



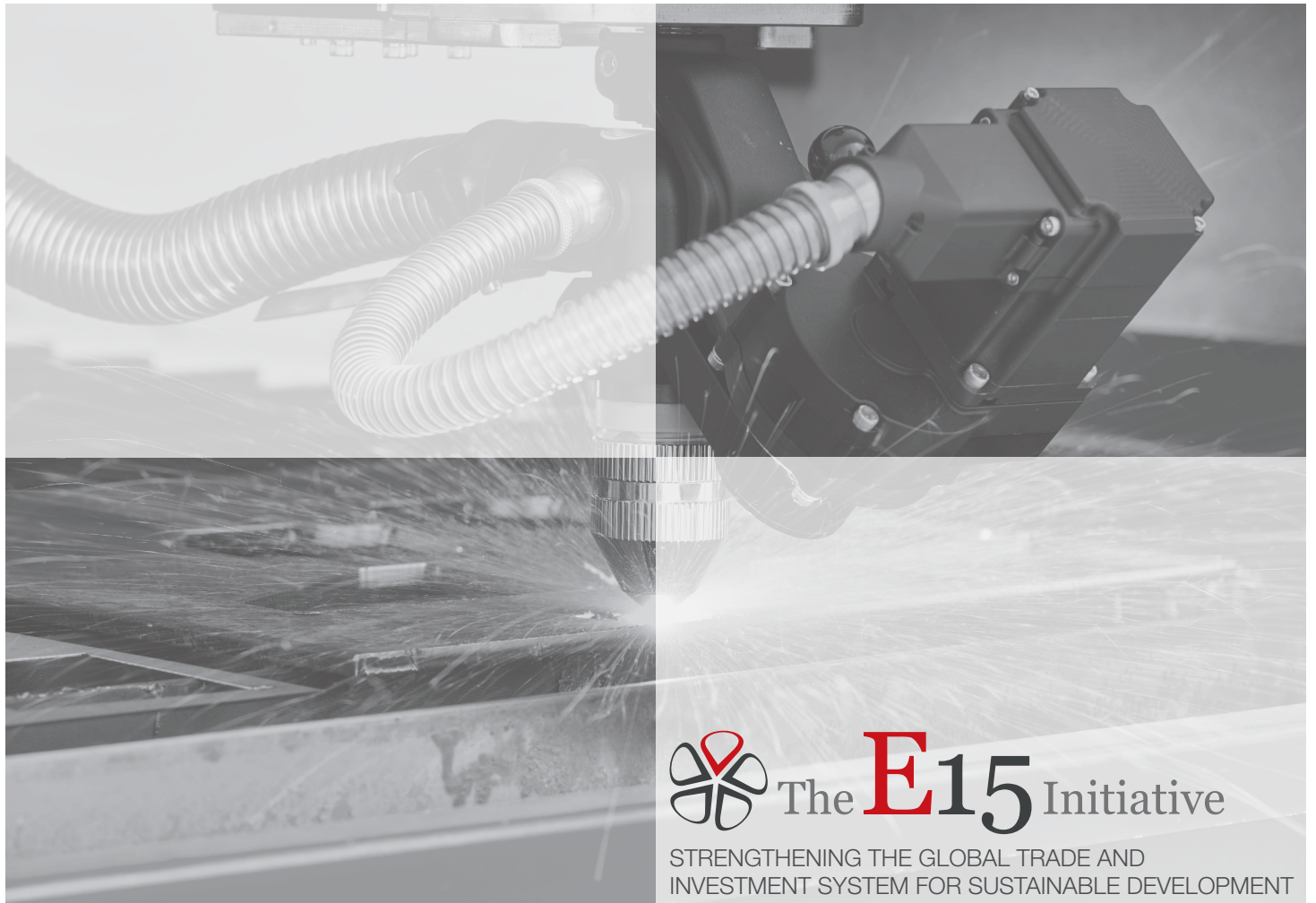
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New Industrial Policy and Manufacturing: Options for International Trade Policy

Policy Options Paper



 The **E15** Initiative

STRENGTHENING THE GLOBAL TRADE AND
INVESTMENT SYSTEM FOR SUSTAINABLE DEVELOPMENT

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New Industrial Policy and Manufacturing: Options for International Trade Policy

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on behalf of the E15 Expert Group on Reinvigorating Manufacturing: New Industrial Policy and the Trade System

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Note

The policy options paper is the result of a collective process involving all members of the E15 Expert Group on New Industrial Policy and the Trade System. It draws on the active engagement of these eminent experts in discussions over multiple meetings as well as think pieces and two overview papers commissioned by the E15Initiative and authored by group members. Harsha Vardhana Singh was this author of the report. While a serious attempt has been made on the part of the author to take the perspectives of all group members into account, it has not been possible to do full justice to the diverse views in all cases. The policy recommendations should therefore not be considered to represent complete consensus and remain the responsibility of the author. The list of group members and E15 papers are referenced.

The full volume of policy options papers covering all topics examined by the E15Initiative, jointly published by ICTSD and the World Economic Forum, is complemented with a monograph that consolidates the options into overarching recommendations for the international trade and investment system for the next decade.

The E15Initiative is managed by Marie Chamay, E15 Senior Manager at ICTSD, in collaboration with Sean Doherty, Head, International Trade & Investment at the World Economic Forum. The E15 Editor is Fabrice Lehmann.

E15Initiative

Jointly implemented by the International Centre for Trade and Sustainable Development (ICTSD) and the World Economic Forum, the E15Initiative was established to convene world-class experts and institutions to generate a credible and comprehensive set of policy options for the evolution of the global trade and investment system to 2025. In collaboration with 16 knowledge partners, the E15Initiative brought together more than 375 leading international experts in over 80 interactive dialogues grouped into 18 themes between 2012-2015. Over 130 overview papers and think pieces were commissioned and published in the process. In a fast-changing international environment in which the ability of the global trade and investment system to respond to new dynamics and emerging challenges is being tested, the E15Initiative was designed to stimulate a fresh and strategic look at the opportunities to improve the system's effectiveness and advance sustainable development. The second phase of the E15Initiative in 2016-17 will see direct engagement with policy-makers and other stakeholders to consider the implementation of E15 policy recommendations.

E15Initiative Themes

- Agriculture and Food Security
- Clean Energy Technologies
- Climate Change
- Competition Policy
- Digital Economy
- Extractive Industries*
- Finance and Development
- Fisheries and Oceans
- Functioning of the WTO
- Global Trade and Investment Architecture*
- Global Value Chains
- Industrial Policy
- Innovation
- Investment Policy
- Regional Trade Agreements
- Regulatory Coherence
- Services
- Subsidies

* Policy options to be released in late 2016

For more information on the E15Initiative:

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Abstract

Industrial policy is not new yet it has seen a revival in recent years in economies across the income ladder. This revived industrial policy is less about market restrictions, focusing more on the facilitation of R&D, technological innovation, productivity gaps, and competitiveness, as well as system-building and coordination-enhancing policies that promote interlinked activities with a horizontal impact. Its objectives can also include addressing larger goals reflecting global concerns. Despite this renewed emphasis, little attention has been paid to the link between new industrial policy and the world trade and investment systems in the 21st century. The present paper seeks to examine the challenges raised and the opportunities availed by the resurgence of industrial policies and their overlap with the global trading system. Based on this examination, a set of policy options are put forward for improving international trade rules to support industrial policy goals that enhance competitiveness and sustainable development. Given the large scope of industrial policy and the major gaps in information as well as technical and institutional capacities that prevail in many developing countries, the paper considers policy initiatives

that cover the following areas: (i) providing better and relevant information to individual countries; (ii) improving the capacities of policy-makers and businesses; (iii) identifying legal constraints due to international agreements and addressing those that are most binding; (iv) examining issues for which stronger international legal disciplines may be necessary; (v) identifying non-legal issues to be addressed cooperatively by nations and the private sector to enhance the effectiveness of industrial policy; (vi) preparing the ground for indices to guide policy and help with prioritization among various policy steps; (vii) suggesting ways of moving from plurilateral to multilateral frameworks; and (viii) initiating regional or international cooperative schemes. One of the pillars of the recommendations is the establishment of Regional Centres of Excellence where policy-makers and business representatives could convene to discuss and address practical policy concerns, and where mechanisms to bridge information gaps and capacity constraints could be developed.

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Abbreviations	
AFIRST	Agreement to Facilitate Inclusive Roadmap for Sustainable Development
ASCM	Agreement on Subsidies and Countervailing Measures
EP	export promotion
FDI	foreign direct investment
FTA	free trade agreement
GATT	General Agreement on Tariffs and Trade
GPA	Government Procurement Agreement
GVC	global value chain
HIC	high-income country
ILO	International Labour Organization
IM	import substitution
IP	industrial policy
ISO	International Organization for Standardization
ITC	International Trade Centre
LCR	local content requirement
LDC	least developed country
LIC	low-income country
LMIC	lower-middle-income country
MFN	most favoured nation
MIC	middle-income country
OECD	Organisation for Economic Co-operation and Development
PPP	public-private partnership
R&D	research and development
TPP	Trans-Pacific Partnership
TRIMs	Trade-Related Investment Measures
TTIP	Transatlantic Trade and Investment Partnership
UMIC	upper-middle-income country
UNCTAD	United Nations Conference on Trade and Development
UNFSS	United Nations Forum on Sustainability Standards
VER	voluntary export restraint
WTO	World Trade Organization

Executive Summary

A considerable body of literature has emerged that makes a case for new types of trade policies and links to industrial policies. There is recognition that countries have historically relied on industrial policy to promote economic growth and development, thus replacing the primacy of non-interventionism seen a couple of decades ago. Taking account of a globalized market with growing interlinkages between trade, investment, services, technology, and global value chains, today's industrial policy initiatives reflect a more comprehensive perspective on the steps required to build domestic capacities and systems. However, despite this renewed emphasis, little attention has been paid to the link between new industrial policy and the global trade and investment system in the 21st century. Although the global trade system already has many rules relating to the use of industrial policies, a review of existing agreements in relation to "new" policies across the entire spectrum of economic activities in manufacturing, agriculture, and services, has not been considered in depth.

Given this context, the Expert Group on New Industrial Policy and the Trade System was convened as part of the E15 Initiative, jointly implemented by ICTSD and the World Economic Forum. The National School of Development at Peking University supported the Group as knowledge partner. The objective of the Expert Group was to examine the challenges raised and the opportunities availed by the resurgence of industrial policies and their overlap with the global trading system. The Group examined the empirical evidence on types of industrial policies used by countries at different levels of development, and identified the constraints on the use of such policies imposed by existing WTO rules as well as through evolving disciplines under mega-regional and other free trade agreements. It also considered whether there are any important public objectives of common multilateral concern implemented through industrial policy, which could suggest a need to expand the flexibility available in present trade regulatory regimes. Based on these assessments, the Group proposed options for improving international trade rules to support industrial policy goals that enhance competitiveness and sustainable development.

Systemic Changes

There are ongoing systems-oriented changes that carefully need to be factored into analysis of the interface between trade and industrial policies. These include: (i) economic shifts within nations, which imply a need to adapt relevant industrial policies to evolving domestic conditions; (ii) the rapid growth of developing countries, which has altered the conditions of competition between national economies;

(iii) increasing competition in world markets, which means that acquiring technological capacities for countries at all levels of income has become a *sine qua non* for industrial policy; (iv) the emergence of disruptive technologies with large economic impact, which has altered the operating environment of international economic interaction; (v) the importance of sustainable development considerations in the market and the growth of private standards, which are increasingly mandated by industry, civil society, and policy-makers in response to social expectations; (vi) the growth of global value chains, which has shifted the focus of industrial policy towards enhanced supply chain participation and upgrading; and (vii) the growing overlap that has developed among various policy issues—including services and goods regimes as well as investment and the expanded scope of trade policy behind border measures—which call for greater policy coordination within government and between policy-makers and the private sector.

In view of these systemic changes, policy-makers have to consider a broad number of variables relevant to industrial policy in today's world economy. Moreover, the objectives of industrial policy will be manifold. It is thus crucial that some prioritization among them be made to give greatest effect to policy efforts. Two initiatives would merit special focus. One is to develop systems-oriented changes that facilitate the operations of enterprises and industries and pave the way for improved competitiveness, recognizing the critical role of trade policy. Another is to develop good working relationships between the government and producers at the sector or enterprise level. Finally, industrial policy experiences include both successes and failures. A flexible system that monitors and adapts as required is appropriate. If the market is seen as not responding to the flexibilities, support, or incentives provided by industrial policy, then there will be a need to review the reasons for this lack of response and adapt policy accordingly.

Options for International Policy

Discussion at the international level is often in terms of policy interventions. Nonetheless, industrial policies are mostly domestic policies and thus any analysis of the international dimension has to begin by examining certain relevant features of these domestic policies. For instance, if effort has to be made at the international level to ease operational conditions for any policy, it would be pertinent to understand the significance of specific policies at the domestic level and whether or not international effort is needed to facilitate the use of that policy. The strategy under current conditions would have to recognize that industrial policy is not a collection of policies but a set of processes. It

is a systematic and structured effort about taking advantage of investment opportunities for a society, with the specific methods being chosen in light of the constraints facing a state at any given time. These constraints dictate the eclectic mix of policies that have been observed as an intrinsic part of promoting economic development in the diverse circumstances that countries have faced and will continue to address in the future.

