a common method to ensure flexibility is to formulate implementation measures in a time-limited manner, with phase-out mechanisms. For incentive programmes, this translates into automatic sunset clauses, built-in reviews, constant monitoring and clear benchmarks for success (see also UNCTAD’s IPFSD).

**Factoring in SDGs in investment incentives schemes.** As the findings of this chapter indicate, modern industrial policies often directly promote SDG-related industries (e.g. clean energy, electric cars, ecotourism, health care). Investing in key SDG sectors (e.g. infrastructure or the education system) can also help to improve the general investment climate of a country. Strategic investment funds and PPPs can be effective policy tools to foster investment related to the SDGs (Zhan and Karl, 2016; see also UNCTAD’s Action Packages in *WIR14*).

**Avoiding a “race to the bottom”.** The NIR is increasing competition among countries for high value added and high-tech investments. Proliferation of tax incentives should be avoided to minimize the risk of harmful tax competition between countries (for further detail on the use of incentives, see UNCTAD’s IPFSD and box IV.11). Countries also need to avoid the risk of violating investment-related provisions in the WTO Agreement on Trade-Related Investment Measures and the Agreement on Subsidies and Countervailing Measures.

**Investment incentives and guarantees**

- 2.4.12 Investment incentives, in any form (fiscal, financial or other), should be carefully assessed in terms of long-term costs and benefits prior to implementation, giving due consideration to potential distortion effects. The costs and benefits of incentives should be periodically reviewed and their effectiveness in achieving the desired objectives thoroughly evaluated.
- 2.4.13 Where investment incentives are granted to support nascent industries, self-sustained viability (i.e. without the need for incentives) should be the ultimate goal so as to avoid subsidizing non-viable industries at the expense of the economy as a whole. A phase-out period built in the incentive structure is good practice, without precluding permanent tax measures to address positive or negative externalities.
- 2.4.14 The rationale and justification for investment incentives should be directly and explicitly derived from the country's development strategy. Their effectiveness and suitability for stated objectives should be fully assessed before adoption, including through international comparability.
- 2.4.15 Investment incentives should ideally be targeted at investment in sustainable-development sectors and made conditional on social and environmental performance.
- 2.4.16 The administration of incentives should be the responsibility of an independent entity or ministry that does not have conflicting objectives or performance targets for investment attraction. The ultimate responsibility for financial outlays associated with incentives should be with the Ministry of Finance, and integrated in the normal budgeting process.
- 2.4.17 Environmental, labour and other regulatory standards should not be lowered as a means to attract investment, or to compete for investment in a "regulatory race to the bottom".
- 2.4.18 Investment incentives should be granted on the basis of a set of predetermined, objective, clear and transparent criteria. They should be offered on a non-discriminatory basis to projects fulfilling these criteria. Compliance with the criteria (performance requirements) should be monitored on a regular basis as a condition to benefit from the incentives.
- 2.4.19 Investment incentives over and above pre-defined incentives must be shown to make an exceptional contribution to development objectives, and additional requirements should be attached, including with a view to avoiding a "race to the top of incentives".
- 2.4.20 Investment incentives offered by subnational entities which have the discretion to grant incentives over and above the pre-defined limits, should be coordinated by a central investment authority to avoid investors "shopping around".

**Fiscal incentives**

- 3.2.8 Where governments choose to provide fiscal incentives for investors, these should be provided on a non-discretionary basis and should not by nature seek to compensate for an unattractive or inappropriate general tax regime. As much as possible, fiscal incentives should have sunset clauses after which investor should follow the general fiscal rules.
- 3.2.9 The general corporate income tax regime should be the norm and not the exception and proliferation of tax incentives should be avoided as they quickly lead to distortions, including harmful tax competition between countries and a "race to the bottom", generate unintended tax avoidance opportunities, become difficult to monitor, create administrative costs and may end up protecting special interests at the expense of the general public.
- 3.2.10 Foreign direct investment incentives schemes should be designed and structured in such a way that they do not provide additional avenues for tax avoidance. They should not create an additional low-tax location in multinational corporate structures. Governments should consider options to design and administer fiscal incentives schemes in such a way that they remove the motivation to shift profits and erode the tax base, e.g. by providing tax breaks for earnings reinvested in productive assets, or focusing tax incentives on capital goods (e.g. rollover relief). Incentives could also be made conditional upon pre-defined or agreed tax behaviour and on disclosure criteria.

