

SYNTHESIS OF THE POLICY OPTIONS

No.

13

**TRADE AND INNOVATION:
POLICY OPTIONS FOR A NEW
INNOVATION LANDSCAPE**

Trade and Innovation: Policy Options for a New Innovation Landscape

Synthesis of the Policy Options*

January 2016

* Curtis, John M. 2016. *Trade and Innovation: Policy Options for a New Innovation Landscape*. E15 Expert Group on Trade and Innovation - Policy Options Paper. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

NOTE

The policy options presented in this synthesis are the result of a collective process involving all members of the E15 Expert Group on Trade and Innovation. It draws on the active engagement of these eminent experts in discussions over multiple meetings as well as think pieces commissioned by the E15Initiative and authored by group members. John M. Curtis was the 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 justice to the variety of views. The policy recommendations should therefore not be considered to represent full consensus. 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, and launched at the Forum's Annual Meeting at Davos-Klosters in 2016, is complemented with a monograph that consolidates the options into overarching recommendations for the international trade and investment system for the next decade.

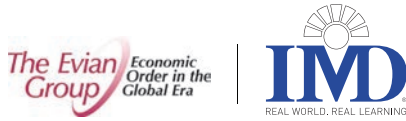
E15 INITIATIVE

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 its 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.

For more information on the E15Initiative:
www.e15initiative.org

ACKNOWLEDGEMENTS

The Expert Group on Trade and Innovation is co-convened with:



WITH THE SUPPORT OF



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Economic Affairs SECO



And ICTSD's Core and Thematic Donors:



Government of the Netherlands



Norwegian Ministry
of Foreign Affairs

PUBLISHED BY

International Centre for Trade and Sustainable Development
(ICTSD)

7 Chemin de Balexert, 1219 Geneva, Switzerland

Tel: +41 22 917 8492 • E-mail: ictsd@ictsd.ch

Website: www.ictsd.org

Publisher and Chief Executive: Ricardo Meléndez-Ortiz

World Economic Forum

91-93 route de la Capite, 1223 Cologny/Geneva, Switzerland

Tel: +41 22 869 1212 • E-mail: contact@weforum.org

Website: www.weforum.org

Co-Publisher and Managing Director: Richard Samans

CITATION

ICTSD and World Economic Forum. 2016. *Trade and Innovation: Policy Options for a New Innovation Landscape. Synthesis of the Policy Options*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

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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.

OBJECTIVES AND OUTPUT

The E15 Expert Group on Trade and Innovation had three objectives

- Examine the challenges and opportunities posed by the growing importance of innovation in a globalized economy.
- Identify the contributions and limitations of the current global trade system in this context.
- Recommend options for improving policies and international trade rules to promote innovation for prosperity and sustainability.

Overarching questions and issues the Expert Group was tasked to consider

- Examine the factors that make innovation a crucial aspect of the development process in the present economic environment.
- Assess how the global innovation landscape has changed as a result of globalization.
- Investigate whether current trade regulatory frameworks, in particular WTO agreements, adequately support innovation as a policy objective in the context of the knowledge economy and the digital environment.
- Identify how the international trade system can be made more supportive of enabling environments for innovation.

Expert Group analysis and policy proposals were submitted in two forms

1. Critical issues studied through think pieces commissioned for the E15 Initiative. These papers are referenced on page 12 and can be accessed at <http://e15initiative.org/publications/>.
2. Policy options presented in this synthesis and compiled in the summary table. The options fall under six categories:
 - Digital trade
 - Movement of people: innovation networks
 - Subsidies and public grants
 - Technical barriers to trade and standardization
 - Trade secrets
 - Measurement of trade and innovation

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FOREWORD

In the span of a few years, innovation has become a key policy imperative for governments pursuing growth and prosperity and a chief business objective for firms engaged in the global competition for market shares. The international community has also acknowledged the centrality of innovation in global efforts to combat climate change, address public health challenges, and achieve food security. This is reflected in the recognition of science, technology, and innovation as a crucial driver and enabler for the implementation of the Sustainable Development Goals recently adopted by the United Nations.

In this context, the objective of the E15 Expert Group on Trade and Innovation was to examine the challenges and opportunities facing the global trading system in the innovation landscape of the early 21st century. A set of knowledge gaps and policy options were identified, many of which could serve as guideposts to facilitate change in the world trade regime and to steer it in a manner more supportive of global innovation efforts.

The analysis and options are the result of a two-year deliberation process conducted by the Expert Group convened by

ICTSD and the World Economic Forum in partnership with the Evian Group@IMD. The Group brought together trade, intellectual property, and innovation experts in an effort to better understand the complex dynamics at work at the interface between trade and innovation. A number of think pieces were commissioned to address in greater depth some of the important knowledge gaps identified by the Group. Deliberations on possible policy reform were challenging and even controversial regarding certain issues like intellectual property. Ultimately, the policy options seek to capture broad elements of convergence within the Group's deliberations.