Given the large scope of industrial policy and the major gaps in information as well as technical and institutional capacity constraints that prevail in many countries, the paper considers policy initiatives that reflect new policy insights and evolving global market conditions.

First, industrial policy has been increasingly reoriented, prompting a shift in emphasis from hard towards soft policy options. Further, there has been a concurrent move towards investment-oriented policies. Empirical or practical experience have validated the expectation that system-building and coordination-enhancing policies, or so-called soft policies promoting a number of interlinked activities with a horizontal impact, are likely to have a relatively larger reach. In this context, an important point is that less developed countries find it especially difficult to implement soft or horizontal policies due to capacity constraints.

Second, since developing countries have several information gaps and capacity constraints, it is useful to set up an international cooperative approach to gather information based on case studies and the experience of nations in addressing specific issues. This is essential for relevant insights and improving the effectiveness of policy options. Moreover, the tendency towards an increased reliance on public-private partnerships to supplement the efforts of various industrial policies, and the overlap between policies required to meet important objectives, are other areas of cooperation in information sharing. It is noteworthy that countries do not sustain the same bundle of industrial policies as they develop. It is thus important to track the type of policies implemented by countries in different income categories, ranging from low- to high-income economies, as well as the transition to new policy frameworks.

Third, a broad range of tools are used to achieve the objectives of industrial policy, of which the most important include subsidization, local content requirements, and the facilitation of both R&D and operating conditions for business. The arguments highlighting constraints imposed by legal systems in relation to these instruments are not that policy avenues for development are fully closed, but that some policies that were more freely available in the past are now curbed by the rules of legal agreements such as the WTO. Based on an assessment of the overlap between the measures most frequently used for industrial policy purposes and the most binding constraints in legal agreements, it may be worth examining the case for altering the disciplines that cover local content requirements, including through a combination of greater disciplines and flexibility, together with a consideration of benefit sharing between investor and host country. Yet another criterion for considering possible flexibilities arises if an important global

or social objective is to be met through industrial policy but the requirements under legal agreements such as the WTO constrain the implementation of that policy. Revisiting the issue of environmental subsidies may be pertinent in this context.

Fourth, in tandem with the view that greater flexibilities within international agreements need to be considered, there is also an understanding that greater disciplines, in certain cases, are required. These include more disciplines for anti-dumping and countervailing measures as well as capacity-enhancing fisheries subsidies. Applying the same criteria used to assess the need for greater flexibilities in legal agreements—namely a large incidence or impact of policy as well as the need to address key externalities of global importance—both of these policy areas qualify as deserving emphasis for additional disciplines, which for example are currently arising or being considered in bilateral and plurilateral arrangements.

Fifth, plurilateral agreements with a large coverage, such as the Trans-Pacific Partnership for example, will result in an increase in operational constraints on industrial policy relative to those that currently exist under the WTO. This has three implications: (i) the available policy flexibilities will be affected for tariffs, intellectual property rights, processes that affect standards (including standards emphasizing sustainable development), state-owned enterprises, and electronic data transfers; (ii) the new plurilateral agreements will result in higher standards in the markets covered by members, with lead firms in these markets replicating such standards throughout their global value chains; and (iii) given the major importance of an inclusive multilateral system for sustaining development and mitigating disputes, it is important to seek avenues to move from the limited coverage agreements towards the multilateral trading system.

Policy Recommendations

The paper concludes by offering 18 policy options for consideration over the short to medium term. The aim of the options is to provide better information to individual countries and improve the capacities of policy-makers and businesses in relation to the design and application of industrial policies. They also seek to address the most binding legal constraints of relevance in international agreements while attending to areas where stronger disciplines may be called for. The options further deal with non-legal issues to be addressed cooperatively to enhance the effectiveness of industrial policy, including efforts linked to global value chains, as well as the rationalization of indices to guide policy and prioritization. In addition, ways of moving from plurilateral agreements towards multilateral frameworks in select areas are suggested. One of the pillars of these proposals is the establishment of Regional Centres of Excellence where policy-makers and business representatives could convene to discuss and address practical policy concerns, and where mechanisms to bridge information gaps and capacity constraints could be developed.

1. The Revival of Industrial Policy

Industrial policy is not new. However, there is now a considerable body of literature that makes a case for new types of trade policies and links to industrial policies.¹ There is recognition that countries have historically relied on industrial policy to promote economic growth and development, thus replacing the primacy of non-interventionist government policies seen a couple of decades ago (Stiglitz 2002).²

The revival of industrial policy is driven, *inter alia*, by five main forces. First, there is the pressure to reduce unemployment and stimulate growth after the recent financial and economic crisis. Second, popular domestic demands for more proactive government action to address the difficult socio-economic situations reflecting the multiple “crises” in finance, economy, food, health, and the environment. Third, a desire to develop the manufacturing sector both in developing countries (for example, India and South Africa) and in developed nations. Fourth, low-income countries (LICs) and middle-income countries (MICs) want to participate more actively in global production chains and develop their comparative advantages in labour-intensive as well as strategic technology/capital-intensive sectors. Fifth, after the success of fast-growing economies such as China, India, and South Korea, there is pressure on developed countries to respond to commercial rivalry from emerging economies, and low- and middle-income economies are eager to learn from the experiences of those countries (Economist 2012).

The renewed emphasis on industrial policy in many instances specifically takes the form of reinvigorating manufacturing for sustained growth. An important priority is to foster competitiveness through promoting specific skills, relevant technologies and markets, and developing public-private partnerships to generate investment and derive synergies for upgrading investment, innovation, and diversified domestic production structures.

Taking account of a globalized market with growing interlinkages between trade, investment, services, technology, and global value chains, today’s industrial policy initiatives reflect a more comprehensive perspective on the steps required to build domestic capacities and systems. The emphasis is not only on strengthening the domestic market or manufacturing, but also on how to develop better links with international markets to enhance emerging commercial opportunities through trade and investment, and value chains incorporating both goods and services. Product quality, quick response to commercial requirements, and linking up with international technological developments also become important policy objectives.

Thus, new investments primarily focus on building domestic technological capacities and often involve public-private partnerships and innovative sustainable industrial policies. Experience has also shown that a successful industrial policy strategy would seek to achieve a requisite balance between various objectives such as diversification, competitiveness, and increasing productivity.

Despite these many new features and initiatives, little attention has been paid to the link between new industrial policy and the global trade and investment system in the 21st century. Although the global trade system already has many rules relating to the use of industrial policies, a review of existing agreements in relation to “new” industrial policies across the entire spectrum of economic activities in manufacturing, agriculture, and services, has not been considered in depth.

Given this context, the Expert Group on New Industrial Policy and the Trade System was convened as part of the E15 Initiative, jointly led by ICTSD and the World Economic Forum, which aims, through non-partisan and expert-led multi-stakeholder dialogue, to explore options for strengthening the governance and functioning of the global trade and investment system for sustainable development. The National School of Development at Peking University supported the Expert Group as knowledge partner.

The objective of this E15 Expert Group was to examine the challenges raised and the opportunities availed by the resurgence of industrial policies and their overlap with the global trading system. The Group identified the constraints on the use of such policies imposed by existing WTO rules, as well as through evolving disciplines under the mega-regional and other free trade agreements (FTAs). Based on these assessments, the Group proposed options for improving international trade rules to support industrial policy objectives that enhance competitiveness and sustainable development.

To accomplish this objective, the Group’s work was implemented in two steps. The context and relevant issues were discussed in depth during three workshops. Select experts in the Group prepared think pieces on certain issues identified in these workshops. These think pieces examined the empirical evidence on types of industrial policies used by countries at different levels of development and resource availability. The Group further assessed the extent to which the global trade system either imposes a binding constraint or provides adequate flexibility on the use of these policies. In particular, it discussed how trade disciplines in mega-regional FTAs are evolving so as to restrict or increase acceptance of certain industrial policies. It also considered whether there are any important objectives of common multilateral interest (e.g. environmental objectives) implemented through industrial policy, which imply a need to expand the flexibility available in the present trade regulatory regimes, and, if so, how this could be achieved.

¹ See, for example, Ciuriak et al. (2011).

² See also Stiglitz and Yifu (2013).

2. Systemic Changes and Implications

2.1. The Coverage and Evolution of Industrial Policy

2.1.1. Which activities are promoted by industrial policy

Industrial Policy has been given different meanings depending on the objective and perspective of the person focusing on it. The definitions range from the encouragement of a “specific industry” to the implementation of an “entire development strategy.”

An industrial policy is a government-sponsored economic growth programme that encourages development of, or investment in, *a particular industry*. Industrial policies may target local, regional or national development of an industry by any number of means (Kim and Dobbin 2014, emphasis added).

The policies of a nation that help guide the *total strategic effort* of the country. The policies influence the development of different sectors and create a stronger portfolio of national industry (BusinessDictionary.com, emphasis added).

In practice, as Chang (1994) has shown, industrial policy is used pervasively for development objectives. Dani Rodrik (2008) emphasizes the need for wide-ranging industrial policies on the grounds that “development is fundamentally about structural change: it involves producing new goods with new technologies and transferring resources from traditional activities to these new ones.”³

2.1.2. Industrial policy has long been used by all

Use of industrial policy is not new.⁴ For instance, Gerschenkron (1962) discusses policy interventions implemented in the nineteenth century to promote growth and development in nations such as Germany and Japan, which were then latecomers to Great Britain on the path of industrialization.⁵ Alternative views have emerged regarding

Gerschenkron’s analysis, but a key feature which stays unchanged is that policy intervention did take place in these now developed countries.⁶ In varying degrees, industrial policy has continued until today across various countries, though with different patterns and emphasis during different stages of the development.⁷

2.1.3. Evolution of industrial policy

The dominant thinking on industrial policies has evolved over time. Earlier, industrial policies were linked to import substitution (IM), through, *inter alia*, trade protection. The focus was much more on internal, domestic markets rather than export markets. Subsequently, especially during the 1980s, some countries started focusing on export promotion (EP), developing greater linkages with markets abroad through policies supporting exports. A combination of policies was used, focusing on both imports and exports, with import restrictions used to protect domestic producers, but policy support provided for entering and competing in export markets.⁸ This culminated in a pervasive view that policies should not restrict markets and instead should allow markets to play a more unencumbered role.⁹ This so-called Washington Consensus broke down as the world faced major problems in areas of food security, environment, finance, and economic activity. Today, we are once again back to a combination of policies, which include market restrictions as well as market opening initiatives across the entire range of countries, though the content and structure of industrial policy has evolved. Compared to the earlier situation, we now have a very different economic environment, and industrial policy has to operate in circumstances that differ substantially from about four decades ago. In a reconsideration of new industrial policy, we may have to think not only in terms of soft/hard, vertical/horizontal policy constructs, but also go beyond these categories to a much wider conceptual framework. The following section examines the key ongoing systems-oriented changes of today.

³ For other definitions of industrial policies, see Lee et al. (2013); and OECD and EDFI (2013).

⁴ See for example, Peres and Primi (2009).

⁵ For a more recent discussion of the issues, see Sylla and Wright (2004)

⁶ See for example, Dornbusch et al. (1987, 403–06).

⁷ For the post-1945 industrial experience of Europe, see Grabas and Nützenadel (2013)

⁸ See for example, Dornbusch et al. (1987, 403–06).

⁹ It is noteworthy that the actual policy situation continued as a mixture in most countries. As Grabas and Nützenadel (2013, 75) state: “Although many studies mostly hide these historical facts and rather highlighted the achievements of neoliberal policies during this period, it is important to stress, that on a national level in most Western European countries strong interventionist industrial policies still prevailed. ...In fact, even from the mid-1970s onwards up to the early 1990s, national industrial policies remained strongly interventionist and rather reactive in order to protect home industries.”

2.1.4. Realigning concepts with reality

One way on which a conceptual realignment might be achieved is to think of public interventions in terms of investments and to consider the implications of the range of risk/return combinations that characterize potential investments.

Private investment responds to risks and returns. Not all combinations of risk and return will elicit private investment. Those that will not elicit private sector engagement involve (a) non-appropriable returns, (b) heavily time-discounted returns, and/or (c) unquantifiable risks. Accordingly, there is a range of investments open to a society at any time that may have great benefits and must be undertaken or underwritten by the public sector or else they will remain on the table.

Where the investment opportunities will be passed over by the private sector because of uncertainty, but where success in the endeavour would result in an investment the returns to which are appropriable, the correct role of the public sector is that of underwriter.

- A classic industrial policy intervention of this sort is the government acting as “launch customer” for the development of the silicon chip, solar panels, etc.

Where the investment opportunities are passed over by the private sector because the benefits, though great, would not be appropriable, the correct role of the public sector is to undertake the investment directly, as a public sector enterprise.

- The cost of the Ebola outbreak to the core three countries (Guinea, Liberia, and Sierra Leone) in terms of GDP foregone is estimated by the World Bank to be on the order of US\$1.6 billion in 2015 alone, with spillovers on Sub-Saharan Africa ranging from US\$550 million to US\$6.2 billion, depending on how successful containment is. The expected appropriable returns to a vaccine manufacturer prior to the outbreak would be a tiny fraction of these costs, and even after the outbreak public sector funding is required because those at risk cannot afford to pay the high prices that pharmaceutical firms would require to recoup developmental costs.
- To the response that the public sector lacks the capabilities, the answer is that part of the required investment may be to develop and maintain the public sector enterprises/laboratories that are capable of undertaking such development, including benchmarking them with best practices and adopting mechanisms for working with private investment.