Source: UNCTAD.

## b. Modernizing SEZs

SEZs today operate in a challenging environment. Many fail to attract significant investment because of high competition between zones – competition that is likely to increase due to the NIR. The NIR is also eroding the importance of traditional locational advantages

associated with SEZs (e.g. cheap labour, abundant land). Further, SEZs have to respond to the imperative to pursue business activities in a socially and environmentally responsible manner that advances the SDGs.

**SEZs: sustainable economic zones.** SEZs provide a range of on-site services to investors, but limited sustainability-related services. Changes to international trade rules and growing international business interest in corporate social responsibility mean that SEZ management agencies and IPAs have an opportunity to explore investment promotion strategies that relate to social, environmental and governance performance, rather than cheap labour, exemption from regulations or broadly applied tax breaks. UNCTAD's Framework for Sustainable Economic Zones can provide guidance (UNCTAD, 2015a).

**Pursuing a partnership approach.** Forming strategic alliances between IPAs and outward investment promotion agencies (OIAs, which include development banks) in strategic FDI-source countries could benefit SEZs, particularly if such alliances are organized around promotion and facilitation of private investment in sustainable-development sectors (*WIR14*). The potential goals and benefits from such partnerships could include information sharing, technical cooperation and the marketing of SDG investment opportunities, among others. Inclusive, multi-stakeholder platforms, such as UNCTAD's World Investment Forum and its technical assistance packages, can provide opportunities to facilitate such partnerships.

**Promoting digitalization.** The incorporation of digital technologies in global supply chains across most industries has had profound effects on international production and is key to the survival of SEZs. SEZs provide value chain linkage opportunities to firms located in them. SEZs can introduce both infrastructure facilities and targeted investment facilitation instruments and incentives to advance digital adoption and connectivity, which can help them to remain competitive and relevant players within international production networks in the NIR.

**Strengthening domestic and regional linkages.** The imperative for SEZs to strengthen linkages with domestic firms is well known. They can do so by attracting lead firms and promoting supplier development programmes and activities that link with other producers. Lead firms can provide technical support, training, finance and inputs to other firms, and help supply firms negotiate and meet complex private standards. Such activities can be the foundation of successful cluster development programmes in the context of industrial policies. Value chain links between zones – either in the same economy or across the region through border zones or regional corridors – can also boost the contribution of SEZs to industrial development, as witnessed by examples in ASEAN.

**Tapping new sources of financing for innovation-driven zones.** Various forms of new technology-oriented zones are springing up around the world as part of NIR-driven industrial policies. Such SEZs could benefit from forming partnerships with new forms of private finance, including venture capital funds, fintech, impact investment funds and crowdfunded ventures. Although still in their infancy in many developing countries, such investors nevertheless provide viable funding streams to the smaller firms that often set up shop in SEZs. In India, for instance, venture capital has helped boost start-ups in sectors with high growth potential, with international and domestic operators providing funding to promote growth in sectors such as ICT and biotechnology.

### **c. Retooling investment promotion and facilitation**

Developments in industrial policies should also be reflected in the approach to investment promotion, including the work of IPAs.

**Adapting investment promotion to changing economic circumstances.** The dynamics of technological development and the resulting rearrangements of the division of labour in regional and global value chains imply that IPAs can no longer rely on traditional locational advantages, such as low labour costs. IPAs need to promote other factors that have gained prominence for industrial development, such as the availability of a modern infrastructure, broadband connectivity or a well-trained domestic labour force.

**Aligning the marketing of locations with industrial development strategies.** IPAs need a coherent approach that targets the industries and activities prioritized in national industrial development strategies. If the focus is on technological upgrading within GVCs, IPAs should promote domestic expertise and local universities in the host country, as well as technology-related SEZ measures.

