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Economic Cooperation

Advancing Free Trade
for Asia-Pacific Prosperity



Research Outcomes

Summary of
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Policy Support Unit



Asia-Pacific Economic Cooperation (APEC)

was established in 1989. The 21 Member Economies are Australia; Brunei Darussalam; Canada; Chile; China; Hong Kong, China; Indonesia; Japan; Korea; Malaysia; Mexico; New Zealand; Papua New Guinea; Peru; Philippines; Russia; Singapore; Chinese Taipei; Thailand; United States; and Viet Nam.

APEC Policy Support Unit (PSU)

is the policy research and analysis arm of APEC, comprising openly recruited professionals working together with APEC Senior Officials, committees and fora, in improving the quality of their deliberations and decisions and promoting policies that support the achievement of APEC's goals, by providing objective and high quality research, analytical capacity and policy support capability.

Research Outcomes

is an annual publication of the PSU which provides a summary of research projects that the PSU has undertaken in a year. It is now in its fourth run. For past years' publications, please visit www.apec.org/About-Us/PolicySupport-Unit/. If you have any feedback or comments, please write to us at psugroup@apec.org.

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Trade & Investment Liberalization & Facilitation

Trade and Economic Growth: 25 Years of a Stronger Relationship within APEC

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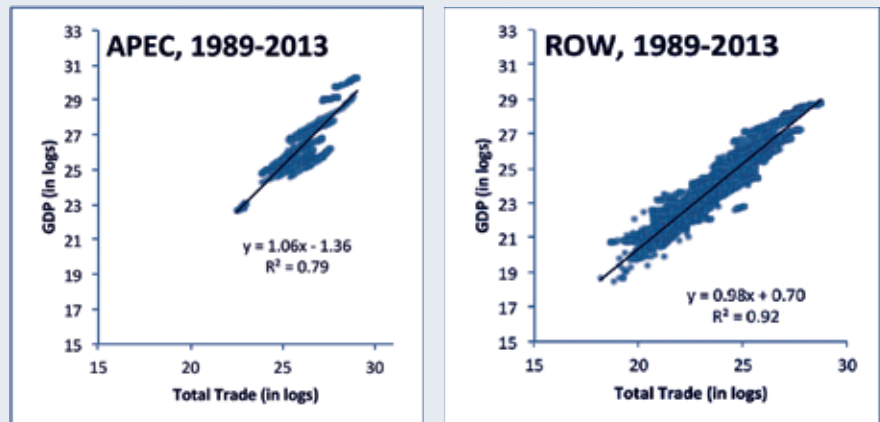
Since its inception in 1989, APEC has been working on initiatives to promote its objectives of sustainable growth and equitable development, with the ultimate aim of improving the well-being of its member economies and strengthening the Asia-Pacific community. While we cannot claim that APEC, and its initiatives, have been solely responsible of the economic achievements and outcomes attained so far, we can say that APEC has inspired governments to carry out policies to improve market conditions, which have been vital to promote growth and development in the Asia-Pacific region.

The purpose of this policy brief is to explore the correlation between trade and GDP within APEC and show the importance that trade plays in APEC's economic growth vis-à-vis the rest of the world. The focus is on exploring the role of trade as one of the main components of economic growth in APEC, based on: (1) the relevance of trade within APEC's agenda since its early stages in order to achieve its objectives of sustainable growth and equitable development; and (2) the recognition of trade as one of the principal growth drivers in the APEC Growth Strategy initiative endorsed by Leaders in 2010.

Findings

It is of no surprise that trade and GDP growth are strongly interlinked. However, what we have set out in this policy brief is to show that this linkage is stronger in APEC than the rest of the world, and has been getting stronger since APEC was established in 1989. An analysis of the data shows that the APEC region is indeed one of the most vibrant and dynamic in the world. Not only is GDP growth more responsive to trade in the region, but trade has also been increasing in importance as a component of GDP. While this has been happening all over the world, this interdependence among economies is more vividly seen in APEC than in the rest of the world.