There are certain corollaries to this reformulation of the basis for industrial policy.

- a) Since investments with large positive externalities are particularly valuable from a societal perspective, it follows that public-private partnership models such as university-industry technology transfer arrangements that (by design) emphasize appropriable investments need to be complemented by purely public ventures that focus on non-appropriable investments.
- b) If the investments open to a society expand with its technical capabilities, the investments open to public sector engagement are greater the higher the level of development of an economy. The key aspect however is whether or not the private sector would be willing to perform the same task in such a technically advanced economy.
- c) The nature of industrial policy will vary from country to country. For countries with underdeveloped private sectors, industrial policy will be seen to be engaged in developing capabilities in areas that are handled by the private sector in more developed economies.

As indicated, the re-engagement of the policy community with industrial policy is taking place in circumstances that differ substantially from about four decades ago, when the present consensus started to take shape. The above characterization of industrial policy may provide a fresh lens through which to examine the emerging policy landscape without simply rehearsing the old debates that led to the present consensus. It validates what is actually observed—a mixed model of economic development:

- Industrial development continues to be driven by a combination of public sector and private sector engagement as it was historically; and
- There is industrial policy activism by the most highly advanced economies as well as less developed economies—i.e. development of the private sector and of financial markets does not obviate the need for public sector engagement.

2.2. Key Ongoing Systems-Oriented Changes

2.2.1. Economic shifts within nations imply changes in relevant industrial policies

As an economy develops, its domestic economic conditions change resulting in an adaptation of the pertinent industrial policy initiatives. With a change in the economic structure of developing countries, their policy focus would also have to adapt as a result of different domestic conditions. A good example is in the following assessment by the World Bank and China’s Development Research Centre of the State Council (2013, 16-18, emphasis added).

Developing countries tend to benefit from the latecomer’s advantage by following a development path adopted by others. This path makes the role of government relatively straightforward—providing roads, railways, energy, and other infrastructure to complement private investment, allowing open trade and investment policies that

encourage technological catch-up, and implementing industrial policies when market and coordination failures inhibit the development of internationally competitive industries consistent with the country's comparative advantage.

The development strategies of East Asia's successful economies—Japan; Korea; Hong Kong SAR, China; Singapore; and Taiwan, China—have all broadly reflected these features. *But when a developing country reaches the technology frontier, the correct development strategy ceases to be so straightforward. Direct government intervention may actually retard growth, not help it.* Instead, the policy emphasis needs to shift even more toward private sector development, ensuring that markets are mature enough to allocate resources efficiently and that firms are strong and innovative enough to compete internationally in technologically advanced sectors.

Lastly, while the government reduces its role in markets, resource allocation, production, and distribution, it should step up its role in financing public goods and services, protecting the environment, increasing equality of opportunity, and ensuring an environment conducive for private sector development. Playing such an indirect and supportive role is complicated but will have a wide impact, with greater leverage through the private sector and social organizations. *While providing fewer “tangible” goods and services directly, the government will need to provide more intangible public goods and services, like systems, rules, and policies, that increase production efficiency, promote competition, facilitate specialization, enhance the efficiency of resource allocation, and reduce risks and uncertainties.* It requires designing and implementing incentive structures that lead to desired and sustainable outcomes.

It is noteworthy that it is precisely at the technology frontier where public intervention today in the most advanced economies is heaviest and overtly “vertical” through the support for “sunrise” industries—and precisely to invigorate growth at a time when private capital is not active or looks for public support. Interestingly, recent work on industrial policy suggests that the role of system building and private sector development/participation is relevant not only for relatively advanced developing economies such as China, but for all countries.¹⁰

Industrial policy currently emphasized in developed countries has also evolved. Consider for example, the case of Europe as explained by Grabas and Nützenadel (2013, 84, emphasis added).

In 1990 the [European] Commission published a communication entitled “Industrial Policy in an Open and Competitive Environment. Guidelines for a Community Approach” which was soon welcomed and supported by the member countries. ... This communication also set up the main objectives for industrial policy of the

Community which are still just as important and valid today: *Greater openness of the world trading system, R & D policy, competition policy, social and employment policies, consumer protection, public health policy and environmental protection.*

The above quotations show how economic shifts have resulted in an evolution of public policy both in terms of its changing emphasis and the emerging concerns relating to competitiveness and social issues. An important aspect to keep in mind is that building a new knowledge base is not an automatic process. Specific and focused effort or attention is required. The policy content and mechanisms required for growth in countries at different levels of income or development are not the same, and would need different prioritization and systems to effectively meet the policy objectives relevant for different economies. Likewise, the process and nature of R&D differ in developed and developing countries, with the former focusing more on creating new technologies and the latter more on the acquisition and absorption of technologies.

2.2.2. Countries and firms face greater competition

The pace of growth in developing countries has increased faster than that of developed nations. From 2006 to 2014, for example, the average growth rate of developing countries exceeded that of developed countries by over 4.6 percentage points (UNCTAD 2014, 2). This resulted in significant changes in economic rankings among the top global economies (Table 1), which has led to greater competition in global markets.

Table 1: Top Ten Economies in Terms of GDP (2015)

	GDP Ranking in 2015 (real) (Brackets show rank in 1990)	GDP Ranking in 2015 (PPP) (Brackets show rank in 1990)
1	United States (1)	China (6)
2	China (10)	US (1)
3	Japan (2)	India (8)
4	Germany (4)	Japan (2)
5	United Kingdom (6)	Germany (3)
6	France (4)	Russia (n.a.)
7	India (11)	Brazil (7)
8	Brazil (9)	Indonesia (13)
9	Italy (5)	UK (9)
10	Canada (7)	France (5)

Note: n.a. = Not available / PPP = purchasing power parity
Source: Knoema 2015

¹⁰ See for example the discussion in Singh and Jose (2015a).

The growth of developing countries, including some becoming major economies, has resulted in a shift from a bi-modal to a multi-modal global economy, wherein new competitors challenge erstwhile dominant economies in global markets.¹¹ Thus, concerns regarding conditions of competition become very significant for developed economies. An indication of such concerns has been emphasized by the EU and the US in their Joint Statement on shared principles for international investment (EU and USA 2012, emphasis added).

To this end, the European Union and the United States support the work of the Organisation for Economic Co-operation and Development (OECD) in the area of “*competitive neutrality*”, which focuses on the importance of state-owned entities and private commercial enterprises being subject to the same external environment and competing on a *level playing field* in a given market.

Competitive neutrality aims to ensure that the conditions of commercial operation faced by producers in developed economies are also faced by producers in all major markets. To some extent, this is the effort underway through negotiations such as the Trans-Pacific Partnership (TPP) Agreement, which aims to create a 21st century trade regulation regime.

Interestingly, while developed economies seek to respond to the greater competition from middle-income economies, the latter find themselves facing increasing competition in their conventional markets from low-income economies, as well as competition from high-income economies in more complex and higher value-added products. Likewise, for low-income economies, the emergence of new producers imply rising competition.

2.2.3. Technological upgrading as a key aspect of industrial policy

With increasing competition in global markets, acquiring technological capacities and competence for countries at all levels of income has become a *sine qua non* for industrial policy.

Traditionally, low-income economies rely on relatively simple technologies and thereby emerge as competitors in less complex products.¹² In order for such countries to meet aspirations for continued growth, a key requirement is that they continue their process of technological upgrading.

As low-income economies become increasingly competitive in markets where middle-income economies traditionally had a dominant presence, the latter have to respond by becoming even more competitive and innovative, including by shifting to new sectors. Further, since middle-income economies aspire to transition to upper income levels, they must acquire capacity to produce high value products with greater technological content relative to their prevailing production patterns, including greater domestic capacities in sunrise industries. This is not an automatic process, especially in an increasingly interlinked global economy where the level of competition is intensifying. The main issue to consider is whether the government can assist in the process of development and, if so, what policies and mechanisms are more appropriate for doing so. An increasing focus on industrial policy arises due to the examples of countries which have managed to achieve historically exceptional growth performance, and the content has to keep in mind the fact that operation conditions for achieving the objectives of growth and development have changed and continue to evolve with ongoing changes in markets, links between value chains, technological change, large FTAs, and experience with both soft and hard policy initiatives.

Similarly, high-income economies are facing competitive pressure in a number of sectors where they had been undisputed leaders.¹³ Therefore, developed economies have to work hard to maintain their technological leadership by continuing to shift the technology frontier.¹⁴

These three types of situations require different types of policy mix, but each of them has a common thread—i.e. the importance of technological upgrading for transition towards a richer economy. As stated by Stiglitz et al. (2013): “If improvements in standards of living come mainly from the diffusion of knowledge, learning strategies must be at the heart of development strategies.”

2.2.4. The emergence of disruptive technologies with large economic impact

There are interesting implications of upper-income economies shifting the technology frontier. These include:

- First, new technologies tend to have a large impact on the way production and consumption takes place, including highly disruptive effects on the way markets function;¹⁵ and
- Second, upper-middle-income economies have acquired good abilities to both use/adopt these technologies and to improve them, including through foreign direct investment (FDI). Therefore, the catch-up time is now lower, and industrial policy is an important tool in this catch-up process.

¹¹ See for example, Subramanian and Kessler (2013).

¹² Ramdoo (2015) provides an interesting discussion of industrial policy initiatives in low-income economies.

¹³ This is shown for example by the Product Life Cycle Theory of international trade, where new products always come up in developed economies and then multinational enterprises take them over time to developing economies as their markets become more mature for these products. In today's world, this neat time sequence is being disrupted with a number of new products coming up in developing economies as well.

¹⁴ Weiss (2015) discusses industrial policy (IP) in upper income economies in terms of defensive IP, catch up IP, and innovation based IP. The initiatives we mention here would in effect come under each of these categories.

¹⁵ See for example, Manyika et al. (2013).

Historical experience shows that innovative efforts to upgrade technologies lead from time to time to disruptive changes that can completely change the operating conditions of international economic interaction. In the recent past, Internet, mobile technology, biotechnology, and new types of materials are examples of such technologies.¹⁶ This trend is continuing, as expected, and even at present there are a number of “disruptive” technologies on the threshold that could greatly transform global economic opportunities.¹⁷ Important features of disruptive change in comparison to earlier periods include the faster speed with which change is taking place and that these changes occur both at the general industry level as well as at the level of individual industries, thereby creating business opportunities.

An important objective of industrial policy is to alter a country’s dynamic comparative advantage. To do so it is critical to absorb or develop new technologies that have widespread economic effects.¹⁸ A critical policy package would require a country to develop linkages with sunrise industries, which best embody the new technological paradigms that affect the way in which production, trade, and investment could evolve in the next decade or so. An important route for countries to acquire this capability is through FDI, which helps upgrade domestic technological abilities.¹⁹ For countries that might have trouble to attract FDI, another alternative is to use outward FDI to acquire the technology (Ciuriak and Bienen 2014).

To acquire new technological capacities, a country may use several methods such as:

- Forming and participating in a public-private R&D (research and development) consortium;
- Encouraging co-development contracts with foreign/R&D specialist agencies or firms;
- Fostering indigenous firms by learning from FDI firms;
- Promoting academic institutions-run enterprises in forward engineering; and
- Acquiring foreign technologies and brands through M&As (mergers and acquisitions).

2.2.5. Increasing importance of sustainable development and social standards in the market and the growth of private standards

An important change in global markets, especially for developed economies, has been a rising emphasis on sustainable development and social standards mandated by industry, civil society, and policy-makers reflecting

changes in social expectations. This emphasis is indicated for instance by the OECD Guidelines for Multinational Enterprises (OECD 2011),²⁰ the aforementioned Joint Statement of the EU and US on investment agreements, the topics covered in mega-regional negotiations such as the TPP, and the recent G7 Declaration’s section on “Responsible Supply Chains” (G7 Leaders 2015, 6). Furthermore, increasing emphasis on social issues has led to a proliferation of private standards in developed economies, for which the impact on the rest of the world becomes significant when the lead firms in supply chains emphasize such standards. These changes will become even more prominent when the recent Declaration by the G7 pertaining to responsible supply chains takes effect. The Declaration states the following (emphasis added).

Given our prominent share in the globalization process, G7 countries have an important role to play in promoting labour rights, decent working conditions and environmental protection in global supply chains. We will strive for better application of internationally recognized labour, social and environmental standards, principles and commitments (in particular UN, OECD, ILO and applicable environmental agreements) in global supply chains. ... We will take action to promote better working conditions by increasing transparency, promoting identification and prevention of risks and strengthening complaint mechanisms. We recognize the joint responsibility of governments and business to foster sustainable supply chains and encourage best practices. To enhance supply chain transparency and accountability, we encourage enterprises active or headquartered in our countries to implement due diligence procedures regarding their supply chains, e.g. voluntary due diligence plans or guides.

The term “internationally recognized” standards is one that can also include a number of private standards that have a major presence in the world market.²¹ To the extent that major economies now consider it their joint responsibility to get such standards implemented in the entire supply chain (i.e. even beyond their jurisdiction), and thus are getting involved in striving to achieve this objective, there is a basis to include these standards also within the structure of disciplines in the WTO Agreement on Technical Barriers to Trade. This would also help move towards greater consistency among such standards with large impact on supply chains and global market access conditions.