**Developing partnerships in non-traditional sectors.** IPAs should identify suitable partners, establish appropriate contact channels and regularly exchange information, in order to benefit from new growth opportunities in niche segments of international production. Possible international partners are OIAs that can support IPAs in the home countries of investors (UNCTAD, 2017b).

**Promoting “matchmaking” between domestic firms and international market leaders.** IPAs have a critical role in identifying and targeting international lead firms in priority industries. IPAs can be instrumental in the conclusion of cooperation contracts with foreign firms or in the formation of R&D consortiums with foreign participation.

**Strengthening investment facilitation.** Bureaucratic difficulties in obtaining required permits and approvals, accessing land or office space, or bringing in qualified personnel can derail or delay projects, discourage other investors and tarnish the reputation of the IPA and the country as a place in which to do business. UNCTAD's Global Action Menu for Investment Facilitation includes measures that agencies can take and recommendations for national and international investment policies.

**Mainstreaming the promotion of investment in SDG sectors and building capacity to develop and market pipelines of SDG-related projects.** UNCTAD has presented “Action Packages” for investment to mainstream the SDGs into investment promotion strategies and institutions (*WIR14*). SDG-related projects should become a priority of the work of IPAs and business development organizations. The promotion and facilitation of investment in sustainable development should include the preparation and marketing of pre-packaged and structured projects with priority consideration and sponsorship at the highest political level. This requires specialist expertise and dedicated units (e.g. government-sponsored “brokers” of sustainable development investment projects and technical assistance from international organizations and multilateral development banks) (*WIR14*).

## **d. Crafting smart foreign investment screening and monitoring mechanisms**

Given that screening or review mechanisms for FDI are increasingly being used as a tool for industrial policies, a regulatory balance needs to be found between the legitimate interests of the host country in monitoring the entry of FDI on the one hand and a sufficient degree of predictability and transparency for investors on the other.

**Separating national security screening from other FDI screening purposes.** Existing FDI screening mechanisms do not always distinguish between reviews related to national

security and those related to broader industrial policy purposes. As “national security” is an undefined term, host-country authorities have ample discretion to decide whether a specific foreign investment poses a national security risk. To improve the predictability of the outcome of FDI screening, it may be advisable to explicitly limit national security reviews to the defence, security and dual-use sectors, leaving investment in all others under separate industry-related screening procedures.

**Setting clear and transparent screening criteria.** The criteria used in FDI screening should be publicly available. Host-country authorities may wish to publish a list of sectors and industries (e.g. strategic industries, critical infrastructure, acquisition of core technologies) to which the review mechanism applies. Given the changing importance of individual industries for a country’s economic development, the list should be revisable. Executive guidelines could provide further details and assist applicant investors in preparing for the screening procedures.

**Providing for investor–host-country dialogue.** Investment review mechanisms should provide for sufficient dialogue between host-country authorities and foreign companies about planned investments. This allows investors to modify proposed deals in accordance with the wishes of the host country and avoid rejection of the investment.

**Building in procedural safeguards.** Host-country authorities need to have enough time to consider all aspects of each investment. Setting an appropriate time frame is also in the interest of investors, because it gives them clarity about when they can expect a decision. Procedures should be non-discriminatory and ensure the protection of confidential business information. Ex post investment screening should be limited to clearly defined exceptional circumstances.

**Allowing for pre-screening FDI clearance.** Host countries may consider providing potential investors with the possibility of requesting an ex ante official confirmation whether an anticipated transaction falls within the scope of the investment screening mechanism. This approach can be a useful and efficient device for governments to deal with straightforward cases that do not pose any political or legal problems.