A visual analysis of the data shows that there is a strong and positive correlation between total trade (i.e., exports plus imports) and growth. As can be seen in the figure below, this is true both for APEC economies and the rest of the world (ROW). Moreover, we can also see that APEC has a steeper trend line than ROW, as indicated by the slope of the trendline equation. This shows indicatively that domestic economic production is more strongly correlated to international trade in APEC economies than in the rest of the world.



Source: APEC Secretariat, PSU estimates.

It is worth pointing out that many of the changes that happened in the APEC region occurred after 1989—the year APEC was established, such as the trade liberalization policies that led to the globalized world of today. How do we know that observed economic impacts have been because of what we did rather than what everyone else did? Strictly speaking, we cannot. But we can say that our actions and initiatives in APEC have plausibly contributed towards achieving these impacts. When APEC was established in 1989, it had the vision of promoting free trade and economic growth in the region. Many initiatives since then, such as the Bogor Goals in 1994, have been or are being implemented, and the desired impacts of faster and more trade-linked economic growth seem to be trickling in.

While APEC cannot claim sole credit for the vibrancy and dynamism of the region in the past 25 years, it can gain satisfaction from the fact that it has served as an inspiration to promote and implement open trade and investment policies. After 25 years, APEC will continue to be an important incubator of ideas. This is evident by looking at the discussion topics which have gained relevance in the APEC agenda in recent years, such as global value chains, connectivity (physical, institutional and people-to-people), and strengthening regional economic integration. Progress on these initiatives will definitely help APEC realize the objectives it set in its early years.

APEC's Bogor Goals Progress Report 2014

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Full Report: 93 pages

This report was prepared following APEC Senior Officials' agreement in 2011 to conduct a periodical assessment of the progress towards the Bogor Goals every two years starting in 2012. The previous assessment, conducted in 2012, showed that efforts in trade liberalization were significant, but uneven across sectors and non-tariff measures still remained. Similarly, it pointed out that trade facilitation, services and investment were becoming very relevant areas in the pursuit to improve business conditions.

The 2014 Bogor Goals Progress Report uses mostly qualitative information to describe the main achievements and shortcomings by APEC member economies, in the areas listed under the 1995 Osaka Action Plan and new areas that have acquired relevance in recent years due to the changing trade policy environment. The main input in the preparation of the report was the Individual Action Plans submitted by APEC member economies. Where information gaps existed, the PSU has referred to other credible public sources such as the WTO Trade Policy Reviews.

Findings

In general, the analysis of the information shows that progress has been uneven across APEC economies and across areas. It is clear that more work needs to be done. Whilst several areas such as services, customs procedures (time to trade), government procurement, competition policy, regulatory reform, intellectual property rights and mobility of business people, among others, show encouraging results since the previous assessment conducted in 2012, other traditional areas such as tariffs, non-tariff measures, standards and conformance and customs procedures (cost to trade) experience very modest progress or setbacks.

APEC's Bogor Goals Dashboard 2014

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Full Report: 35 pages

The Bogor Goals Dashboard aims to provide easy-to-understand figures to track the advances in areas critical to promoting greater regional economic integration, such as liberalization and facilitation of trade and investment. The intention is to display a set of harmonized indicators laying out the evolution across time of certain aspects of trade and investment liberalization and facilitation in quantitative terms.

This report provides updated figures on the indicators included in the APEC Bogor Goals Dashboard, which was presented to APEC Senior Officials in 2013. Please refer to the report for the APEC Dashboard and those for each APEC member economy. For more comprehensive details, readers are advised to read the Dashboard's technical notes.

Findings

The Dashboard indicates that in terms of trade liberalization, APEC average tariffs went down from 6.6% to 5.7% during the period 2008-2012. However, the difference in tariff rates is still significant between agricultural and non-agricultural products. While the former experienced an average tariff equivalent to 12%, the latter's average tariff was equal to 4.7%. With regards to trade facilitation, it has become easier and faster to export and import nowadays, but it has also become more expensive.

In services, there is a greater number of preferential trade agreements with sectoral services commitments. There is also some evidence of an increase in the depth of services commitments in preferential trade agreements. With respect to the investment indicators, there has been a slight decline in experts' perception of the prevalence of foreign ownership in companies and the impact of business rules on FDI in the APEC region.