This tendency will be further enhanced by the mega-regionals, as stated by Ciuriak and Singh (2015).

¹⁶ For other examples, see MIT Technology Review (2014)

¹⁷ See for example, Manyika et al. (2013) and Satell (2013).

¹⁸ See for example, Lee (2015) and Guadagno (2015)

¹⁹ Examples include India’s Make in India programme which is “designed to facilitate investment, foster innovation and enhance skill development,” as well as China’s Tianjin Airport Area.

²⁰ For labour standards, the International Labour Organization (ILO) guidelines are the source that is usually emphasized.

²¹ This can be seen for example from the International Trade Centre (ITC) Standards Map, the United Nations Forum on Sustainability Standards (UNFSS) coverage of private sustainable standards, or the International Organization for Standardization (ISO) publication on International Standards and “Private Standards” (ISO 2010).

Especially as regards standards, private standards in such areas as sustainability and labour will become more relevant in TPP and TTIP countries, thereby raising the bar for firms in developing countries—and, thus, requiring greater industrial policy support from governments to enable firms to participate in global value chains.

Once the mega-regionals come into effect, the impact of these standards on market access will become far more pervasive and onerous. These developments indicate that two different types of efforts will be required. First, improving domestic capacity to meet relevant standards through industrial policy. Second, through collective effort among nations and international institutions, addressing the growth of widely differentiated private standards.

2.2.6. Increasing overlap and interlinkages have developed among various policy issues

2.2.6.1. Services and goods are no longer separate regimes

There is a growing understanding, both theoretical and statistical, of the importance of services in value chains, trade, and investment as being far more significant than conventionally recognized. The OECD-WTO statistical database on Trade in Value Added shows that the real contribution of services to exports is closer to 40% and not about a quarter as currently estimated. In fact, Lanz and Maurer (2015) suggest that the contribution of services may be greater than that estimated by OECD-WTO.

The increase in value of services is due to the “servicification” of manufacturing, which takes account of the services value-added embodied in goods and the process of production; in developing countries it might be about one third and in developed countries about one quarter (Lanz & Maurer 2015). The extent of services has increased over time also due to improved opportunities to conduct trade in services (or subcontract them) enabled through technological changes, the upgrading of technological capabilities, and improvements in transport and quality maintenance systems.

Services are both embodied in goods and also enable the goods to be produced, stored, transported, and sold. Therefore, commercial activities cannot be considered today separately as either goods or services. They are intricately connected, contribute to each other, and together enable the provision of the product to the final consumer. For a policy-maker, therefore, both goods and services have to be considered together, as common and linked components of value chains.

2.2.6.2. Other overlaps

Technological change in production methods, communications, packaging, and transport, together with skill acquisition and FDI, have led to increasing interlinkages among nations. They have also led to the growth of global value chains—i.e. a product being produced through a combination of various components provided by producers located in different nations.

In order for industrial policy to be successful it is important to consider the interaction and overlaps between the various segments of economic activities from trade, investment, value chains (domestic and global), services, technological capabilities, and standards. Such an understanding is critical to facilitate the process of domestic producers transitioning towards higher value-added products and sunrise sectors.

2.2.6.3. Expanded scope of trade policy and of its overlap with industrial policy

The close interaction of trade, investment, and domestic and global value chains have expanded the scope of trade policy beyond border measures. Trade policies now increasingly operate “behind the border” through measures such as standards.²² The larger scope of trade policies is also reflected in the subjects covered under the TPP Agreement (Figure 1).

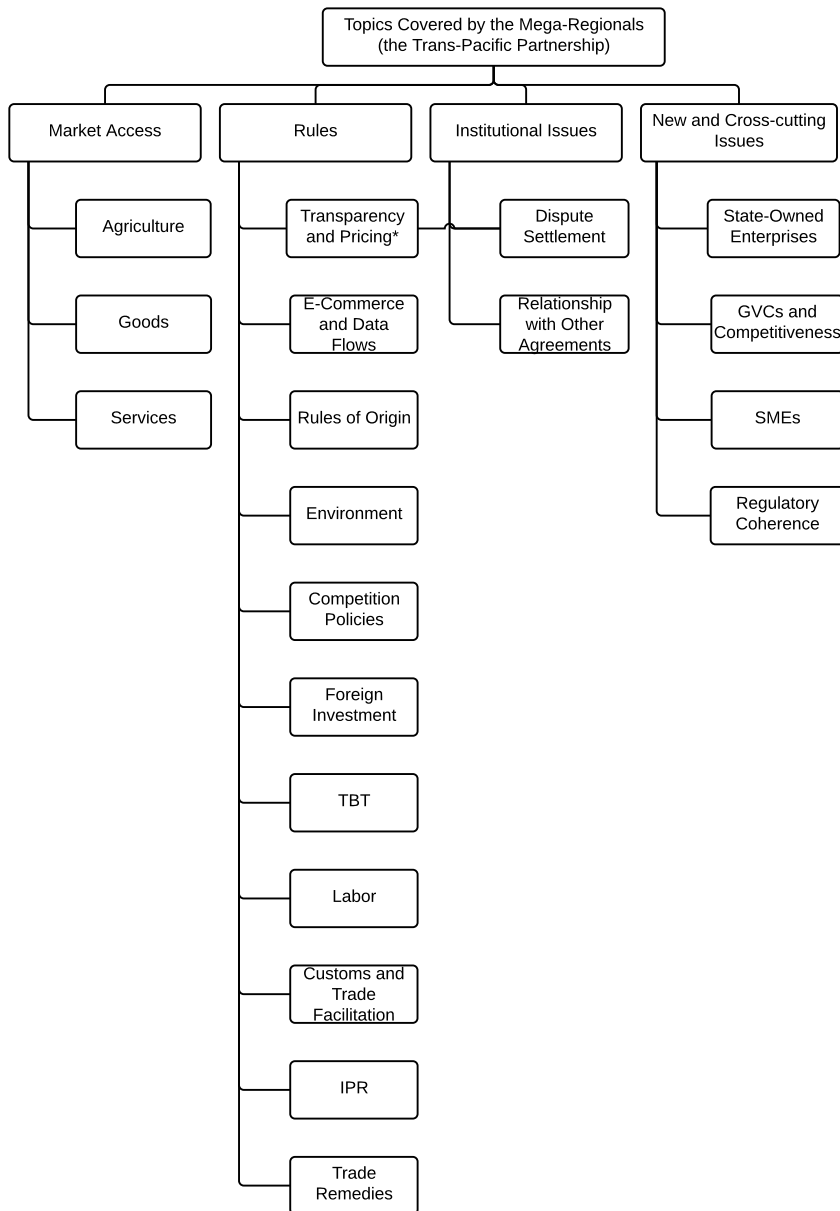
The new trade agreements will have WTO+ disciplines, which will impose additional constraints on policy use. It is noteworthy that the WTO negotiations are stalled and the possibility of progressing seems slim at present. Nonetheless, the WTO system remains important for reducing international discord and disputes linked to trade policy. Sustaining growth and development in an interlinked world requires trade and investment regulatory systems that are inclusive and rely on the principles encompassed in the WTO. In view of the WTO+ regulatory provisions in mega-regionals, countries would need to make special efforts to develop systems to move towards an inclusive multilateral system.

2.2.7. Growth of global value chains and implications for industrial policy

Global trade has seen a significant rise in value chains in international trade (Stephenson 2015). An important focus of industrial policy today is to enhance potential links among domestic and global supply chains, acquire a larger share in global value chains, and over time move up the value-added segments of value chains. This requires enhancing domestic capacities of both public and private operatives in order to: quickly obtain and share information; facilitate inventory

²² With greater competition in global markets to link up with international supply chains, domestic producers have to be more competitive in comparison to other nations’ producers.

Figure 1: Topics Covered by the Mega-Regionals (e.g. the TPP)



* Transparency and Pricing refers to healthcare and pharmaceuticals
 Source: Fergusson et al. 2015

management; meet commitments in a timely manner; and, establish the linkages with producers downstream and upstream (in both services and goods) (Subramanian and Kessler 2013). It is also important to establish systems for communications and logistics, improve institutions, and facilitate domestic producers meeting the relevant quality

and standards required by lead firms in value chains.²³ Furthermore, given the need to address multiple objectives, policy-makers will also need to consider multiple policy options to efficiently address different objectives. The complexity of the exercise requires prioritization of objectives and related policy initiatives.

²³ For supply chains and policy implications, see Draper (2013). For trade in tasks, see Lanz et al. (2011). On facilitating the process, see Draper (2013) and Cattaneo et al. (2013).

2.2.8. Greater policy coordination needed within government and between government and the private sector

The aforementioned overlaps imply that policy-makers need to coordinate and discuss details among various relevant government departments, as well as with the private sector, to implement system-oriented initiatives required for overlapping policy issues.

Such coordination is also required to address some key systemic shortcomings of industrial policy. The main criticisms against industrial policy are that government failures can be much worse than market failures, and that governments can be captured by vested interests (Pack and Saggi 2006). The challenge for governments is to formulate industrial policy and implementation procedures and institutions that embody good governance. In this context, the following suggestions are relevant to improve implementation, which also requires considerable coordination.

The rent-seeking problem can be overcome with appropriate institutional design. ... Intelligent industrial policy requires mechanisms that recognize errors and revise strategies accordingly. Clear objectives, measurable targets, close monitoring, proper evaluation, well-designed rules, and professionalism provide useful institutional safeguards (Rodrik 2014).

Industrial policy has to be coupled with a good deal of discipline and accountability, applied to both private actors and the State. ... Desirable features of good incentive programmes include standard setting, automatic sunset clauses, built-in programme reviews, monitoring and establishment of clear benchmarks for success or failure, and periodic evaluation exercises. These and other instruments can be used to limit the likelihood of abuse and implementing proactive policies based on strong public-private cooperation. Their application, of course, requires competent public agencies and effective coordination (Salazar-Xirinachs et al. 2014, 31).

There are several past examples when a lack of private investment in a desirable economic activity, including socially valuable investment opportunities, was addressed through direct state engagement by establishing a state-owned enterprise. Canada's economic development, for example, featured the creation of many Crown Corporations, which developed backbone sectors such as railways, airlines, and telecommunications, as well as high-risk, high-technology sectors such as nuclear power (enabling Canada to be the world's leading supplier of radioisotopes for medical testing).

2.2.9. Concern that internationally agreed disciplines curb policy flexibility required for industrial policy

While the number of objectives to be met through industrial policy are increasing, a specific concern is that legal agreements—for example the GATT/WTO—are changing the policy flexibility available for member countries to

achieve these objectives. One implication of such disciplines is that a number of policies that were historically feasible for industrial policy may no longer be available. This feature has been termed, *inter alia*, as “kicking away the ladder” for the latecomer countries. Although current WTO agreements do provide for broad pockets of policy flexibility, in many fields WTO rules and jurisprudence have become so complicated that it can be difficult for less resourceful countries to pinpoint the legally available instrument to achieve a certain industrial policy. This complexity may lead countries to select (in good faith) the wrong instrument or to give up on the policy altogether. Tailored legal capacity and advice would, in many situations, enable countries to pursue their industrial policies by making optimal use of existing policy flexibilities.

2.3. Implications of these Systemic Changes

In view of the many systemic changes briefly described above, policy-makers have to bear in mind a broad number of factors relevant to industrial policy in today's world economy. These include the following.

- Changes required in the types of industrial policies that become important as economies grow.
- Growing overlaps between different economic activities and policies, especially trade, investment, and goods and services.
- The growth of supply chains implies a change in policy focus from restriction to facilitation of trade and investment.
- The crucial role of lead firms in policies linked to global value chains must be recognized.
- Global markets today are characterized by much greater competition, which is likely to keep increasing.
- The key significance of technological upgrading through skill building, developing innovative capacity, and linking up with new products and technologies.
- The crucial role of new technologies implies that the type of infrastructure emphasized now includes that required for new and emerging technologies and skills, rather than mainly physical infrastructure like road, ports, and storage facilities.
- The multiple objectives of industrial policy usually require significant investments implying larger financing requirements than earlier, which means that financial instruments and multiple sources of financing can play a significant role.
- The need to “focus on interventions that help build systems, create networks, develop new institutions, and align evolving strategic priorities” (Warwick 2013).
- Systems and procedures to improve coordination within government and amongst government and private sector need to improve.
- Level playing field concerns in various countries will be addressed not only by firm and industry level policy initiatives, but also through new types of disciplines in bilateral/plurilateral trade and investment agreements.
- Against this background, it is essential to address the possibility of fragmented trade regulation systems and move towards an inclusive and multilateral framework of trade disciplines through coordinated and combined efforts.

- Within present international agreements there is a need to consider whether:
 - In certain cases the lack of policy flexibility imposed by international agreements is unduly strict;
 - Trade agreements should provide greater flexibility to meet some larger social or international objectives, such as for green subsidies;
 - Given the importance of improving competitiveness, there may be a need to increasingly focus on issues related to competition policy.
 - International initiatives would be required also to address the growth of private standards incorporating sustainable development and social standards.