### 3. Investment policy toolkits for industrial policy models

*Policy practice shows how build-up, catch-up and NIR-based industrial policies emphasize different investment policy tools and focus on different sectors, economic activities and mechanisms to maximize the contribution of investment to the development of industrial capabilities. The investment policy toolkit evolves with industrial policy models and stages of development.*

As observed previously, the three basic models of industrial development strategies – build-up, catch-up and NIR-based strategies – use investment policy instruments with different emphases. *Build-up strategies* focus incentives on attracting investment in basic industrial infrastructure industries (or overcoming basic infrastructure deficiencies). For example, Rwanda grants preferential tax rates to investors in energy generation, transmission and distribution – a common incentive in build-up strategies. They also frequently prioritize investment in various light industry sectors, which are often a first step towards industrial development. As they generally apply to countries at lower levels of development, they tend to be fiscal incentives, which do not require up-front financial outlays. To create successful SEZs, build-up strategies can focus efforts on attracting anchor MNEs that help attract supplier investors and kick-start export-oriented manufacturing. This is a common approach in the ASEAN region; for instance, Viet Nam grants special preferences to developers and anchor investors in industrial parks and other types of economic zones. Build-up strategies

can also comprise initiatives aimed at working with MNEs to grow domestic enterprise through supplier development programmes and supplier finance.

*Catch-up strategies* aim to attract higher value added activities in GVCs by directing incentives to sectors and activities that support technological upgrading. They can include targeted investment promotion focused on building clusters and regional SEZ production networks. For example, Argentina adopted a preferential tax regime for the automotive sector in 2017 to promote regional car production chains among MERCOSUR countries. Catch-up strategies focus on business linkages and supplier development programmes targeting higher skills development. For example, Morocco created an industrial development fund in 2015 to grant support to projects undertaken by firms looking to expand with a significant structural impact on the economic fabric of suppliers, and involving training or technology transfer. Similarly, South Africa adopted a tax allowance incentive in 2010 to support industrial projects in manufacturing that have an impact on industrial upgrading, business linkages and SME supply opportunities, and skills development. And catch-up strategies often put in place strong horizontal programmes for investment facilitation and support initiatives for widespread adoption of both ICT and technology.

*NIR-based strategies* focus much less on infrastructure development and more on technology development, including through various forms of public-private collaboration. For example, the National Network for Manufacturing Innovation in the United States is a PPP programme bringing together private industry, leading universities, and federal agencies to co-invest in emerging technologies such as additive manufacturing and next-generation power electronics. Partnerships with research and educational institutions can extend beyond technology development to knowledge development initiatives for the enhancement of capabilities and international competitiveness of domestic firms (Fletcher et al., 2018), and NIR-based strategies can support broad-based adoption among SMEs, of digital and advanced manufacturing technologies. For example, Germany's Mittelstand Digital programme supports SME digitalization and links the craft industry with regional Mittelstand 4.0 Competence Centres. They might adopt build-up type policies to support new industries, but also alternative approaches, e.g. through innovative financing mechanisms. And they will target SEZs and clustering activities on high-tech and advanced manufacturing development; for instance, the Pan-Gyo Techno Valley in the Republic of Korea, established in 2011, focuses on information technology, biotechnology and fusion technology, and provides business support facilities including a global R&D centre and an industry-academy R&D centre. NIR-based policies can also introduce screening measures for technologies deemed crucial for industrial development.

Investment policy instruments are thus similar across models, but the focus and emphases are vastly different. For the calibration of foreign investment policies for industrial development, appreciating the complexities of internationalization processes within MNEs is of fundamental importance. Empirical evidence from both developed and developing countries in relation to successful FDI attraction and upgrading in the context of industrial policy points to the importance for policymakers and inward investment agencies of having a good understanding of the complex interactions involved in MNE subsidiary upgrading, the internationalization processes within MNEs and the emerging needs of MNEs, in order to generate “win-win” situations for both investors and host countries (*WIR13*, *WIR15*, Buzdugan and Tüselmann, 2018; Gilmore et al., 2018).

As shown in this chapter, policy measures in modern industrial policy packages can be distinguished according to the factor inputs they target, namely knowledge (in particular manufacturing R&D), labour (including skills and education), production capacity (e.g. availability and capacity to use and organise manufacturing machinery, factories, equipment), resources and infrastructure (in particular support for energy and resource efficiency) and

finance (mainly credit and financial capital). The functioning of the manufacturing system critically depends upon the availability, productivity and integration of these factor inputs.