Four key messages emerged from this expert dialogue process.

First, there exists a clear relationship between trade and innovation. Trade liberalization and investment flows contribute to technology diffusion and innovation while trade restrictions reduce the supply of intermediate goods to an economy, hampering productivity and technology diffusion. On the other hand, the strengthening of national innovation capabilities improves a country's ability to engage in the international trading system. National innovation policies,



however, often rely on discrimination, which may create a tension vis-à-vis trade disciplines. Second, the global innovation landscape has witnessed important changes in recent years as a result of globalization and digitalization, such as the emergence of global innovation networks involving public and private actors. Third, there are a number of medium-term and long-term policy options, identified by the Expert Group, which can be envisaged so that the global trading system can contribute towards reducing or eliminating cross-border barriers and constraints on the development, use, and adoption of innovation. Fourth, there are research gaps and issues that deserve further analysis and empirical work at the intersection between innovation, trade, and sustainable development.

As co-conveners of the E15 Expert Group on Trade and Innovation, we are convinced of the need to provide organized and structured input into the policy and governance debate. The policy options that have resulted from this thought and dialogue process are offered to policy-makers and stakeholders alike, in the hope that they provide paths to effectively address pressing challenges and respond to policy

imperatives of societies the world over. In a second phase of the E15 Initiative, we intend to engage policy-makers in advancing these options.

Ricardo Meléndez-Ortiz
Chief Executive, ICTSD

Richard Samans
Managing Director and Member of the Managing Board,
World Economic Forum

Carlos A. Primo Braga
Director, The Evian Group at IMD

TRADE AND INNOVATION: POLICY OPTIONS FOR A NEW INNOVATION LANDSCAPE

THE RELATIONSHIP BETWEEN TRADE AND INNOVATION HAS BECOME THE SUBJECT OF GROWING ATTENTION AMONG DEVELOPMENT EXPERTS, POLICY-MAKERS, AND BUSINESS EXECUTIVES. GLOBALIZATION AND DIGITAL TECHNOLOGIES HAVE HAD A PROFOUND IMPACT ON THE GLOBAL INNOVATION LANDSCAPE. WITH THE INNOVATION PROCESS INCREASINGLY ORGANIZED IN GLOBAL NETWORKS AND VALUE CHAINS ACROSS BORDERS, INNOVATION, TRADE, INVESTMENT, AND INDUSTRIAL POLICIES ARE NOW MORE CLOSELY INTERTWINED AND THEIR INTERFACE IS IN NEED OF A FRESH LOOK.

Many countries are actively pursuing ambitious innovation policies to boost their competitiveness. Research and development activities, both public and private, are becoming more transnational in nature. At the same time, societies across continents are in growing need to deploy and adapt new technologies and build innovative capacities to effectively address sustainable development challenges, including the environment, food security, and public health. Yet innovation affects countries at separate rungs on the development ladder differently. Distinct policy tools (and their application) intended to encourage innovation and facilitate its dissemination and absorption will be appropriate in diverse situations.

The E15 Expert Group on Trade and Innovation, which was co-convened by ICTSD and The Evian Group@IMD in partnership with the World Economic Forum, examined the interface between international trade and innovation with the objective of identifying challenges and opportunities facing the global trade regime in the innovation landscape of the early 21st century. The central task was to determine whether current trade regulatory frameworks, in particular WTO agreements, adequately support innovation as a policy objective in the context of the knowledge economy and the digital environment. In other words, what are the contributions and limitations of the global trading system vis-à-vis innovation and how could it be improved? To the extent

that “choke points” could be identified that appear to limit the international flow of knowledge, technology, business practices, and people, the Group addressed the question of what policy options could be envisaged in the medium to long-term to better facilitate these flows. An effort was also made in the deliberation process to identify a set of research gaps that deserve further analysis at the intersection between innovation, trade, and sustainable development.

GLOBAL INNOVATION AND THE TRADING SYSTEM

Acknowledgement of the role of innovation has come relatively late in mainstream economics and remains relatively undigested despite its growing status as a focal point for developmental policies and for growth of the firm. One important reason for this certainly stems from the fact that innovation is hard to measure. The concept remains to some extent a “black box” around which economists circle, inferring what is going on inside through more tangible evidence and indicators, such as R&D spending, patent filings, scientific publications, and the development of new products and services.¹

GLOBALIZATION AND THE CHANGING INNOVATION LANDSCAPE

New dynamics regarding innovation as a key constituent of sustainable development have emerged as a result of globalization. Three trends are briefly reviewed as background to the policy options: the emergence of global innovation networks (GINs); the growing need to address public goods at the global level; and, mounting interest in new forms of industrial policy.