Given this long list of industrial policy objectives, it is crucial that some prioritization among them be made to give greatest effect to policy efforts. Two initiatives would merit special focus. One is to develop systems-oriented changes that facilitate the operations of enterprises and industries and pave the way for improved competitiveness. Another is to develop good working relationships between the government and producers at the sector or enterprise level. In developing countries, improving many of the domestic conditions to be competitive requires a very long timeline. For a development strategy to be credible, it is important to first prioritize the quick wins, so as to prove the effectiveness of an industrial policy strategy. Thus, in general, the prioritization process may be assisted by considering the various initiatives within the framework specified in Table 2 below. Initiatives falling in box 1 should normally have the highest priority. The next highest priority could be initiatives in box 2 together with policies in box 3, which bring about systemic changes. Policy steps in box 4 could be considered to have the lowest priority.

Table 2: Policy Impact Matrix

	Large impact of policy	Small impact of policy
Policy impact is immediate	1	2
Policy impact after long time	3	4

It would be important to specifically consider policies that emphasize building global competitiveness, and recognize the critical role of trade policy, improved logistics, trade facilitation, the ability to meet global standards, and the ease of doing business.

In this context, policy-makers may consider identifying areas that are of high risk but with significant positive externalities. The public sector may need to be equipped to directly invest in these sectors, or work with the private sector to provide the investments which the private sector otherwise deems too risky. An example of this is the building of a telecom fibre network or an electricity power grid across a country, such as by public sector companies in India.

An important point to bear in mind is that industrial policy experiences include both successes and failures. Therefore, a flexible system that monitors and adapts as required would be needed. A common method is to implement industrial policies in a time-limited manner, with sunset clauses. Moreover, if the market were seen as not responding to the flexibilities, support, or incentives provided by the industrial policy, then there would be a need to review the reasons for this lack of response. The consequence may be to change or phase-out the policy, or address certain constraints in other linked areas that limit the effectiveness of the policy.

3. Options for International Trade Policy

The E15 Initiative examines issues in terms of the implications for international trade and investment systems. Therefore the focus is at the “international” level in terms of policy interventions, their effects, and the agreements and cooperative arrangements among nations. Nonetheless, industrial policies are mostly domestic policies and thus any analysis of the international dimension has to begin by examining certain relevant features of these domestic policies. For instance, if effort has to be made at the international level to ease operational conditions for any policy, it would be pertinent to understand the significance of specific policies at the domestic level and whether or not international effort is needed to facilitate the use of that policy.

The resurgence of industrial policy in recent times has taken place with the memory of past efforts still intact. Thus, validation of industrial policy may be considered as also validating IM strategies adopted in the past, including an emphasis on policies used to restrict market access. For a meaningful and effective evaluation of the issue, it is important to consider the changes in operating conditions to better evaluate what would be the appropriate kinds of policies to use. The strategy for industrial policy under current conditions would have to recognize that industrial policy is not a collection of policies but a “process.” It is a systematic and structured effort about taking advantage of investment opportunities to a society, with the specific mode being chosen in light of the constraints facing a state at any given time, hence dictating the eclectic mix of policies that have actually been observed as an intrinsic part of economic development in the diverse circumstances that countries have faced.

Given the large scope of industrial policy and the major gaps in information and technical/institutional capacities in many countries, we need to consider initiatives that:

- Provide better and pertinent information to individual countries;
- Improve the capacities of policy-makers and business;
- Identify legal constraints due to international agreements and address those that are most binding;
- Examine issues for which stronger international legal disciplines may be necessary;

- Identify some non-legal issues to be addressed cooperatively by nations to enhance the effectiveness of industrial policy and limit a “race to the bottom;”
- Prepare the ground for some indices to guide policy and help with prioritization among various policy steps;
- Suggest ways of moving from plurilateral agreements towards multilateral, inclusive frameworks; and
- Initiate regional or international cooperative schemes for addressing the above.

3.1. Reorientation of Industrial Policy: From Hard to Soft Options and Encouraging Investment

The main difference between IM and EP policies could broadly be described in terms of market restriction applied in the former case, and support or facilitation policies in the latter. To simplify further, IM was used to augment the demand available to domestic producers by limiting competitive pressure on them. In contrast, EP was used to shift the domestic supply curve (expand supply) by reducing the costs of domestic operations and removing constraints faced by domestic producers. The ongoing changes in economic conditions suggest a need to focus more on supply enhancement policies.

The IM policy tends to inhibit incentives towards improving competitiveness, unless specific efforts are made to support innovation or an increase in productivity. In a world with growing international economic interlinkages and supply chains, industrial policies that focus on easing the conditions for doing business, enhancing supply capacities, promoting efficiencies, and reaping externalities are much more likely to be effective in the present, competition-oriented environment. It is also important to bear in mind that in a competitive market, restrictive policies do not lead to increased competitiveness.

Both empirical and practical experience have validated the expectation that system-building and coordination-enhancing policies, or so-called “soft” policies promoting a number of interlinked activities with a horizontal impact, are likely to have a relatively larger reach and impact. In comparison, the scope of impact will be much smaller for activities focusing on specific products through policy restrictions—i.e. “hard” policies such as tariffs, quotas, or

even subsidies that may be “vertical” or product-specific in their approach. Furthermore, policy-makers face difficulties in determining the “right” or “correct” level of hard industrial policy. In addition, there is some evidence to show that in general countries do not follow “good” policies or good practices when resorting to such intervention (Kuntze and Moerenhout 2013; Altenburg 2011). On the other hand, there is considerable work suggesting that with soft policies the development momentum is faster when clusters or chains of interlinked diverse production activities are enabled in any economy.²⁴

Harrison and Rodriguez-Clair’s (2009) large survey of the literature on industrial policy shows that instead of “hard policies,” it may be better to focus on “soft policies,” including those which enable different stakeholders to collaborate on steps that increase productivity. Furthermore, while structured in terms of the traditional hard/soft paradigm, their conclusions could also be seen as being in line with a conception of industrial policy linked to investment policies and opportunities. They show that:

- Industrial policy is likely to be more successful with investment rather than trade;
- If investment promotion measures are part of a larger effort for technological upgrading, the policies are likely to be more effective;
- What you protect matters (for example, it is better to focus on activities where there is latent comparative advantage); and
- Increasing exposure to competition and trade raises the possibility of success (Aghion et al. 2012; Du et al. 2014).²⁵

The importance of a wide scope for industrial policies and a shift away from hard policies is also described by Salazar-Xirinachs et al. (2014, 20): “The use of top-down planning mechanisms and selective tariff measures in support of infant firms has, over the years, given way to a more decentralized approach, using an expanded range of support measures and instruments which aim to build clusters and linkages.”

Among their important conclusions, Salazar-Xirinachs et al. also emphasize that for effective industrial policies, trade reforms should be combined with policies such as improving infrastructure, education and training, enterprise development, entrepreneurship, innovation, and finance, and social policies. Therefore, even when a specific sector—including a technology-intensive or knowledge-intensive sector with dynamic growth opportunities—is to

be promoted through vertical policies, such effort should be accompanied with:

- Systemic improvements and efficiency enhancing policies;
- The development of institutions which help collaborative efforts and timely implementation of policies; and
- The use of facilitating policies rather than restrictive policies.

An important point to mention with respect to these different policies is that for less developed countries it is difficult to implement soft policies due to their capacity constraints. Furthermore, tariffs are a source of revenue to them. These countries may consider moving in a time bound manner from hard to soft policies as they become more and more industrialized and acquire capabilities to effectively manage and implement soft policies. Assistance of various forms that may alter their information and capacity constraints becomes important. This point is discussed below in more detail.

3.2. The Importance of Prioritization and Good Governance

The above considerations are basic guideposts for effective industrial policy, but the relevant policies cover a large number of possible policy options, which would be confusing to both policy-makers and business. Thus, a set of significant steps could reassure business and guide policy-makers. First, portals for sharing information and assisting those seeking financial resources for business could be created.²⁶ The issue of availability of adequate finance is crucial in the process of development. Where it is difficult to borrow for industrial investment, a key role for policy is to provide or facilitate access to long-term or venture capital funding through national, regional, or global collaborative initiatives. Second, the main principles used for policy-making should be clearly specified, so that investment could take place based on an understanding of the likely direction and evolution of policy content. Third, it is useful to “prioritize” among the various policy steps to identify the key components that will be crucial for effectiveness and pave the way for better performance over time.²⁷ Within the priority list for LICs, particular importance should be given to implementing policies that focus on improving domestic conditions and coordination capabilities between the public and private sector to create an environment that both enables investment and enhances the efficiency of its operations.

²⁴ See for example, Naudé (2010).

²⁵ Naudé (2010, 10) states that, “A difficulty with the conclusion that the weak empirical relationship between protective measures and economic growth implies that infant industry protection has been unsuccessful, is that protection frequently is not used as IP. Indeed, tariffs and quotas are often not adopted for strategic purposes to foster a latent comparative advantage, but rather to generate either government income or to protect special interests.”

²⁶ Due to lack of full information, there is a failure of the capital markets leading to insufficient funding (Budzinski and Schmidt 2006), making a case for venture capital funds or direct long-term lending by development banks (Deraniyagala 2001; Budzinski and Schmidt 2006).

²⁷ Guadagno (2015) and Ramdoo (2015) show that low middle-income economies and LDCs must prioritize among policies.

In this context, it is also worth emphasizing the principles encompassing “good governance” because they both facilitate operations and provide confidence. These include transparency, timeliness of decision-making and informing business entities, simplification of procedures, single-window administration, incrementally raising the exposure of domestic producers to markets and competition, establishing coordinating mechanisms among government and business, and creating a means to review policy decisions through an established process.

3.3. International Cooperation on Information Sharing

Since developing countries in general have several information gaps and capacity constraints, it is useful to set up an international cooperative approach to gather information and insights based on case studies and the experience of nations in addressing specific issues. This would be essential for relevant insights and the applicability of policy options.

Another important factor is to recognize the differences between economies with respect to the policies used to achieve the same broad aim. Take, for instance, the likely differences in policies aiming at upgrading technological capacities. As mentioned, high-income countries (HICs) and upper-middle-income countries (UMICs) use industrial policies for the main purpose of generating innovation-driven growth. HICs focus on innovation to maintain economic dominance and long-term competitiveness, whereas UMICs do so to escape the middle-income trap and facilitate local supplier capabilities.

As well as case studies, actual experience in addressing specific issues would also be important. Under circumstances in which the operational conditions in global markets keep evolving, it is worthwhile to organize discussions among some countries with experience in addressing certain issues and others that are in the process of seeking solutions for those matters.

In addition, there is a tendency towards the increased use of public-private partnerships (PPPs) to supplement the efforts of various industrial policies. Policy steps need to be identified to increase the effectiveness of PPPs. A starting point for this would be to implement more widely existing models or even develop a framework (or model) for PPP agreements in specific sectors, based on the successful implementation of PPPs in comparable countries. The ongoing practices of regional development banks may be of particular relevance in this context.

Moreover, the overlap between policies for meeting important objectives is another area of cooperation in information sharing. Industrial policies focus on improving competitiveness, facilitating business and investment operations, and building technological capabilities to develop dynamic advantages. It is useful to identify if there is any overlap of the key policy steps that address each of these objectives. Independent work has taken place in these areas and indices of competitiveness (World Economic Forum 2014) and innovation (Dutta et al. 2015) have been developed, together with a list of important factors that determine the ease of doing business (World Bank 2014). Identifying overlapping factors will give rise to an industrial policy mix that could have a large impact.

Finally, countries do not sustain the same bundle of industrial policies as they develop. It would be important to track the type of industrial policies implemented by countries in different income categories, ranging from low-income to high-income economies, as well as the transition to new policy frameworks.

3.4. Arguments for Less Disciplines and Constraints in International Agreements

Singh and Jose (2015a) show that a broad range of policies are used to achieve the objectives of industrial policy, of which the most important include subsidization, local content requirements, and the facilitation of both R&D and operating conditions for business.²⁸ Many of these policies are subject to disciplines agreed internationally, such as under the WTO. However, as explained by Singh and Jose (2015b), the operational constraints imposed by these disciplines are significantly lower than at first appearance, because of various flexibilities and different levels of disciplines operating for developed, developing, and least developed economies contained within the agreements. Similarly, Guadagno (2015) and Ramdoo (2015) show that lower-middle-income countries (LMICs) and least developed countries (LDCs) do not adequately use the policy space available to implement industrial policies.

Another relevant aspect is that in the WTO, very few of the policies are subject to prohibitions and most complaints have to show that there is an “adverse effect” on trade of the complaining member. These complaints are addressed through the dispute settlement process, which allows time for re-examining the policies and, in certain cases, results in more flexibility than initially presumed.

The arguments highlighting constraints imposed by legal systems are not that policy avenues for development are closed, but that policies that were freely available earlier are now curbed by the rules of legal agreements such as those governed by the WTO.

²⁸ Industrial policy includes a whole range of initiatives through macroeconomic policies, subsidies, tariffs, non-tariff measures including standards or licensing requirements, regulatory requirements/exemptions, local content requirements or policies favouring local content, tax policy including tax preference, government procurement, state ownership and operations, intellectual property rights regime, infrastructure policy, energy policies, price controls, specific environmental policies, establishment of internal markets, competition policy, research strategy and innovation stimulus, encouraging entrepreneurship and the provision of risk capital, skill development and training, and cluster generation and promotion.

It is not that policy options are not available at all. In fact, the WTO has been in operation since 1995, and its predecessor the GATT since 1948. During this period, including post-1995, developing countries have used the available policy toolbox to achieve various objectives linked to industrial policy. Thus, policies to generate development schemes are available, though not necessarily with the same flexibility that was available to developed economies when they were growing or others in the second half of the 20th century. In this context, it is worth noting that Article III of GATT 1947 prohibited the use of local content, except for the exception provided for government procurement.