Independently from the policy model or package, investment policy measures used as instruments of industrial policy can be clustered around these factors of production (the targets of policy) and around the level at which they operate (firms or individual sectors, the manufacturing sector as a whole, or the broader industrial system including supporting services). The matrices in tables IV.11 to IV.13 show how investment policy packages tend to vary across the three basic industrial policy models, illustrating the different emphases and types of instruments used in each model.

**Table IV.11. Investment policy in the industrial policy packages matrix: Build-up**

Policy level	Policy targets (factors of production)				
	Basic infrastructure	Financial capital	Production capacity	Skills/labour productivity	Technology infrastructure
<b>Manufacturing firms/individual sectors</b>	<ul style="list-style-type: none"> <li>• Incentives to overcome infrastructure deficiencies</li> <li>• Cost-based incentives for private-sector-built infrastructure</li> <li>• Investor access to land policies</li> </ul>	<ul style="list-style-type: none"> <li>• Promotion of MNE supplier credit/guarantee schemes</li> </ul>	<ul style="list-style-type: none"> <li>• Targeted investment promotion in priority sectors, including export-oriented investment</li> <li>• Incentive-linked performance requirements: e.g. content requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Matchmaking and business linkages programmes</li> <li>• Supplier development/training programmes</li> </ul>	<ul style="list-style-type: none"> <li>• Cost-based incentives schemes for the promotion of ICT adoption</li> </ul>
<b>Manufacturing system/cross-sector</b>	<ul style="list-style-type: none"> <li>• SEZs to promote priority manufacturing sectors or cross-sectoral capacity</li> <li>• Investment promotion focused on attracting SEZ anchors and developers</li> </ul>	<ul style="list-style-type: none"> <li>• Promotion of earnings reinvestment in productive assets by manufacturing foreign affiliates</li> </ul>	<ul style="list-style-type: none"> <li>• Targeted investment promotion in manufacturing facilities, focused on value-chain tasks</li> <li>• Supplier development programmes</li> </ul>	<ul style="list-style-type: none"> <li>• Incentive-linked performance requirements: e.g. skills training</li> </ul>	
<b>Industrial system (incl. supporting/infrastructure services)</b>	<ul style="list-style-type: none"> <li>• Investment promotion in basic infrastructure sectors (transport infrastructure, energy, telecom, etc.)</li> <li>• PPP regulatory framework</li> </ul>	<ul style="list-style-type: none"> <li>• Promotion of financial sector FDI/strengthened financial sector governance to improve access to capital for SME suppliers</li> </ul>			

Source: UNCTAD.

Table IV.12.

## Investment policy in the industrial policy packages matrix: Catch-up

Policy level	Policy targets (factors of production)				
	Basic infrastructure	Financial capital	Production capacity	Skills/labour productivity	Technology infrastructure
<b>Manufacturing firms/individual sectors</b>	<ul style="list-style-type: none"> <li>Incentives packages including infrastructure provision</li> </ul>	<ul style="list-style-type: none"> <li>Promotion of MNE supplier credit/guarantee schemes</li> </ul>	<ul style="list-style-type: none"> <li>Targeted promotion of investment in GVC activities, regional corridors and SEZs</li> </ul>	<ul style="list-style-type: none"> <li>Matchmaking and business linkages programmes</li> <li>Supplier development/training programmes</li> </ul>	<ul style="list-style-type: none"> <li>PPP/joint R&amp;D programme development with specialist investors</li> </ul>
<b>Manufacturing system/cross-sector</b>	<ul style="list-style-type: none"> <li>SEZs to promote export-oriented manufacturing and cross-sectoral capacity</li> <li>Investment promotion focused on building clusters and regional SEZ production networks</li> </ul>	<ul style="list-style-type: none"> <li>Promotion of earnings reinvestment in productive assets by manufacturing foreign affiliates</li> </ul>	<ul style="list-style-type: none"> <li>Targeted investment promotion in manufacturing facilities, focused on value-chain tasks</li> <li>Supplier development programmes, including on international standards</li> </ul>	<ul style="list-style-type: none"> <li>Incentive-linked performance requirements: e.g. skills training, set-up of vocational excellence centres</li> </ul>	<ul style="list-style-type: none"> <li>Cost-based incentive schemes for the adoption of ICT and the upgrading of manufacturing technology</li> </ul>
<b>Industrial system (incl. supporting/ infrastructure services)</b>	<ul style="list-style-type: none"> <li>Investment promotion in infrastructure sectors to lower trade costs (e.g. international transport infrastructure)</li> </ul>	<ul style="list-style-type: none"> <li>Promotion of financial sector FDI/ strengthened financial sector governance to improve access to capital for SME suppliers</li> </ul>	<ul style="list-style-type: none"> <li>Broad-based investment facilitation (investor administrative procedures, governance)</li> </ul>	<ul style="list-style-type: none"> <li>Facilitation of links between investors and educational institutions</li> </ul>	