THE EMERGENCE OF GLOBAL INNOVATION NETWORKS

The expansion of GINs has mirrored the evolution of transnational production networks and value chains that increasingly characterize world trade and investment in terms of geographic dispersion and specialization. “In the narrow sense, [the concept of GINs] refers to the establishment within a multinational enterprise (MNE) of one or more R&D affiliate facilities at different locations around the world”. More broadly, “innovation networks incorporate many actors, including MNEs, high-technology start-ups, universities and public research laboratories, venture capitalists, specialized technology brokers, standard-setting organizations, and government agencies” (Maskus 2015). Policy-makers in countries at all levels of development have come to see the integration of their economy’s enterprises and institutions (e.g. universities, laboratories, research bodies) with GINs as a key driver of knowledge diffusion, local innovation, entrepreneurship, and competitiveness. Private and public agents from emerging economies are playing a dramatically growing role in these global collaboration networks.

INNOVATION AND PUBLIC GOODS

All nations need to build innovative capabilities to tackle sustainable development challenges. Developing countries with narrow markets and limited absorptive capacities are confronted with several barriers for the effective transfer and adaptation through imports of technologies that attend to the public good. First, potential market demand for such technologies, products, or services might be insufficient to provide incentives for private R&D and innovation. Second, firms in developing countries might lack the financial resources and technical capacities to acquire and adapt to local conditions available technologies, such as wastewater treatment, agricultural inputs, and renewable power generation. “These dual market failures — inadequate innovation incentives and costly adaptation — call for policy intervention, the most direct and effective of which is likely to be direct subsidization” (Maskus 2015).

INNOVATION AND NEW INDUSTRIAL POLICY

Many innovation and development economists have come to advocate a new form of industrial policy that has gained growing traction in policy circles. The theoretical foundation

underpinning this approach can be found in the interpretation of economic development as a process of self-discovery. The current debate on updated forms of industrial policy is less about market interventionism and more on technological innovation, productivity gaps, R&D, vertical specialization, and agglomeration economies. The perception that certain fast-emerging economies, in particular China, have succeeded in stimulating key industries through the implementation of such policy measures has added credence to the suggestion that well-designed industrial policies can improve competitiveness, facilitate the transfer of technologies, build innovative capacities, and upgrade targeted economic sectors.

MULTILATERAL TRADE REGULATORY FRAMEWORKS AND INNOVATION

The interconnection between trade and innovation is one of mutual reinforcement. “Trade rules, regimes, and flows provide some of the necessary inputs to innovative activities. On the other hand, inventions, new processes, goods, services, and intangibles benefit from global markets to increase sales, scalability, efficiency, profitability, productivity, and skills” (Benavente 2014). This two-way process is extremely complex to frame in multilateral trade and investment rules. Trade liberalization and investment flows contribute to technology diffusion and innovation. On the other hand, the strengthening of national innovation capabilities, which can often rely on discriminatory policies (e.g. the identification of “national champions” or localization), improves a country’s ability to engage in and benefit from the international trade system. Domestic measures to promote innovation must carefully balance effectiveness with the need to be consistent with multilateral trade rules — while the multilateral regime needs to be sensitive to the policy space that might be required to promote innovation.

There is no single overarching WTO agreement that deals with innovation, but rather a variety of agreements that influence innovation activities such as those on subsidies, intellectual property (IP), services, and technical barriers to trade. Table 1 identifies some policies and measures that are commonly pursued by governments to promote innovation as well as the WTO agreements of relevance. It illustrates the point that innovation-related policies and measures span a wide range of WTO rules and disciplines.

INNOVATION AND TRADE-RELATED POLICY OPTIONS

The Expert Group converged around six broad categories of possible policy change that can be set out on a preliminary basis for broader discussion. These categories, which

TABLE 1 | Innovation-related domestic policies and WTO agreements

INNOVATION-RELATED POLICIES AND MEASURES	RELEVANT WTO AGREEMENTS*
Domestic R&D support and incentives (e.g. subsidies)	ASCM; Agreement on Agriculture
Protection and enforcement of intellectual property rights	TRIPS
Commercialization of publicly funded research	TRIPS
Transfer of technology and know-how	GATS; TRIMS; TRIPS
Government procurement	GATT; TRIMS; GPA
Technical Standards	GATT; TBT; SPS
Competition policy	TRIPS; TRIMS
Policy/regulatory frameworks and general infrastructure	Aid for Trade