There are two ways of approaching this issue of policies curbed by the WTO. One is to consider which policies are used more frequently. Another is to consider which policies are relatively more constrained by the legal agreements. The overlap between these two would enlighten on the priorities that are most pertinent in seeking a change in the legal regime.

Table 3: Industrial Policies and Constraints in International Legal Agreements

Policies	Prohibited Policies	Not Prohibited but could be challenged for “adverse effects”	Freely allowed
Subsidies	Export subsidies to industrial products, with some flexibilities allowed for specified developing countries	Domestic subsidies	General subsidies; subsidies to small scale enterprises
Local content	Prohibited, with some exceptions		Local content through government procurement provided it is not linked to domestic content subsidy; local content for services
Trade Restrictions	Tariffs beyond bound rate, and quantitative trade restrictions—both with several exceptions allowed under various provisions of the WTO, including, for example, safeguards and the criteria specified in Article XX	Exceptions to the prohibitions could be challenged under dispute settlement if the relevant conditions that justify their use are not met	
Intellectual Property Rights		Disciplines to be maintained, with some flexibilities	LDCs are exempt
Trade Facilitation			Allowed
Various aspects of good governance such as transparency, timely decisions, exposing firms to competition			Allowed

Table 3 shows that the two main policies in a special category (those prohibited and without much flexibility options) are export subsidies to industry and local content requirements (LCRs). Among these two, LCRs are still possible under certain specified conditions such as for services, or in the case of goods through government procurement by non-members of the WTO Agreement on Government Procurement (GPA). These measures are reported to have been used quite widely across both developed and developing countries for reasons such as rejuvenating domestic production, acquiring technological capabilities, and building links with regional or global value chains.²⁹ There have been arguments for both lower and higher disciplines for LCRs. Therefore, one may examine the case for altering the disciplines that cover LCRs, including combining enhanced disciplines with greater flexibility in the rules.

Yet another criterion for considering possible flexibilities arises if some important global objective (such as environmental targets) is to be met through industrial policy but the requirements under legal agreements such as the WTO constrain the implementation of the relevant policy. In this context, it is noteworthy that a specified form of “green” subsidy was earlier subject to flexibility under a provision that lapsed after a few years.³⁰

In the case of certain environmental objectives, legal interpretations of the WTO Agreement have to some extent expanded the scope of flexibilities. However, as shown by Bohanes (2015), there is limited scope for reaching extensive flexibilities through interpretations in the dispute settlement system.

We consider below the issue of greater flexibility for these two types of policies.

3.5. Flexibility for Local Content Requirements and Green Subsidies

3.5.1. Local content requirements

Under the present disciplines applicable to prohibition on LCRs, each of them has to be individually challenged through the dispute settlement process at the WTO, requiring a long and tedious process. One option is to reassert the prohibition of LCRs which exists in the Agreement on Trade-Related Investment Measures (TRIMs), but that would simply be a reassertion of the prevailing disciplines themselves. The underlying conditions or operational situation would not change.

The above concern is exacerbated by the fact that there are certain policies, as indicated above, which are not covered by the prohibition on LCRs, including LCRs in relation to services as well as government procurement for goods by

non-members of the GPA.³¹ There could be an effort to close these gaps and have a comprehensive ban on LCRs. However, three issues are relevant in this context.

- (a) There is evidence of large-scale reliance on LCRs, even by developed countries. One reason for this is that countries in general have started considering LCRs as a useful policy tool that has a direct impact on their policy objective of reviving or enhancing domestic production, capacity, jobs, and technological capabilities.
- (b) Those who use LCRs often overlook how it increases costs incurred by affected producers. Thus, to address this disincentive, policy-makers often provide financial support or subsidy to the producer. Even then, LCR policies are normally not effective in small economies/markets or in conditions with a lack of underlying infrastructure, facilities, or skills.
- (c) LCR prohibition is a desirable policy because it aims to ensure a level playing field between domestic products and foreign products (national treatment). The prohibition presumes that LCRs cause an adverse effect on importers.

The main policy consideration is how to assess these three aspects and reach a conclusion that takes account of them in a reasonable way.

Point (c) would require all loopholes to be closed and a “full” level playing field be provided in the rules. That is one of the options that could be considered. Relevant in this context is the proposal by Cimino et al. (2014) who provide a framework for higher disciplines for LCRs to close several loopholes.

If that loophole is not closed, then, in effect, investment in large economies will be drawn, even with LCRs, because such economies can provide significant subsidies and their domestic markets are relatively more attractive. This is unlikely for small economies or those with inadequate skills or infrastructure. Such an asymmetric response among large and small economies is likely to fuel a sense of unfairness already felt by the latter, enhancing the discomfort of a number of poorer countries which consider that new disciplines can be equivalent to “kicking away the ladder” from their reach after those that have attained higher levels of development have used the policy flexibility. In this situation, especially if the loopholes that exist in more than one agreement are not being closed, it would be appropriate to consider whether there are any alternative options to satisfactorily deal with the disciplines applicable to LCRs.

The concern with LCRs and their proliferation is not a new phenomenon. LCRs were prohibited under Article III of GATT 1947, but a number of countries were using them when the Uruguay Round negotiations (1986–1994) were under way. Rather than addressing them one by one through dispute settlement in the 1990s, the WTO TRIMs Agreement was

²⁹ For example, see Hufbauer and Schott (2013). Another example is the ongoing effort at addressing the question of food stockholding in the context of food security. Since this is an issue already being addressed by the Doha Round, we do not consider it further here.

³⁰ This refers to Article 8 of the WTO Agreement on Subsidies and Countervailing Measures (McInerney 2001).

food security. Since this is an issue already being addressed by the Doha Round, we do not consider it further here.

³¹ Members of the GPA can use government procurement to apply LCRs for goods from non-members of the Agreement.

negotiated to phase them out within a specified transition period. Today, it is clear that something akin to the TRIMs Agreement needs to be re-enacted. However, it is also evident that stronger sets of rules and monitoring provided under the TRIMs Agreement are not proving to be practically effective, because a large number of LCRs are still used in different countries (Hufbauer et al. 2013).

The discussion below considers some possible ideas for conditional flexibility and stricter discipline, and then provides some precedence for a similar effort in the context of another policy measure, namely safeguards.

Regarding flexibilities, an option could be that the rules be changed to explicitly allow the establishment of time limited training programmes for local producers with the possibility of apprenticeship (including as suppliers) as a necessary complement to investment, accompanied by a time limited local content requirement as an additional option for upgrading domestic capacities. This would be similar to the concept of “benefit sharing” for the host country beyond the benefits directly arising from the investment itself, a concept that is now beginning to be emphasized in the context of investment agreements.

Furthermore, at a time when countries want to acquire greater capacity in technologies that address adverse climate effects, or technologies that will potentially become platforms for economic activity in the future (e.g. digital platforms), it could be worthwhile for overall social benefit to assist them in this endeavour. In this regard, it could be useful to consider steps to augment domestic capacities in developing countries that seek investment or technologies in specific areas with large-scale impact vis-à-vis climate issues, or technology platforms that will facilitate moving towards new forms of conducting business, for example the digital economy.

The legal criterion spelling out the details of such policies aiming at conditional flexibility could be based on some established principle under the WTO. Consideration could be given as to whether the disciplines for LCRs should be the same as most policies addressed in the WTO, namely that instead of prohibition they be considered as permissible unless they cause “adverse effects.” This thought could be combined with some discipline in terms of a presumption of “adverse effect” due to the LCR, if:

- The share of the country in the global exports or imports of the product concerned is above an agreed threshold (akin to Article 27.6 of SCM); or
- The extent of LCR is above a specified threshold figure. The pre-agreed threshold figure for the LCR level in that context would be like a *de minimis* level below which no action is taken against the measure.

Further, in order to give greater certainty and quick effect to the disciplines embodied in these conditions, a fast track dispute settlement process and implementation of the decision to phase-out an LCR could be agreed.

Another possibility could be to have exceptions for LCRs as provided under Article 27 of the WTO Agreement on Subsidies and Countervailing Measures (ASCM). The conditions there include the possibility of a phase-out period, with a review to consider an extension of the agreed period for flexibility. However, such flexibility could be provided only until the global trade share of these countries is below a specified threshold level, such as in Articles 27.5 and 27.6 of ASCM.

There is a view that existing disciplines should not be diluted because that would imply going contrary to the desired direction of increasing discipline. However, we have a precedent for changing the rules to combine flexibility and greater disciplines in another situation, namely the WTO Agreement on Safeguards. In the Uruguay Round, GATT contracting parties were concerned by the proliferation of voluntary export restraints (VERs) in place of safeguards. Safeguards were considered more difficult to use because they involved payment of compensation whenever they were used. Furthermore, when import quotas were used to implement safeguards (a commonly used method) the rules for allocation of import quotas did not allow the importing country to focus more on those nations whose exports of the concerned product caused a larger threat to their domestic industry. The WTO Agreement on Safeguards includes deviations from accepted rules on allocating import quotas (Article 5.2(b)) and exceptions from providing compensation for limited time periods under specified conditions (Article 8.3). To balance this, it was agreed to prohibit VERs and similar measures (Article 11.1(b)).

3.5.2. Green subsidies

Another policy area often emphasized is the use of subsidies for addressing environmental effects, for which flexibilities can be sought under international agreements (Rodrik 2014). A case for providing flexibilities to environmental subsidies would be justified based on positive externalities to be addressed through such subsidies. Nonetheless, as Wu (2015) shows, the issue is complex and needs considerable analysis for the appropriate level and types of subsidies to be provided. Based on a detailed assessment, Wu suggests potential steps that could be considered for these subsidies.

3.6. Rising Levels of Disciplines in New Plurilateral Agreements

Plurilaterals with a large coverage, such as the TPP for example, will result in an increase in operational constraints on industrial policy relative to those that currently exist under the WTO. This has three implications described below. The emerging regulatory constraints limit the flexibility of nations in terms of the policies that could be used for their objectives (Ciuriak and Singh 2015). To some extent, this is mitigated by the fact that in a world with increasing reliance on supply chains and growing focus on improving competitiveness, facilitation policies rather than restrictive policies become more relevant. For many facilitation policies, the legal constraints do not become binding even with the evolving regulatory regimes through the mega-regionals.

The trend of stronger disciplines will continue to build upon the existing mega-regionals, with similar or enhanced disciplines in later plurilateral agreements resulting in less flexibility for policy use. Nonetheless, this new set of emerging disciplines is unlikely to constrain soft policies or system-wide policies. Likewise, subsidies are unlikely to be covered by additional disciplines within plurilateral agreements, with the exception of fisheries subsidies and export subsidies to agriculture by large economies. In light of this, industrial policies in the future may be focused on those areas that are not constrained by new and emerging trade agreements.

First, the available policy flexibilities will be affected for tariffs, intellectual property rights, processes that affect standards (including standards emphasizing sustainable development and social standards), state-owned enterprises, and electronic data transfers. Since many new technologies and development options involve data transfers, the potential effects of constraints in this area are very large. In view of the likely adverse effect on development potential on a relatively wide scale, it is important to address the specific concerns in this area in a coordinated manner through national, regional, and international initiatives. These should combine development funding, capacity improvements, and even working on trade rules that will enable more inclusive participation of poorer nations in global markets, as well areas of policy flexibilities that may be provided for specified periods and under pre-agreed conditions to widen the scope of available policy response for those who may find it more difficult to distribute subsidies to assist their producers. Thus, a more creative effort at building a level playing field would be required to address the concerns of poorer nations as well as small and medium-sized enterprises.³²

Second, the new plurilateral agreements will result in higher environmental, social, and other standards for the products sold in the markets covered by members of these agreements, with lead firms in these markets emphasizing such standards throughout their global value chains.³³ This potentially implies a growth of private standards. In view of the importance of these standards in supply chains, suppliers who are unable to meet the requirements will face market access constraints, even if they are otherwise cost-competitive. This means that better information needs to be gathered. Diverse standards should converge towards a similar basis or platform—a process that will require international efforts involving both policy-makers and business. Further, a road map should be prepared for capacity augmentation and the development of methods which allow for larger acceptance of conformity of standards in one country within the markets of others, especially

major markets. Particular attention needs to be given to small-scale industries. In this regard, the regional centres (presented in section 4.1 below) could collect information on efforts in various countries to meet private standards and upgrade capacities of small-scale industries. That information could be relevant for others as well.³⁴ Based on these steps, a wider set of disciplines could ultimately be incorporated for private standards within WTO.

Third, given the major importance of an inclusive multilateral system for sustaining development and mitigating disputes, it is important to seek avenues to move from limited coverage agreements to the multilateral system. It would be important to combine accommodation of higher disciplines with long transition periods, selected flexibilities, interim reviews to consider possible changes, and threshold levels for changes in flexibilities available. Some major and developing economies with an interest in this aspect could get together to discuss an Agreement to Facilitate Inclusive Roadmap for Sustainable Trade (AFIRST). Possible options could include the models included in the Telecommunications Services Reference Paper and Article 27 of the ASCM. Article 27 combines a higher discipline with a long transition period and the possibility of review, *de minimis* threshold levels, flexibilities for some countries based on clear criteria, and also other criteria to determine when the available flexibilities will not be provided.