Perceptions on the Use of Non-Tariff Measures within the APEC Region

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Published Date: June 2014
Full Report: 49 pages

This study aims to help APEC economies gain a better understanding of the implications in the use of Non-Tariff Measures (NTMs) and raise awareness on how it is possible to achieve legitimate policy objectives by using policy alternatives that facilitate rather than restrict trade and investment, and assist APEC economies in moving closer to attaining the Bogor Goals. The study originated from discussions at the APEC Committee on Trade and Investment (CTI) meeting in 2013 concerning the use of NTMs. As opposed to tariff duties, which have experienced a substantial decrease over the years (for example, the average tariff in APEC was equal to 16.9% in 1989, 6.6% in 2009, and 5.7% in 2012), there is a general perception that the use of NTMs in recent years has increased worldwide. However, the extent to which NTMs are affecting the APEC region is not clear, since existing databases offer limited coverage due to measurement and data collection challenges. NTMs are also becoming increasingly relevant in the analysis and discussion of trade.

Findings

Among the main findings are:

- All non-tariff barriers are NTMs, but not all NTMs are non-tariff barriers. NTMs do not necessarily imply illegitimate measures and/or restrictive implications on trade. In fact, WTO allows the application of NTMs in particular circumstances. In some cases, the application of legitimate NTMs could even increase trade by giving more information and certainty to producers and consumers. However, some NTMs are barriers as they are implemented with specific protectionist purposes that negatively affect trade. In addition, many NTMs are not transparent since they are hidden in regulations or appear as disguised policies.
- The distinction of whether a measure is legitimate or not is challenging in certain cases, since trade partners could have different views on the matter.
- The impact of NTMs will depend on many factors such as the type of measure in force, the affected sector/product, and the level of development of the parties involved.
- In terms of the incidence of NTMs affecting the APEC region, information from the WTO's Integrated Trade Intelligence Portal (i-TIP) shows that antidumping, SPS and TBT-related measures around the world are those mostly affecting APEC economies.

Chemicals, iron and steel, plastics, textiles, meats, and fruits and nuts are among the most affected sectors. The Global Trade Alert (GTA) database identifies trade defence measures, bail out/state aid measures, export subsidies, and export taxes and restrictions to be among the most recurrent NTMs worldwide affecting at least one APEC economy. The GTA database also shows that chemicals, metals, and machinery are the most affected sectors.

- Governments choose to implement NTMs for a variety of reasons ranging from trade protectionism to addressing legitimate objectives such as public health, safety, and security, among others. They are implemented to monitor trade flows, as a source of revenue, and for other objectives. It has been challenging for governments to achieve these objectives without distorting trade. Nevertheless, there are some options that could address those interests with measures that facilitate rather than restrict trade.

Recommendations

The study shows that NTMs are implemented to target many different objectives and can create significant distortions to trade. However, in many cases, it is possible to meet the same policy objectives with less costly and less trade distorting alternatives. For example, reviewing customs entries instead of issuing automatic licenses to monitor imports and collect statistics; using internal taxes instead of import surcharges to collect revenue; implementing sanitary protocols and technical regulations based on international standards; agreeing on bilateral SPS protocols to facilitate trade of specific products; implementing systems to allow importation from disease-free areas; and developing risk management systems and ex-post verifications to prevent unnecessary customs inspections; among others.

Instead of implementing export subsidies, it is possible to improve export performance and diversify exports by promoting competitiveness via macroeconomic stability, economic openness, development of infrastructure and human resources, and competent export and investment promotion agencies. Export subsidies are also commonly used in the agriculture sector to support local farmers and due to food security concerns. Nevertheless, it is

possible to support farmers in less trade distorting ways by making available market information systems, encouraging associations among small and medium-size farmers, creating proper pest control mechanisms, promoting soil conservation techniques, and developing infrastructure projects such as water irrigation channels and roads. Food security concerns could be tackled by monitoring mechanisms for stockpiling, preventing stocks from flooding overseas, and distorting world prices.