* The WTO agreements cited in the table correspond to: ASCM (Agreement on Subsidies and Countervailing Measures); TRIPS (Trade-Related Aspects of Intellectual Property Rights); GATS (General Agreement on Trade in Services); GATT (General Agreement on Tariffs and Trade); TRIMS (Trade-Related Investment Measures); GPA (Government Procurement Agreement); TBT (Agreement on Technical Barriers to Trade); SPS (Agreement on the Application of Sanitary and Phytosanitary Measures).

include ten medium to long-term policy options, are: global rules on digital trade; new rules to expand the movement of people to pursue innovation opportunities; revised rules on internationally agreed, targeted, and coordinated research subsidies in areas of recognized global public concern; a concerted move to establish international standard-setting on the basis of open and global collaboration; an internationally coordinated approach to trade secrets; and, steps to improve innovation-related data collection.²

DIGITAL TRADE

Digital technologies are rapidly changing how societies in most parts of the world are conducting day-to-day business. However, the international legal framework, including global trade rules, is lagging behind in addressing these transformative developments. Policy change to cover digital trade across borders can conceivably proceed in two ways. First, it can be incremental by building on the principles of existing international trade agreements. Second, an ambitious and entirely new international arrangement could be created — possibly (but not necessarily) tied to the WTO — to cover all aspects of digital trade.

Regarding the incremental option, future trade agreements could set out provisions to cover all online trade based on existing WTO rules, principles, and procedures. These clarified or expanded provisions would touch on, for example, transparency regarding authorization for use and licensing, non-discrimination (both national treatment and most-favoured-nation), access to cross-border information flows, foreign participation in the information and communications technology sector, and increased international cooperation, including improved assistance to bridge the digital divide. The group also considered that extending the Information Technology Agreement (ITA) and further liberalizing computer-related and telecommunications services should be priorities.³

POLICY OPTION 1 - Include the digital dimension in trade agreements

- Medium-term: Set out provisions in future trade agreements, particularly in the WTO, to cover all aspects of digital trade based on existing rules, principles, and procedures.

The more ambitious option would be the development from scratch of an entirely new agreement that could tackle all known issues and barriers relating to digital trade. It would deal more comprehensively with “deeper integration” issues, including privacy, cross border data, consumer protection, and security matters, than the incremental approach. It would also touch on data access, storage, and use. Ideally, the agreement could feature a negative list approach with specific negotiated exemptions.

POLICY OPTION 2 - Establish a Digital Economy Trade Agreement

- Long-term: Establish a Digital Economy Trade Agreement, as a stand-alone agreement or under the WTO, which would deal with “deeper integration” issues related to digital trade. It could be initiated on a plurilateral basis to be multilateralized in due course.

MOVEMENT OF PEOPLE: INNOVATION NETWORKS

A second set of policy options involves removing on a concerted basis barriers hindering the movement of technically and entrepreneurially skilled persons and research professionals across borders to pursue innovation opportunities. An ambitious approach worth exploring would be a system that would link skilled workers together in an “innovation zone” in which countries would agree to allow longer-term work visas that would be valid in all participating countries. This proposal could build on expanded Mode 4 commitments in the General Agreement on Trade in Services.

POLICY OPTION 3 - Expand Mode 4 GATS commitments

- Medium-term: Expand GATS commitments to further encourage temporary mobility of skilled workers.

POLICY OPTION 4 - Establish an “innovation zone”

- Long-term: Establish a plurilateral (but preferably broad and inclusive) “innovation zone” working through GATS within which research professionals and skilled and technical personnel would be able to migrate freely for up to ten years.

SUBSIDIES AND PUBLIC GRANTS

The policy space for governments and the private sector could be expanded to explicitly permit subsidies to address agreed and targeted global public policy objectives such as, for example, the development of essential medicines, water management, agricultural productivity, waste disposal, energy conservation, and climate change. Publicly funded research grants could be carried out through public agencies, private-public partnerships, universities, foundations, or private laboratories (which all work increasingly in collaboration and across multiple nations) with the aim, where appropriate, of commercializing the results of the “subsidized” research.

Although these types of public research grants have not been challenged in a significant way under the ASCM, as they have been considered pre-competitive and non-specific, they could become an issue of contention as they become more commonplace. “There are reasons to anticipate increasing use of R&D support going forward” and “it is primarily direct or indirect subsidies to business enterprise expenditure on research and development that potentially raises issues of trade conflict” (Maskus 2015).

POLICY OPTION 5 - Clarify the role of permissible R&D subsidies

- Medium-term: Clarify, upon further study, the relationship between public research grants and permissible subsidies under the ASCM.

A more ambitious long-term option would be to establish an Agreement on Access to Basic Science and Technology, whose fundamental notion, meant to complement the global intellectual property rights system, “is to preserve and enhance the global commons in science and technology without unduly restricting private rights in commercial technologies. The mechanism would be to place into access pools the patented results of publicly funded research that develops knowledge capable of supporting applied science and R&D, especially in areas of common global concern” (Maskus and Saggi 2013).