3.7. Arguments for More Disciplines and Constraints in International Agreements

In tandem with the view that greater flexibilities within international agreements need to be considered, there is also a perception that greater disciplines, in certain cases, are required. These include more disciplines for anti-dumping and countervailing measures and fisheries subsidies.³⁵ Using the above criteria in the context of the need for greater flexibilities, namely a large incidence or impact of policy as well as a need to address key externalities of global importance, both of these policy areas qualify as deserving important emphasis for additional disciplines.

Additional disciplines in these two areas are arising or being considered in bilateral or plurilateral agreements. Major economies could get together in an open-ended group to examine the possibility of an international initiative on combining the additional disciplines arising in different bilateral and/or plurilateral agreements into the basis of an agreement with a larger membership. Such an agreement could be implemented in a similar manner to the Information Technology Agreement—i.e. with additional disciplines adopted by the members of the larger agreement but

³² This topic is addressed by the E15 Expert Group on Digital Trade and the overlap incorporating industrial policies and development issues can be referred to in the policy options paper.

³³ In this context, an important development has been the recent G7 June 2015 Declaration's section on Responsible Supply Chains, as described in section 2.2.5 supra.

³⁴ An example is the ongoing effort by the Quality Council of India and its growing links with standards organizations in various countries and regions, with a particular focus on small-scale industries and step-wise upgrading of capacities to sequentially improve standards capabilities to reach international levels in a specified time period (see also Kantha 2015).

³⁵ Export subsidies and other export competition measures for agriculture is another such area but movement in this regard is moving forward in WTO negotiations.

benefits made available to all others (on a most-favoured-nation (MFN) basis). In the case of certain parts where benefits are difficult to provide on an MFN basis, such as aspects of anti-dumping policies, a transition period with review could be considered to make it more manageable.

3.8. The Importance of Lead Firms in Supply Chains

Since the new framework of global interlinkages involves supply chains, new insights are focusing on the role of lead firms in these chains. In the E15 Expert Group on Global Value Chains (GVCs) there is a recommendation to establish a platform that facilitates the interaction between governments and business on issues relating to GVCs (see 4.1 below). This platform could also include a specific segment on improving the effectiveness of industrial policies within the framework of GVCs, with the direct involvement of lead firms. Most of this discussion is likely to focus on facilitating policies, and determining criteria to make adjustments that address the concerns of various countries when seeking “landing zones” in any future multilateral or plurilateral negotiation on this issue.

4. Next Steps: Policy Recommendations

Based on the analysis presented *supra*, this section provides recommendations for action over the short to medium term.³⁶ While these policy options summarize the main ideas, the discussion in the paper provides examples of policy steps that could be part of a more detailed consideration for implementing these options.

4.1. Regional and International Cooperative Initiatives

- a) Regional Centres of Excellence and complementary/additional platforms

Short to medium term

Policy Option 1: Establish Regional Centres of Excellence where policy-makers and business representatives from selected countries convene to discuss/address pre-identified practical policy concerns. Such an initiative should ideally be under the auspices of a development bank so that useful ideas could be implemented quickly with financial backing. These centres would be of particular use for smaller economies, which generally have limited resources to address the host of issues and to collect the information needed to create a stronger economy. These efforts should devise differentiated policy options for countries at different stages of development (e.g. LICs, MICs, HICs).

To complement the above option, in the Regional Centres of Excellence, develop an information base to help countries determine priority among various policy steps required. Focus could be on building systems to better collaborate/coordinate interaction between government and the private sector, establishing mechanisms to implement vendor development programmes co-developed by multinational enterprises/regional development banks, or designing support policies to enable domestic producers to climb the value chain/complexity chain and upgrade from original equipment manufacturing (OEM) to original brand manufacturing (OBM). This initiative could rely also on the GVC Platform suggested by the E15 Expert Group on GVCs.³⁷

Policy Option 2: Develop a framework or model for PPP

agreements in specific sectors, which has been successfully implemented in comparable countries. Using this model, identify those policies with greatest impact and interlinkages with other policies, and consider the gaps that need to be addressed in the national policy framework. To the extent that some regional or global development institutions are already implementing these initiatives, the lessons from such experience should be assessed for insights and facilitating steps that can be used more easily and at a much wider scale. The PPPs relevant for economies at different levels of income would differ. For instance, in the case of upper-MICs, PPPs may be needed to promote public-private joint R&D to break into emerging sectors, and for LICs, they may focus more on capacity upgrading and building infrastructure.³⁸

Policy Option 3: In the regional or global centres of excellence, identify a list of sunrise industries for stylized countries under different income categories, and the policy support chains relevant for those industries. This list of sunrise industries would chart the way for developing dynamic growth trajectories for countries in different income groups. To focus on this the policy-makers may:

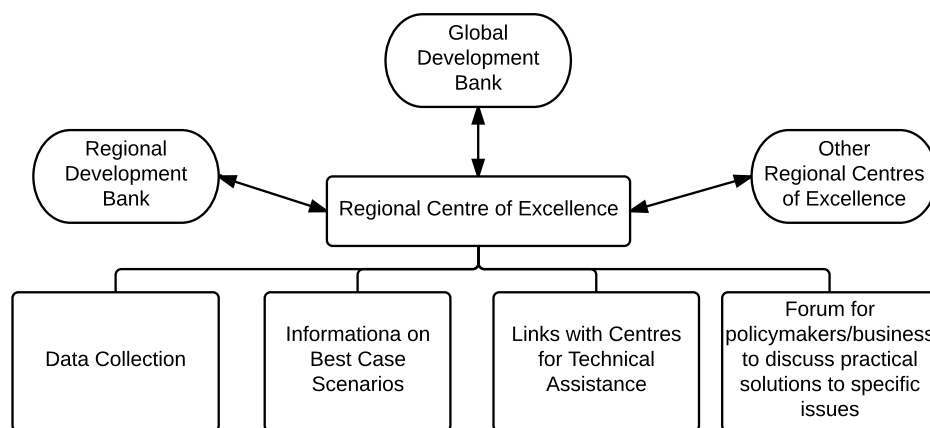
- Distinguish between investment which is focused on new activities or industries from those which support industries that are either old or in decline; and/or
- Identify steps to promote technological upgrading depending on the level of development and capacities prevailing within a nation.

Policy Option 4: Identify key common policy components among the factors that are emphasized for improving the ease of doing business, together with those considered in the indices on competitiveness and on innovation. Since there would be a substantial body of existing work in this area, it would be useful to compile best case scenarios and how specific constraints and problems were addressed in different situations. This information should be made available within a platform for discussion and suggestions for policy-makers and business to address specific and targeted issues.

- b) Efforts linked to lead firms in supply chains: improving

³⁸ Regarding this last dimension, the E15 Expert Group on Trade, Finance and Development has put forward an option which, in view of strong informational asymmetries, calls on the development of mechanisms to strengthen the institutional and technical capacities of low-income country governments to negotiate and implement PPPs, with a special focus on infrastructure (Options for Trade, Finance, and Development: Getting the Institutions Right, policy option 12).

Figure 2: Links and Tasks of the Regional Centre(s) of Excellence



Source: Author

standards capacity for small-scale industry

Short term

Policy Option 5: Include in the GVC Platform to be established under the E15 Expert Group on GVCs the possibility of discussing the improved effectiveness of industrial policies, particularly involving lead firms in international supply chains. This discussion would harness synergies through participation of lead firms in common regional/international efforts and upgrading capacities using the resources and interaction envisaged under the recommendation on Regional Centres of Excellence.

Short to medium term

Policy Option 6: Special effort should be made to address the above issues for the small-scale sector, using case studies and collaborative initiatives through a common platform for this purpose. Such a platform could be part of the Regional Centres of Excellence. One example is the ongoing development of step-wise augmentation of capacities in India to eventually reach international standards through a five-step process.³⁹

4.2. Flexibility in the WTO Agreement: Local Content and Global Objectives

a) Local content requirements

Medium term

Policy Option 7: WTO members could consider whether or not some flexibilities in legal regulatory conditions may be provided for LCRs, based on some specified threshold levels of income (or global trade share), below which the prohibition on LCRs need not be applied. Alternatively, the WTO's prohibition could be converted into a test based on "adverse effects" to be examined through the dispute settlement process, similar to the regulatory system for domestic subsidies.

Policy Option 8: Another option would be to use the framework for a plurilateral effort suggested by Cimino et al. (2014) to close the loopholes for legal provisions relating to LCRs. This agreement could combine stricter disciplines with some flexibilities, especially for those with a small presence in global trade for the product concerned.

b) Global objectives and global goods

Medium term

Policy Option 9: Begin a discussion on identifying a short list of global objectives or "global goods," for which agreement may be reached to exempt from legal constraints certain policies to achieve these global goods. Examples could include health-related objectives (e.g. efforts to address epidemics and major diseases), environmental sustainability objectives, public access to selected publically funded research, and food aid. To maintain the effectiveness of industrial policy, it would be useful to focus on a small number of specific issues that potentially have wide support. A good candidate for this would be revised rules for environmental subsidies.

³⁹ This refers to the ZED (Zero Effect Zero Defect) training model used by the Quality Council of India (2015).

Policy Option 10: Revisit international disciplines on environmental subsidies as follows.

- Expand the list of non-actionable subsidies to cover:⁴⁰
 - Renewable energy infrastructure development and upgrades;
 - Feed-in-tariffs and demand/price guarantee schemes (w/o LCRs);
 - Consumer grants/rebates;
 - Off-grid renewable energy products.
- Alternative approaches beyond Article 8:
 - Balancing test (modelled on the “Green Box” in the Agreement on Agriculture);
 - Capped allowance on a list of environmentally beneficial subsidies (modelled on the “Green Box” in the Agreement on Agriculture);
 - Restrict countervailing duty actions against green goods, either through time and scope limitations, mandatory application of public interest test, and lesser duty rule.
- Expand special & differential treatment for developing countries:
 - Subsidies for off-grid renewable energy products, which could improve the quality of life for underserved rural and poor urban communities while achieving environmental gains;
 - LDCs may provide certain types of prohibited subsidies contingent upon implementation of structural conditions.

4.3. Disciplines in Plurilateral Agreements or the WTO on New Issues

Short to medium term

Policy Option 11: Major economies should engage as a group to identify the additional disciplines agreed in bilateral agreements with respect to fisheries subsidies and anti-dumping and countervailing measures, and try to use that as a basis to have an agreement with wider membership in the form of a WTO plurilateral with MFN benefits to non-members of the plurilateral agreements.

Policy Option 12: Develop frameworks for data transfer and privacy requirements with different issues of relevance pertaining to different types of data.⁴² Training programmes linked to these requirements should be put in place, with coordination among industry associations regionally or among developed and developing countries.

Policy Option 13: Develop a new discussion mechanism within the WTO, delinked with any negotiations, to discuss new or increasingly significant matters such as behind the

border issues (logistics and regulatory policies) and across the border issues like standards consistency, business mobility, trade information, and e-business infrastructure. The discussion could also aim at managing situations arising due to digital trade and supply chain linkages that raise questions that go beyond the jurisdiction of any single WTO member.

4.4. Inclusiveness

a) Common framework for private standards

Short to medium term

Policy Option 14: Based on ongoing work in international institutions such as the ITC, World Bank, and UNFSS, develop a framework of key principles to bring greater conformity among major private standards. An initial effort could be made by developing this, for example, under a framework similar to the “Reference Paper” for Telecommunications Services within the WTO.

b) Roadmap for facilitating conformity assessment

Short to medium term

Policy Option 15: Prepare a roadmap for augmenting capacity and facilitating conformity assessment for standards in one country within the markets of another. This effort should go beyond bilateral mutual acceptance to a larger, multiple nation initiative. Models for such training implemented in developing countries, such as the ZED training module cited above (Quality Council of India 2015), and common initiatives with developed economies could be used to consider practical initiatives in this area.

Policy Option 16: Identify possible provisions within FTAs, including mega-FTAs, for adjustments that accommodate the objective of inclusiveness, especially with respect to conformity assessment.

c) Thresholds for expanding rules of origin in FTAs

Medium term

Policy Option 17: For rules of origin, all FTAs accounting for at least one-fifth of world trade should include LDCs as if they were members of that FTA. Once the FTA members account for two-thirds of world trade, the rules of origin should become multilateral—i.e. include all countries as if they were members of the FTA.

⁴⁰ The policy options paper of the E15 Task Force on Subsidies can be referred to (Rethinking Subsidy Disciplines for the Future). The first option recommends creating a category of narrowly defined non-actionable subsidies with clear boundaries, including subsidies to address climate change and similar environmental concerns. The paper then outlines options for establishing, monitoring, and resolving disputes that may arise on boundary issues.

⁴¹ Bastable test deems an industrial policy subsidy to be worthwhile if the total costs of support are outweighed by the present discounted value of the benefits derived.

⁴² See the policy option paper produced by the E15 Expert Group on Services, entitled Rethinking Services in a Changing World. Option 1 addresses the issue of establishing guidelines for regulating cross-border data flows, and outlines a series of concrete steps that could be taken in that direction in the short term.

d) Agreement to Facilitate Inclusive Roadmap for Sustainable Trade (AFIRST)

Medium to long term

Policy Option 18: Begin discussion on an Agreement to Facilitate Inclusive Roadmap for Sustainable Trade. Existing models aimed at finding compromise and voluntary acceptance of disciplines and desirable principles, as well as ways of enabling countries to upgrade capacities to meet higher standards, could provide a starting point for this discussion. This recommendation develops the idea that at a time when global trade regulation is being increasingly fragmented, there is a need to build a broad and consistent framework for the facilitation of inclusive conditions to move the trade system towards a regime where all can participate more effectively, and have the possibility of larger opportunities for growth and development through trade and investment.