Source: UNCTAD.

Table IV.13.

## Investment policy in the industrial policy packages matrix: NIR-driven

Policy level	Policy targets (factors of production)				
	Basic infrastructure	Financial capital	Production capacity	Skills/labour productivity	Technology infrastructure
Manufacturing firms/individual sectors			<ul style="list-style-type: none"> <li>Targeted investment promotion in new/emerging sectors</li> </ul>	<ul style="list-style-type: none"> <li>Matchmaking and business linkages programmes</li> <li>Supplier development/training programmes</li> </ul>	<ul style="list-style-type: none"> <li>Incentives for the promotion of R&amp;D</li> <li>Cost-based incentives schemes for adoption of advanced manufacturing technologies</li> </ul>
Manufacturing system/cross-sector	<ul style="list-style-type: none"> <li>High-tech or R&amp;D-oriented SEZ facilities</li> </ul>	<ul style="list-style-type: none"> <li>Promotion of venture capital investors and access to credit for high-tech SMEs</li> </ul>	<ul style="list-style-type: none"> <li>Targeted investment promotion focused on advanced manufacturing value chains</li> <li>Supplier development programmes</li> </ul>	<ul style="list-style-type: none"> <li>Incentive-linked performance requirements: e.g. specialist skills training</li> </ul>	<ul style="list-style-type: none"> <li>Targeted investment promotion focused on technology cluster anchor firms</li> <li>Facilitation of linkages and clustering programmes</li> </ul>
Industrial system (incl. supporting/ infrastructure services)	<ul style="list-style-type: none"> <li>Investment promotion in advanced digital infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>Promotion of innovative financing instruments for digital development (infrastructure, digital industries, digital adoption)</li> </ul>	<ul style="list-style-type: none"> <li>Regional/ cross-border high-tech zones or corridors</li> </ul>	<ul style="list-style-type: none"> <li>Facilitation of links between investors and educational institutions</li> </ul>	<ul style="list-style-type: none"> <li>PPPs linking technology institutions and investors/ innovation centres</li> <li>Investment screening to assess impact on key technologies/ development of advanced manufacturing</li> </ul>

Source: UNCTAD.

## E. CONCLUDING REMARKS

This chapter has shown that industrial policy is a continuous work in progress for countries at all levels of development. Industrial policy packages evolve with a country's level of development and productive capabilities, as well as with the adoption of new technologies in industrial value chains. The content and focus of key policy instruments, including investment policy tools, differ across countries and evolve depending on development paths and objectives. The evidence from the survey of industrial policies of over 100 countries has also shown that they are increasingly multifaceted and complex, addressing myriad new objectives such as participation in GVCs, strategic positioning for the new industrial revolution (NIR) and support for the achievement of the SDGs.

For modern industrial policies to contribute towards a collaborative and sustainable development strategy, they need to be part of an *integrated framework*. Overall development strategy, industrial policy, macroeconomic policy, trade and investment policies, and social and environmental policies are interdependent and interactive. This requires a holistic and “whole-of-government” approach to mutually reinforce and create synergies among different sets of policies in order to avoid inconsistency and offsetting effects.