POLICY OPTION 6 - Establish an Agreement on Access to Basic Science and Technology (ABST)

- Long-term: This could be negotiated within the WTO as it already manages many agreements on issues that are strongly interrelated with the transfer of scientific results (such as intellectual property, subsidies, standards, and services), and many of the essential WTO principles can be applied to an ABST.

TECHNICAL BARRIERS TO TRADE AND STANDARDIZATION

The WTO Agreement on Technical Barriers to Trade could be revised to better facilitate innovation. The WTO concept of standardization, in particular, could be updated to reflect the existence of *a priori* globally open, transparent, and bottom-up standards to promote global public goods (which have led, for instance, to the phenomenal development of the Internet).

POLICY OPTION 7 - Update WTO concepts and definitions of standards

- Medium-term: This update should encompass more inclusiveness and openness.

POLICY OPTION 8 - Reform WTO technical standards processes

- Long-term: Reform WTO processes in this area so as to explicitly acknowledge the concept of standards and standardization beyond nation-centric and intergovernmental arrangements. This will require the direct recognition of associated contributions and standards from recognized and well established communities of experts, who cooperate, exchange information, and build knowledge on a global scale.

An agreement could be considered to preserve and enhance the global commons in science and technology without unduly restricting private rights in commercial technologies.

TRADE SECRETS

National laws and practices with respect to trade secrets vary greatly. Trade secrets appear to be especially important to small and medium-sized businesses given their generally lower costs compared to more elaborate intellectual property processes involving patents, copyright, and other instruments.

POLICY OPTION 9 - Bring consistency to the treatment of trade secrets

- Long-term: Consistency could be brought into the international trade legal framework, possibly through a non-binding understanding or in a stand-alone arrangement that might eventually be employed as a starting point for consideration in a regional agreement or plurilateral initiative in the WTO. The World Intellectual Property Organization (WIPO) may also be a convenient venue to consider this matter initially, as there is no dispute settlement attached to it.

MEASUREMENT OF TRADE AND INNOVATION

A final recommendation relates to the importance of improved measurement of trade-related aspects of innovation. Efforts towards better measurement are challenged by the fragmentation of fora, approaches, classifications, taxonomies, and databases. International organizations such as the WTO and WIPO could encourage national governments to develop surveys in collaboration with the private sector in order to provide useful information concerning all aspects of innovation and trade.

There is a growing tension between what the multilateral trade system can contribute and what is required to facilitate innovation on a global scale.

POLICY OPTION 10 - Improve the measurement of trade-related aspects of innovation

- Medium-term: Enhance efforts towards improved measurement of trade-related aspects of innovation with a view to better inform the negotiating process in the WTO (and other relevant international organizations) so as to make the multilateral trading system more conducive to the development of innovation capabilities and results.

WAY FORWARD: CONSENSUS BUILDING AGENDA

The central objective of the trade-related policy options is to ensure that existing trade rules and those under negotiation or consideration encourage innovative activity worldwide. R&D investments and creative activity are not curtailed by national borders in the sense that innovations that arise therefrom can be accessed and used by those that have sufficient absorptive capacity. In this process, fewer blockages arising from trade rules, regulations, and practices, and more creative provisions to overcome these blockages, will speed up the transmission and adaptation of innovation worldwide.

APPROACHES TO INNOVATION AND TRADE SYSTEM REFORM

The Expert Group in its deliberations and exploratory work examined many issues, some of them more mature for policy consideration than others. While there was no consensus on the preferred route for promoting innovation in the context of the existing international trade system, Table 2 provides an illustration of four possible ways to proceed and how some of

TABLE 2 | Different approaches to innovation and trade system reform

	INCREMENTAL APPROACH	MORE AMBITIOUS APPROACH
WITHIN THE WTO	<p>For example:</p> <ul style="list-style-type: none"> • Better commitments on Mode 4 in GATS; • Implementation of ITA II; • Clarifying the role of permissible subsidies (e.g. R&D) in the ASCM; • Improving upon TBTs and standards to facilitate innovative procedures. 	<p>For example:</p> <ul style="list-style-type: none"> • Negotiating a Digital Economy Agreement as part of the post-Doha agenda; • Developing a non-binding understanding on trade secrets that might eventually be employed as a starting point for a plurilateral accord under the WTO; • Revisiting the TRIPS Agreement or revising some of its provisions.* <p>* This is included in the table solely for indicative purposes, as the Group did not formally consider it a policy option.</p>
BEYOND THE WTO	<p>For example:</p> <ul style="list-style-type: none"> • Further analyses of deep integration efforts in the context of existing preferential trade agreements (EU, TPP, TTIP, RCEP) with a view to identifying good practices and multilateralizing them in the WTO in the long term; • Enhance efforts towards improved measurement of trade-related aspects of innovation. 	<p>For example:</p> <ul style="list-style-type: none"> • Establish a plurilateral “innovation zone” working through GATS within which skilled researchers and technical personnel would be able to migrate freely for up to ten years; • Pursue negotiations in other fora to pave the way for future multilateral solutions (e.g. option 6 on the establishment of ABST).