The alternatives to export taxes and restrictions would depend on the objectives behind these measures. For example, if the intention is to secure the provision of any product in the domestic market at lower prices, it will be less trade distorting to reduce tariff rates to increase the availability of the products in the domestic market. If the objective is to fight environmental problems, then some less trade distorting measures, as mentioned by Karapinar (2012), will be to impose stricter environmental standards on production, implement pollution charges to firms based on their emissions, and promote cleaner and efficient technology. Export taxes are also used as an easy source of government income. An alternative will be to develop an efficient tax administration authority, enhance the revenue base, and use other less trade restrictive taxes such as income and value-added taxes.

Local content requirements (LCR) are usually implemented as a means to create jobs, develop and protect local producers, and to allow companies in the medium-term to innovate and compete. However, these policies are not easy to administer. They could result in inefficient allocation of resources and impact negatively on trade. LCR also could increase local production costs and reduce production levels and employment. Less costly and less trade restrictive options could be implemented to achieve the main objectives of LCR. Hufbauer, et.al. (2013) suggested creating a business-friendly environment to create jobs and stimulate investments, encouraging corporate social responsibility to include local firms in the supply chain of multinational companies, expanding training, and improving infrastructure.

APEC, Services, and Supply Chains: Taking Stock of Services-Related Activities in APEC

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APEC#214-SE-01.3
Published Date: January 2014
Full Report: 8 pages

This policy brief provides a background of the 'servicification' trend in manufacturing, discusses previous and current APEC programs and projects related to services, and highlights areas for possible APEC discussion.

Findings

Importance of services in APEC

Services is the largest economic sector in most APEC economies, representing 90% of GDP in service-based economies like Hong Kong, China, and 68% of total APEC GDP. Its share in total APEC exports of goods and services appears not to be as significant as the share of goods, estimated at 19% in 2009 and 16.7% in 2012. But when measured more appropriately in value-added terms, the share of services in total exports is actually much higher at 39% - double than what conventional trade measurement shows (see table). Across APEC, the services sector is much more significant than it appears to be when it is measured in value-added terms because it captures the full extent of its contribution to exports (see figure).

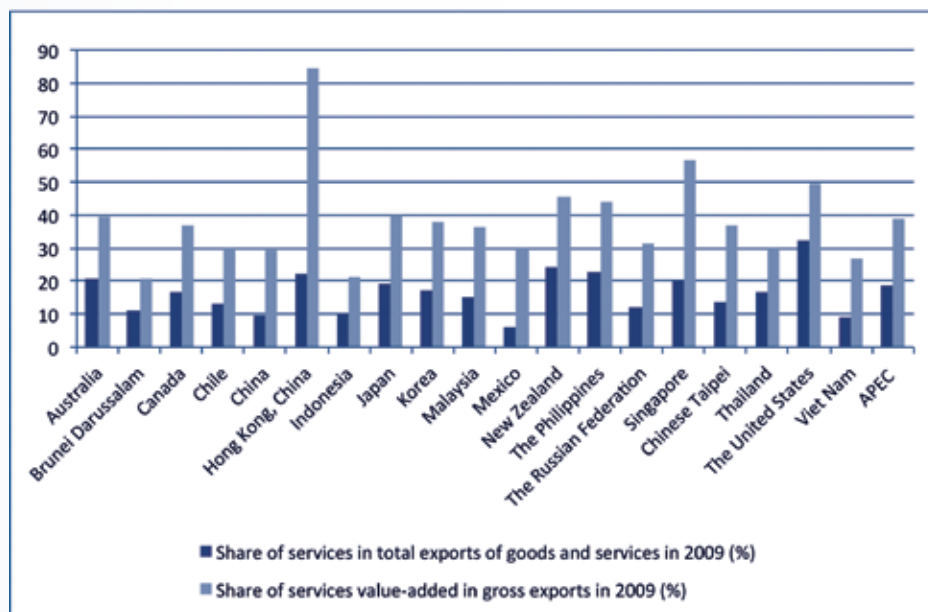
Table. Services in APEC, at a Glance

| | APEC economy with highest value | APEC as a whole |
|--|---------------------------------|-----------------|
| Share in GDP* | Hong Kong, China, 90% | 68% |
| Share in total exports of goods and services, 2009 | United States, 32% | 18.9% |
| Share in value-added trade, 2009 | Hong Kong, China, 84.6% | 39.1% |

Source: PSU computation based on OECD-WTO Trade in Value Added and UNCTAD Stat Database.