A crucial condition for successful industrial policies is *effective interaction* with investment policies, with the aim to create synergies. Countries need to ensure that their investment policy instruments are up-to-date, including by reorienting investment incentives, modernizing SEZs, retooling investment promotion and facilitation, and crafting smart foreign investment screening mechanisms. The new industrial revolution, in particular, requires a strategic review of investment policies for industrial development.

Modern industrial policies need to take a *balanced approach*. An adequate equilibrium needs to be found between laissez faire and re-regulation that clearly defines the role of the market and the state. The market plays a critical role in resource allocation, while the government's role is to enable, to act as a catalyst and to deal with market failures and systems failures. Policymakers need to balance horizontal and vertical measures, direct and indirect intervention. The key is smart regulation and effective governance.

Modern industrial policies require *win-win strategies*. Industrial policy and investment policies are primarily national policy efforts. Yet they have far-reaching implications for international rules and commitments. International cooperation is indispensable. There is a need for strengthened regional and multilateral collaboration in the new era of globalization and industrialization, in order to avoid beggar-thy-neighbour policies.

Finally, industrial policies need *effective implementation*. High-level strategy formulation that remains a paper exercise will not achieve sustainable development goals. Effective implementation requires efficient and empowered institutions, built-in mechanisms for feedback and lessons learned, flexible and adaptive policy monitoring, and correction systems. Institutional capacity building is crucial for the effective formulation and implementation of industrial policies.

These overarching principles are the foundation of modern industrial policies. They should also guide investment policymakers, across the developed and developing world.

# NOTES

- <sup>1</sup> See, for example, Pelkmans, 2006; Chang et al., 2013; Salazar et al., 2014; Stiglitz, 2016; Naudé, 2010; Rodrik, 2004.
- <sup>2</sup> Algeria, Angola, Argentina, Armenia, Australia, Austria, Azerbaijan, Belize, Bhutan, the Plurinational State of Bolivia, Botswana, Brazil, Burkina Faso, Cambodia, Cameroon, Chad, Canada, Chile, China, Colombia, Congo, Croatia, the Czech Republic, Denmark, Djibouti, Ecuador, Egypt, El Salvador, Ethiopia, the European Union, Finland, France, Gabon, The Gambia, Germany, Ghana, Guatemala, Guinea, Hungary, India, Indonesia, Iraq, Ireland, Italy, Japan, Jordan, Kazakhstan, Kenya, the Republic of Korea, Latvia, Lebanon, Liberia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Madagascar, Malawi, Mauritius, Mexico, Mongolia, Montenegro, Morocco, Mozambique, Myanmar, Namibia, Nepal, the Netherlands, New Zealand, Niger, Nigeria, Norway, Oman, Pakistan, the Philippines, Poland, Portugal, Qatar, the Russian Federation, Rwanda, Saudi Arabia, Sierra Leone, Singapore, Slovenia, South Africa, Spain, Sri Lanka, Swaziland, Sweden, the United Republic of Tanzania, Thailand, Timor-Leste, Tunisia, Turkey, Uganda, the United Arab Emirates, the United Kingdom, the United States, Uzbekistan, Viet Nam, Yemen, Zimbabwe.
- <sup>3</sup> Such strategies may go by various names, e.g. Industry 4.0, Smart Manufacturing, Manufacturing Innovation 3.0. They generally aim to transform industrial production through the application of digital and other advanced technologies in conventional industry.
- <sup>4</sup> Some industrial policies, e.g. those of Myanmar, Rwanda, and the United Republic of Tanzania, make reference to official development assistance by institutional donors or the United Nations Capital Development Fund.
- <sup>5</sup> Based on World Bank (2010), updated to 2017 with data from UNCTAD's Investment Policy Measures Database.
- <sup>6</sup> Based on the methodology developed in the dedicated section on national security screening in *WIR16*, chapter III. Countries include Australia, Austria, Canada, China, Finland, France, Germany, India, Italy, Japan, the Republic of Korea, Lithuania, Mexico, New Zealand, the Russian Federation, the United Kingdom and the United States.
- <sup>7</sup> [http://europa.eu/rapid/press-release\\_IP-17-3183\\_en.htm](http://europa.eu/rapid/press-release_IP-17-3183_en.htm).