the policy options might fit into these alternative approaches. In view of the current deadlock in the Doha negotiations at the WTO, it can be argued that an incremental approach is the most viable option at the multilateral level. However, there is a growing tension between what the multilateral trade system can contribute, particularly in terms of timely decisions, and what is required to facilitate innovation on a global scale.

RESEARCH AGENDA

The cross-cutting nature of innovation and its multifaceted character prevailed and permeated the discussions of the Expert Group. Important efforts were made in identifying research gaps that deserve deeper analysis and reflection at the intersection between innovation, trade, and sustainable development. There was an emphasis on establishing better understanding of the underlying issues as well as the need to carry out further work on a number of the questions examined by the Group, including ideas evolving around the trade-intellectual property-innovation nexus. These issues fell into four broad thematic areas.

- a. *Policy frameworks, innovation systems, and best practices*, including: examination of best practices within various policy frameworks that encourage innovation-led growth; the role of public procurement in promoting innovation capacity; case studies on appropriate links between trade, innovation, and competition policies; the establishment of an information bank to help link research teams across borders with special attention being paid to the incorporation of scientists and researchers from low-income countries; open collaboration schemes and their impact on innovation and networking; and, the role of public-private partnerships in the achievement of innovation for Sustainable Development Goals.
- b. *The international trading system and plurilateral processes*, including: analysis of the extent of subsidies or procurement disciplines on research grants; case studies on how international trade impacts upon innovation differentially in all countries, particularly least developed countries (LDCs); how trade and innovation policies can help address the technological divide; and, assessment of the positive or adverse implications of the current plurilateral and mega-regional norm-setting initiatives to stimulate and improve innovation policy frameworks.
- c. *Attention to small and medium-sized enterprises (SMEs)*, including: investigating how micro innovators and SMEs can equally benefit from global innovation networks and global value chains (GVCs); designing national innovation systems that help SMEs capture opportunities for learning in their integration to GINs/GVCs; and, assessing the learning opportunities and related policy options for SMEs in GINs from existing case studies, especially in LDCs.

- d. *Intellectual property-related questions*, including: case studies on the links between increased protection and enforcement of IP and innovation; best practices in IP policies including the role of exceptions and limitations and their contribution to innovation and technology transfer; the influence of patent protection on knowledge sharing and partnerships; the incidence of other IP categories such as copyright, trademark, and trade secrets as stimuli to innovation; and, further examination around the implications of trade secrets harmonization in the innovation process.

CONSENSUS BUILDING PROCESS

There are well established institutions, including those that have partnered together to bring the E15 Initiative to fruition, that could play a role in leading this consensus and bridge-building process around the policy options summarized herein as well as carrying forward discussion and analysis of the issues and research gaps identified by the Group. These processes involve multi-stakeholders working towards finding consensus at the national, regional, and international level.

ENDNOTES

1. The policy options follow the definition outlined in the OECD Oslo Manual. "An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations." Moreover, "a new or improved product is implemented when it is introduced on the market. New processes, marketing methods or organizational methods are implemented when they are brought into actual use in the firm's operations" (OECD and Eurostat. 2005. *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*, 46–47. Paris: OECD).
2. The Expert Group also discussed the effects on innovation of intellectual property rights (IPRs), with an emphasis on patents and particularly on the TRIPS Agreement. A think piece was commissioned to this effect, which, among other matters, elaborated on the "need to reflect upon whether the current scope and the duration of patent protection is suitable for all industries, sectors and countries, or whether some differentiation would benefit innovation" (Mercurio 2014). However, there was no consensus in the Group on whether any modifications were needed or practically feasible at this stage to enhance the TRIPS Agreement's contribution to stimulate innovation globally. No policy options are thus set out, as further empirical work needs to be done on all aspects of IPRs, including trade-related ones, from the perspective of their impact on innovation performance. An exception to this approach was the issue of trade secrets, as the Group considered it useful to explore options in this area.
3. The expansion of the ITA (i.e. the ITA II) was agreed upon in July 2015. This will gradually bring duty-free trade in information technology products impacting 7% of total global trade. The benefits of this sectoral plurilateral agreement will be extended to all WTO members on a most-favoured-nation basis.