*In constant 2005 US Dollar, data is of 2011 and based on most recent available information from the UNCTAD database.

Figure. Importance of Services (in gross and in value-added terms)



Source: PSU computation based on OECD-WTO TIVA and UNCTAD Stat Database.

Note: APEC value in the figure does not include data from Papua New Guinea and Peru.

'Servicification' trend

Telecommunication, finance, transport, and distribution – all backbone service sectors – underpin supply chains, but this is only part of the picture. Services are used as inputs in every segment of the production process, including the pre-manufacturing and post-manufacturing portions of the supply chain. 'Servicification', the term that has been employed to denote the closer integration of services in manufacturing businesses, developed as advances in communications and transportation have made services more tradable, thus facilitating their incorporation in cross-border supply chain production. In addition, the bundling of services into composite products and the separation of the service activities in manufacturing from the core production function and then contracting out the same services inputs have enabled the 'quantification' of services' contribution. Services inputs that used to be supplied in-house and not at arms-length have for long been either uncounted or misrepresented as part of goods. But with modularization, services have become a separate recognizable and measurable quantity, albeit still imperfectly.

What APEC has done on services

A look at APEC projects with services-related content reveals that, between 2006 and 2012, 38% of APEC-funded projects have been related to services. Most of these activities have been workshops and capacity building seminars which represent 24% of APEC

projects, while others have been carried out in the form of research studies or survey and database projects. The service sectoral working groups like the Energy Working Group, Transportation Working Group, and Telecommunications and Information Working Group have the majority of services-related projects according to our count. The Human Resources Development Working Group's work on education as well as professional services also has taken a good share of the projects related to services. All the capacity building work in services-related areas, serves an important purpose of increasing understanding of services and encouraging APEC economies to perceive services sector reform to be in their own economic interest.

Overall, APEC has done a good amount of work related to services but this has not been recognized under the specific banner of an 'APEC services program'. The programs and projects carried out related to services in APEC have mostly been focused on specific sectors, without an overall framework. Thus this work did not get as high a profile as other programs like, for instance, the trade facilitation initiative. Part of the reasons is the disperse character of the effort in services, with some initiatives taking place at the sectoral level or working groups, while others in APEC working groups or committees, where even there, the project is not immediately recognized as services work as such but somehow hidden under programs like 'regulatory reform' or 'behind-the-border issues'.

Recommendations

Since prior APEC services-related programs and initiatives have had no unifying banner, or common framework under which they have been treated, it may be good to consider establishing a new 'Services Initiative' as discussed above. The 'Services Initiative' would be overseen directly by the APEC Senior Officials in acknowledgement of the cross-sectoral and cross-committee issues that require a comprehensive policy direction. This would raise both the profile and the impact of APEC's work on services for its member economies.

Going forward, APEC could discuss issues on services such as finance for supply chain operations, services barriers, investment in services, and movement of natural persons. APEC could also look into the so-called 'sectoral orphans'; sectors that seldom attract attention, yet they are no less important for the service-manufacturing intertwining. These include maintenance and repair services, or services incidental to manufacturing, research and development. A stocktake of barriers within APEC economies in these 'sectoral orphans' would be helpful if APEC wants to support prevailing business models of servicification as well as promote the participation of SMEs in services in the global value chains.

Services and Manufacturing: Patterns of Linkages

Series: Policy Brief No. 10
Publication Number:
APEC#214-SE-01.12
Published Date: July 2014
Full Report: 7 pages

This policy brief discusses the nature of services-manufacturing linkage and how services' role in manufacturing had increased. Business services, it appears, is a dominant services input in manufacturing and is also discussed, including the various regulations in the sector that can act as barriers to trade. The policy brief concludes with implications for trade policy.