4.5. Concluding Note

The world economy has evolved to an extent few could have anticipated a generation or so ago. Technological change and growing interlinkages among economies have brought to the fore important new factors of competitiveness in the processes of integration and development. With production and distribution networks increasingly organized in global and regional value chains, a growing overlap has developed among policy issues, including services and goods as well as investment and the expanded scope of trade measures behind the border. In this interlinked world, experience suggests that restrictive policies are less successful in achieving the objectives of sustained enhancement of domestic productive capacity and competitiveness.

The gaps that new industrial policy aims to address, in high- to low-income economies, are more system or institution oriented while involving sector or industry specific issues as well. They also include global and domestic objectives reflecting social and environmental concerns. Coordinated policy efforts have to be made for each of these initiatives, with soft or horizontal approaches having a greater impact. To enhance the effectiveness of such policies (or processes), considerable effort needs to be directed at information and institution building as well as improved coordination and interaction between government and the private sector. These cooperative efforts must be conducted at the national, regional, and international level to enable countries, especially the less developed, to move positively on a sustainable development path.

In this context, the policy options outlined in this paper, which are offered to policy-makers and interested stakeholders, provide a set of practical recommendations for action over the short to medium term. They seek to address some of the key challenges and opportunities raised by the resurgence of industrial policies and their overlap with the global trade and investment systems. One of the pillars of these proposals is the establishment of Regional Centres of Excellence where policy-makers and business representatives could convene to discuss and address practical policy concerns, and where mechanisms to bridge information gaps and capacity constraints could be developed.

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Annex 1: Summary Table of Main Policy Options

Policy Options	Timescale	Current Status	Gap	Steps	Parties involved
Regional and international cooperative efforts					
1. Establish Regional Centres of Excellence to facilitate the identification and implementation of effective industrial policies.	Short to Medium Term	The World Bank, regional development banks, and regional UN agencies conduct some of this activity.	Activities need to be conceptualized and implemented in a comprehensive manner, and the missing elements addressed.	<p>Focus on building systems to better collaborate/coordinate interaction between policy-makers and business from selected countries to work on solutions for pre-identified practical policy concerns.</p> <p>Develop an information base to help countries prioritize among the various policy steps to achieve stated objectives.</p> <p>Implement vendor development programmes co-developed by multinational enterprise, or support policies to enable domestic producers to upgrade within value chains.</p>	Regional Centres of Excellence; global and regional development banks; governments; and business.
2. Develop sector-based frameworks or models for public-private partnership (PPP) agreements.	Short to Medium Term	Several models exist. Developing governments may face problems in realizing the benefits of PPPs due to weak capacities to design, negotiate, implement, and evaluate PPPs.	To the extent that these initiatives are already being implemented by regional or global development institutions, lessons should be assessed for insights and facilitating steps should be identified for wider use.	<p>The PPP models should seek to identify interlinkages between policies, gaps, and areas of high impact.</p> <p>The model should differ for countries at different levels of development.</p>	Same as above.

Policy Options	Timescale	Current Status	Gap	Steps	Parties involved
3. Identify a list of “sunrise” industries and the policy support chains relevant for those industries.	Short to Medium Term	Historical experience shows that innovative efforts to upgrade technologies could from time to time lead to disruptive changes in the operating conditions of international economic interaction. Sunrise industries are best able to embody the new technology paradigms needed for this type of disruptive change.	There is a general view on coverage of sunrise industries, but more specific and targeted thought is needed to draw links between countries at different levels of income/resources availability with likely sunrise industries/ activities. Another issue is to clarify what configuration and sequence of policies are relevant for these industries.	Identify a list of sunrise industries that would chart the way for developing a dynamic growth trajectory for countries in different income groups. Policy-makers may: 1) Distinguish between investment which focuses on new industries vs. supporting sunset industries; 2) Identify steps to promote technological upgrading; and 3) Identify relative policy support chains.	Same as above.
4. Identify common policy components to improve country rankings in: (i) ease of doing business, (ii) competitiveness, and (iii) innovation.	Short to Medium Term	Intergovernmental organizations and regional banks have done considerable work in this area.	Need to identify relevant major policy steps to improve ranking in each of these indices. Identify policies that are common or have synergies for priority consideration.	After conducting the analyses, information and case studies should be made available through a platform, to promote discussion and suggestions for policy-makers and business on how to address the specific issues.	Same as above.
5. Improve the effectiveness of industrial policies that focus on learning from lead firms in value chains.	Short Term	Some <i>ad hoc</i> efforts are in place for such initiatives.	Given the increasing interlinkages between trade and investment due to GVCs, there is a need to focus on attracting and learning from lead firms.	Discussions could take place either through a GVC platform or the regional centres of excellence.	Regional Centres of Excellence / GVC platform; governments; business; international or regional institutions.

Policy Options	Timescale	Current Status	Gap	Steps	Parties involved
6. Build capacity of the small-scale sector to fulfil international/lead firm standards requirements.	Short to Medium Term	To gain access in global markets, SMEs will have to increasingly fulfil more stringent regulatory/standards requirements set by international private standards.	Most donor-led projects focus on capacity building of local firms to fulfil national regulatory standards. To facilitate participation and upgrading within GVCs, it may be more worthwhile to prioritize capacity building projects meeting the needs of lead firms/international standards.	Establish regional platforms to develop and implement capacity building projects for SMEs to fulfil international/lead firm standards requirements.	Regional Centres of Excellence; governments; business; international or regional institutions.

Flexibility in the WTO Agreement: local content requirements and global objectives

7 & 8. Consider WTO flexibilities combined with greater disciplines for local content requirements (LCRs).	Medium Term	Not much consideration has been given to this issue, even though LCRs are proliferating.	While LCRs are prohibited for goods under the WTO, several gaps remain. Stronger disciplines may need to be negotiated to close these gaps for segments such as LCRs in relation to services, and government procurement of goods by non-members of the Government Procurement Agreement. In recognition of the large-scale use of LCRs, this may need to be combined with some support flexibilities, as was done in the case of Safeguards negotiations in the Uruguay Round.	Consider changes based on: a) Agreeing on a specified threshold level of income or global trade share (e.g. Art. 27.4 of ASCM); b) Converting prohibition into an “adverse effects” test, similar to the regulatory system for domestic subsidies; c) Creating a new plurilateral agreement to close loopholes for LCR provisions, but with flexibilities.	WTO members Governments in multilateral, plurilateral, or bilateral negotiations.
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Policy Options	Timescale	Current Status	Gap	Steps	Parties involved
9. Identify a short list of global objectives (global goods) that warrant a loosening of legal constraints.	Medium Term	There is general agreement on several objectives considered significant at the global level and which may require special consideration/treatment under existing trade rules.	Discussion should begin on identifying and agreeing on a short list of global objectives, for example those reflected in mega-regionals that will affect conditions for global trade and investment.	a) Focus on limited number of issues that have potential for wide support. b) Consider changes in rules that may be needed for achieving: environmental sustainability objectives; easier access to select publically funded research; health-related objectives; and, food aid.	Same as above.
10. Revisit international disciplines on environmental subsidies.	Medium Term	Article 8 of WTO's Agreement on Subsidies and Countervailing Measures (ASCM) had provided exemptions from actions against certain subsidies, including environmental subsidies. This Article expired in 2000.	Certain environmental support policies may trigger positive externalities in relation to climate change and other global commons. It may be worthwhile to consider the reintroduction of a category of non-actionable subsidies.	1) Expand the list of non-actionable subsidies under the ASCM; 2) Develop alternative approaches beyond Article 8 of the ASCM; 3) Expand special and differential treatment for developing countries.	WTO members
Disciplines in plurilateral agreements or the WTO on new issues					
11. Consolidate specific disciplines agreed through bilateral agreements and consider enlarging their scope to become multilateral.	Short to Medium Term	A number of bilateral / plurilateral agreements have developed disciplines in certain areas of common concern, e.g. fisheries subsidies.	These remain with limited coverage and thus with limited impact.	Consolidate disciplines related to fisheries subsidies, and anti-dumping and countervailing measures for environmental objectives, or limit the scope of arbitrary policies in the area of contingent protection. Consider either providing MFN treatment to plurilateral agreements or enabling more countries to subscribe to the new disciplines.	WTO members Governments in plurilateral / multilateral negotiations.

Policy Options	Timescale	Current Status	Gap	Steps	Parties involved
12. Develop frameworks for data transfer and privacy requirements.	Short to Medium Term	Different definitions and practices prevail, causing fragmentation.	Increasing extent of fragmentation in trade regulatory mechanisms could potentially be disruptive More is needed to cover this gap.	<p>The new plurilateral frameworks should take into consideration the implications of rules for various types of data transfers (e.g. B2B, B2C), and develop different disciplines (some more flexible than others), if the underlying features are not the same.</p> <p>Provide capacity building for developing countries to successfully meet the requirements of the new frameworks. Training programmes should be put in place in coordination with industry associations.</p>	Governments, business, and civil society

Policy Options	Timescale	Current Status	Gap	Steps	Parties involved
13. Develop new discussion mechanisms at the WTO to address significant emerging matters related to both behind the border and across the border issues.	Short to Medium Term	Discussions on certain issues have been/are being conducted, but in general there is hesitancy to deal with new issues.	There is no accepted mechanism under which discussions are kept completely separate from whatever might be in the negotiated agenda.	<p>Ensure discussions and the mechanisms used for them are delinked from existing negotiations</p> <p>Discussions could cover (i) behind the border issues such as relevant policies to improve effectiveness of logistics, and coherence of regulations; and (ii) across the border issues such as consistency of standards, business mobility, trade information and e-business infrastructure.</p> <p>Discussions could also aim to develop mechanisms that would help manage conflicts, which often go beyond the jurisdiction of any single WTO member. Examples of focus areas include conflicts arising due to problems in digital trade or constraints in developing supply chain linkages.</p>	WTO members

Policy Options	Timescale	Current Status	Gap	Steps	Parties involved
Inclusiveness					
14. Develop a framework of key principles to bring greater conformity among major private standards.	Short to Medium Term	Unlike public standards set by governments, private standards are currently not subject to WTO disciplines.	There is no consensus within the WTO on how and whether to address private standards that have large market coverage. Special efforts in this context may be required also following the G7 Declaration on “Responsible Supply Chains.”	Discuss possible frameworks to bring greater transparency and coherence among private standards with industry-wide presence and impact. The WTO Reference Paper for Telecommunications could be used as a potential model to kick-off a process for developing principles for private standards.	WTO members Governments in multilateral, plurilateral or bilateral negotiations.
15. Prepare a roadmap for augmenting capacity to facilitate the conformity assessment of standards.	Short to Medium Term	<i>Ad hoc</i> efforts and policies prevail in this area.	No well-considered roadmap that considers a wider range of countries and evolving standards that affect market access conditions.	Examine different bilateral / plurilateral mutual acceptance agreements to consider possible common / coherent larger multi-nation initiative. Another possibility is to use existing successful training modules, e.g. the ZED training module aimed at SMEs in developing countries.	Governments in regional or bilateral negotiations, international institutions, and think tanks.
16. Identify provisions in free trade agreements (FTAs) that need adjustment so as to fulfil the objective of inclusiveness.	Short to Medium Term	WTO+ disciplines negotiated through mega-FTAs will impose additional constraints on policy use, particularly for the small economies that are not members of the negotiations / agreement.	The plurilaterals do not consider their impact on non-members.	Specific ideas should be developed for the possibility of increasing inclusiveness (decreasing exclusion) of non-member countries, especially low-income economies.	Same as above.

Policy Options	Timescale	Current Status	Gap	Steps	Parties involved
17. Establish thresholds for expanding rules of origin in FTAs.	Medium Term	Very little thought is given to the multilateralization of plurilateral disciplines that are not inclusive for non-member countries.	The large impact of mega-regionals implies that a special effort is required to examine ways to increase inclusiveness or decrease exclusionary features.	<p>For FTAs accounting for at least one-fifth of world trade, the rules of origin should allow LDCs to be treated in effect as members of the FTA.</p> <p>For FTAs accounting for two-thirds of world trade, the rules of origin should be same as in the WTO.</p>	Governments in regional or bilateral negotiations.
18. Initiate discussion on an Agreement to Facilitate Inclusive Roadmap for Sustainable Trade (AFIRST).	Medium to Long Term	No such agreement exists.	As global trade regulations become increasingly fragmented, there is a need to build a large consistent framework that facilitates inclusive conditions.	Build on successful models that facilitate compromise and the voluntary acceptance of disciplines and desirable principles. This needs to be supplemented with capacity building activities that help developing countries meet higher standards.	Governments, business, and civil society.

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The experts all participated in their personal capacity. The views and recommendations expressed in the policy options paper are not attributable to any institution with which members of the E15 Expert Group are associated.



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The International Centre for Trade and Sustainable Development (ICTSD) is an independent think-and-do-tank, engaged in the provision of information, research and analysis, and policy and multistakeholder dialogue, as a not-for-profit organisation based in Geneva, Switzerland.

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