TABLE SUMMARY OF MAIN POLICY OPTIONS

POLICY OPTION	TIMESCALE	CURRENT STATUS	GAP	STEPS	PARTIES INVOLVED
Digital Trade					
1. Include the digital dimension in trade agreements	Medium Term	Digital trade related rules being developed in bilateral and regional trade agreements	Can be just best endeavours provisions	Like minded countries to agree to elevate matters to multilateral level	Member States WTO
2. Establish a Digital Economy Trade Agreement	Long Term	Multilateral trade rules lagging behind in terms of tackling digital trade	Lack of a comprehensive approach to privacy, cross border data, consumer protection, and security matters in existing multilateral trade rules	Consensus building to launch negotiations on a Digital Economy Trade Agreement either as a stand-alone agreement or under the WTO It could be initiated on a plurilateral basis	Member States WTO
Movement of People: Innovation Networks					
3. Expand Mode 4 GATS commitments	Medium Term	Limited commitments under GATS Mode 4	Lack of convergence/coherence between trade, migration, and labour policies	Expand Mode 4 GATS commitments to encourage mobility of high skilled persons	Member states WTO
4. Establish an “innovation zone”	Long Term	Movement of entrepreneurially skilled persons and research professionals across borders to pursue innovation faces multiple barriers	Lack of mutual recognition regimes relating to the certification of skills acquired in different professions and in different countries	Consensus building among like-minded countries to establish an “innovation zone” through plurilateral agreements in which countries would agree to allow longer-term work visas that would be valid in all participating countries	Member States WTO
Subsidies and Public Grants					
5. Clarify the role of permissible R&D subsidies in the ASCM	Medium Term	The area of disciplines on R&D subsidization is unsettled within the WTO	Subsidies to address global public policy issues are potentially actionable Public grants could become more of an issue of contention	Consensus building to explicitly permit subsidies to address agreed and targeted global public policy issues such as, for example, the development of essential medicines, food security, energy conservation, and climate change	Member States WTO
6. Establish an Agreement on Access to Basic Science and Technology (ABST)	Long Term	Growing demands to enhance the global commons in science and technology in areas of global concern, such as climate change and medicines, without unduly restricting private rights in commercial technologies	Trend towards strengthening of global intellectual property rights regime without a concurrent move to enhance access to and diffusion of science and technology	Hold exploratory discussions on objectives, design, and feasibility of an ABST	Member States WTO

POLICY OPTION	TIMESCALE	CURRENT STATUS	GAP	STEPS	PARTIES INVOLVED
Technical Barriers to Trade and Standardization					
7. Update WTO concepts and definitions on standards	Medium Term	Narrow approach to the concept of standards in the WTO as reflected in the TBT Agreement	WTO concepts of standards were established in a pre-globalization and pre-digital era	Launch process to update WTO concepts and definitions of standards so as to reflect the existence of globally open, transparent, and bottom-up standards to promote global public goods	Member States WTO
8. Reform WTO technical standards processes	Long Term	Lack of inclusivity and openness in current WTO concept of national/ intergovernmental standardization	Concept of nation-centric intergovernmental standardization process may ignore key contributors or inhibit their participation	Consensus building towards reform of WTO technical standards processes so as to integrate associated contributions and standards from recognized and well established communities of experts	Member States WTO
Trade Secrets					
9. Bring consistency to the treatment of trade secrets in international trade legal frameworks	Long Term	Growing importance of trade secrets for innovation, especially for small and medium-sized businesses	Wide diversity in national approaches, laws and regulations for the protection of trade secrets	Bring consistency through consensus building towards developing a non-binding understanding or a stand-alone arrangement for consideration in the context of a regional agreement or a plurilateral initiative in the WTO WIPO may also be a convenient venue	Member States WTO WIPO
Measurement of Trade and Innovation					
10. Improve the measurement of trade-related aspects of innovation	Medium Term	Growing awareness about the importance of improved measurement of trade-related aspects of innovation to better inform trade negotiations and make them more conducive to the development of innovation capabilities	Fragmentation of institutions (fora), approaches, classifications, taxonomies, and databases	Push forward a series of practical measures such as the adoption of the latest classifications, increase cooperation for the collection of data, collaborate between agencies to ensure correspondence between datasets and policy coherence, establish consensual taxonomies in innovation-related sectors, and, improve data packaging and dissemination efforts	Member States WTO UNESCO WIPO UNCTAD OECD Private sector

EXPERT GROUP PAPERS AND THINK PIECES

The papers commissioned for the E15 Expert Group on Trade and Innovation can be accessed at <http://e15initiative.org/publications/>.