Findings & Recommendations

Producer or consumer services, embodied and embedded: what's in a name?

Regardless of how services are named, producer or consumer services, embodied or embedded, the fact is that services' presence in manufacturing is pervasive. Previously, the value of services for manufacturing went unnoticed because they were mostly provided in-house (hence without separately available contract price and value); most were even considered cost centers (compared to

revenue centers) with the corresponding undervaluation of its contribution to overall corporate profitability. But modularization of production and outsourcing of some of the services 'tasks' made possible the emergence of more data on services contribution to the value chain, and this turned out to be quite significant.

Services trade in GVCs: the data

Based on the WTO-OECD Trade in Value Added (TiVA) database, world exports of services, in gross terms, comprise about 22% of total world exports, manufacturing 71% and primary products 7%. But if services' value added contribution in manufacturing, as described above, is taken into account, services exports value added increase to 46% of world exports while manufacturing exports' share goes down to 43%, and primary products share increases to 11%.

For APEC as a whole, services' share in manufacturing rose from 25.5% in 1995 to 27.5% in 2009, an increase of USD 702 billion over 14 years.

Services' value added share increased across all manufacturing sectors, except in textiles, textile products, leather and footwear. The top three manufacturing sectors that exhibit the largest increase in services value added shares are: wood, paper, paper products, printing and publishing; transport equipment; and

food products, beverages and tobacco, posting 6.7, 3.8, and 3.5 percentage points increase, respectively.

Indirect services inputs in manufacturing in APEC as a whole is 65% domestic and 35% foreign, of which 22% are from other APEC economies while 13% come from non-APEC economies. On a per manufacturing industry basis, wood, paper, paper products, printing and publishing contain the largest indirect domestic services value added with 24% share, while electrical and optical equipment sector has the largest foreign services value added with 14% share.

Importance of business services

Within services, different sectors show varying export growth. The below table shows that business services exhibit the largest compounded annual growth of direct export of 8.5% while construction services grew only by 2.3%. However indirect exports growth through value added share in manufacturing exports range from 5.8% for construction services to 8.1% for 'other services' sector. Among the service sectors, business services have, the highest share amounting to 33% of total services value added share in manufacturing in 2009, of which 20% are domestic and 13% are foreign, outpacing 'wholesale and retail trade; hotels and restaurants' sector which has a share of 30%.

Table. Growth of Service Exports

| | Direct exports | | | Indirect through manufacturing | | |
|---|-----------------------|-----------------------|-------------|--------------------------------|-----------------------|-------------|
| | 1995 (USD billion) | 2009 (USD billion) | CAGR (%) | 1995 (USD billion) | 2009 (USD billion) | CAGR (%) |
| Construction | 1.39 | 1.91 | 2.31 | 8.52 | 18.84 | 5.83 |
| Wholesale and retail trade; hotels and restaurants | 103.27 | 265.16 | 6.97 | 157.80 | 356.37 | 5.99 |
| Transport and storage, post and telecommunication | 102.31 | 197.21 | 4.80 | 82.01 | 195.78 | 6.41 |
| Financial intermediation | 26.94 | 73.50 | 7.43 | 58.68 | 150.99 | 6.98 |
| Business services | 55.77 | 173.85 | 8.46 | 142.62 | 387.32 | 7.40 |
| Other services | 10.95 | 28.63 | 7.10 | 21.70 | 64.24 | 8.06 |

Source: PSU computation based on OECD-WTO TiVA and OECD Structural Analysis (STAN) database.

Implications for trade policy

This policy brief assesses the growing importance of services for manufacturing exports and finds that some service sectors like business services and distribution services have greater importance for manufacturing than other service sectors. Within business services, professional services and research and development have the most important contribution. The OECD restrictiveness index shows that restrictions on the movement of persons are the most important impediment in many service sectors, particularly in professional services. Foreign entry restrictions also contribute significantly to overall restrictiveness across service sectors. Restrictiveness in various professional services and other service sectors have negative correlation with exports of downstream industries

like manufacturing which makes an increasing use of services throughout its value chain operations, beginning from pre-production phase (design and research and development) to production (logistics, management, professional services inputs) and post-production phases (marketing services, repairs and maintenance, customer support).