Benavente, Daniela. 2014. *Measurement of Trade and Innovation: Issues and Challenges*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

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Ernst, Dieter. 2014. *The Information Technology Agreement, Industrial Development and Innovation: India's and China's Diverse Experiences*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

Karachalios, Konstantinos, and Karen McCabe. 2013. *Standards, Innovation, and their Role in the Context of the World Trade Organization*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

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Maskus, Keith E. 2015. *Research and Development Subsidies: A Need for WTO Disciplines?* E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

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Mercurio, Bryan. 2014. *TRIPs, Patents and Innovation: A Necessary Reappraisal?* E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

MEMBERS OF THE EXPERT GROUP

John M. CURTIS – *Theme Leader*

Senior Fellow, International Centre for Trade and Sustainable Development (ICTSD)

Pedro ROFFE – *Convener*

Senior Associate, ICTSD

Carlos PRIMO BRAGA – *Co-convener*

Director, The Evian Group@IMD

Nick ASHTON-HART

Executive Director, Internet & Digital Ecosystem Alliance (IDEA)

Daniela BENAVENTE

Consultant in International Trade and Innovation

Johannes BERNABE

Senior Partner, Ocampo and Manalo Law Offices

Fikremarkos Merse BIRHANU

Professor, Addis Ababa University

Jennifer BRANT

Director, Innovation Insights

Thomas BREWER

Senior Fellow, ICTSD

Mira BURRI

Senior Research Fellow, World Trade Institute (WTI)

Sudip CHAUDHURI

Professor, Indian Institute of Management, Calcutta (IIMC)

Song CHEN

Professor, Tongji University

Jake COLVIN

Vice President, National Foreign Trade Council (NFTC)

Rosa DELGADO

ICT Strategy Expert, VIP Consultants

Michele DI MAIO

Assistant Professor, Università Parthenope

Mark DUTZ

Senior Economist, World Bank

Dieter ERNST

Senior Fellow, East-West Centre

Carsten FINK

Chief Economist, World Intellectual Property Organization (WIPO)

Padmashree GEHL SAMPATH

Chief, Science and Technology Section, United Nations Conference on Trade and Development (UNCTAD)

Yanzhong HUANG

Senior Fellow for Global Health, Council on Foreign Relations

Konstantinos KARACHALIOS

Managing Director, IEEE-Standard Association

Douglas LIPPOLDT

Senior Economist & Trade Policy Analyst, Organisation for Economic Co-operation and Development (OECD)

Keith MASKUS

Professor of Distinction, University of Colorado Boulder

Ricardo MELÉNDEZ-ORTIZ

Chief Executive, ICTSD

Bryan MERCURIO

Professor, Chinese University of Hong Kong (CUHK)

Maximiliano SANTA CRUZ

Director, Instituto Nacional de la Propiedad Industrial (INAPI)

Antony TAUBMAN

Director, Intellectual Property Division, World Trade Organization (WTO)

Alan WOLFF

Senior Counsel, McKenna Long & Aldridge LLP

Mark WU

Assistant Professor of Law, Harvard Law School

Ahmed ABDEL LATIF – *Group Manager*

Senior Programme Manager, ICTSD

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

E15 INITIATIVE: EXPERT GROUPS AND TASK FORCES

In the quest for effective responses to the challenges faced by the global economy at this time, foremost experts were invited to contribute to 15 thematic groups as well as three task forces addressing horizontal issues. The groups met regularly between 2012 and 2015 with the goal of delivering a set of policy options on the occasion of the WTO's 20th anniversary. These options are intended to animate discussions and feed the present and future international trade and investment policy agenda for sustainable development. The full volume of policy options papers, jointly published by ICTSD and the World Economic Forum, and launched at the Forum's Annual Meeting in Davos-Klosters in 2016, is complemented with a monograph that consolidates the options into overarching recommendations for the international trade and investment system for the next decade. The second phase of the E15 Initiative in 2016–17 will see direct engagement with policy-makers and other stakeholders to consider the implementation of E15 policy recommendations.

E15 INITIATIVE THEMES

- 1 – Agriculture and Food Security
- 2 – Clean Energy Technologies
- 3 – Climate Change
- 4 – Competition Policy
- 5 – Digital Economy
- 6 – Extractive Industries
- 7 – Finance and Development
- 8 – Fisheries and Oceans
- 9 – Functioning of the WTO
- 10 – Global Trade and Investment Architecture*
- 11 – Global Value Chains
- 12 – Industrial Policy
- 13 – Innovation
- 14 – Investment Policy
- 15 – Regional Trade Agreements
- 16 – Regulatory Coherence
- 17 – Services
- 18 – Subsidies

* Policy options to be released in late 2016

Implemented jointly by ICTSD and the World Economic Forum, the E15Initiative convenes world-class experts and institutions to generate strategic analysis and recommendations for government, business and civil society geared towards strengthening the global trade and investment system for sustainable development.



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