The industry and sector data, though already showing increasing trend in services remain limited in describing the breadth and depth of services penetration in manufacturing. The WTO-OECD TiVA data, for example, cannot give further information on the importance of specific business services. Even if complemented by other economic tables like the input-output tables available in the OECD STAN database which are more disaggregated since industries are divided into 37 sectors

instead of 18 sectors in TiVA, the picture we get remains aggregated. For example, we know that 'other business activities' are important for business services, but there is no further information on how 'other business activities' are further divided into contribution of the different professional services and other components of this sub-classification.

In this regard, various efforts to collect case studies that map out various manufacturing sector's value chain seeking to understand where and how various services come into play are a good complement to the WTO-OECD work on TiVA database. These research can enhance understanding of specialized services which might have evaded classification to date and will enrich our appreciation for the contribution of services in innovation and productivity.

The increasing linkage between services and manufacturing also has implications on 'traditional' trade policy discussion of goods separate from services. Policymakers should increasingly think in terms of value chains, and thus of both goods and services at the same time when designing trade and economic policies. Liberalization in goods without services can stymie effort to increase overall competitiveness. Policies that affect supply chain costs and that influence the organization of value chains are regulatory in nature, and regulations are generated by a multiplicity of agencies. Understanding the influence of regulations on value chains means that domestic policymaking should preferably not be done in 'silos' but should increasingly be collaborative and coordinated across government agencies.

Voluntary Standards and Regulatory Approaches in Advertising in APEC Economies

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Regulations have a legitimate role to play in a market economy but it is important to know and understand what these are and how they differ from one another and from 'best practice' norms. In a global economy where advertising is usually relied upon to open acceptance and create demand for one economy's products in another's, the diversity of advertising regulations can potentially stymie such efforts. This paper contributes to the integration objectives among APEC member economies by providing a stocktake of advertising regulations and standards within APEC economies and comparing them with what is considered 'international best practice'. In addition, since in several economies, advertising regulations are largely carried out by the industry itself through self-regulatory organizations (SROs), the paper also assesses the capabilities of many of these organizations within the region.

Findings

Among the key findings are:

- APEC economies generally have public and/or private advertising regulations that address the general principles/provisions in the Consolidated ICC Code. However, differences exist in the number of principles/provisions that each economy addresses, the extent through which specific principle/provision is addressed by each economy, and among the media analyzed, namely broadcast, print and online media.
- Sectoral advertising regulations are more diverse across APEC economies. Regulations for a specific goods or service can vary from content restrictions to time (for broadcast media) and placement restrictions (for print and online media). But for certain product sectors such as tobacco, medical, and food products which tend to have more advertising regulations than others, it appears that APEC economies have a convergence of interests.
- The capability for advertising self-regulation among economies differs. Although 16 economies practice self-regulation, five are either without self-regulation or are in the process of implementing some form of self-regulation. In economies where SROs exist, there are differences on their level of adherence to what the paper took as international best practice benchmarks.

Recommendations

The initial dialogue on advertising through the APEC Regulatory Cooperation Advancement Mechanism on Trade-Related Standards and Technical Regulations (ARCAM) Dialogue had provided a good starting point for various stakeholders in the advertising industry to have honest and fruitful discussions on the regulatory challenges facing the industry. Moving on, similar activities that share best practices for both general and sectoral advertising regulations between economies to generate better understanding among member economies on the rationale behind the regulation, and how, in some respects, the regulations may act as technical barrier to trade, would be useful. Special attention may be put in these industry dialogues on regulating internet advertising considering its rising popularity as an advertising medium. APEC's position as a multilateral forum in the Asia-Pacific region may be a good platform to address the cross-border nature of internet advertising.

Given the important role of SROs often in drafting, promulgating, and enforcing advertising regulations, capacity-building workshops helping SROs in APEC economies enhance their capabilities would also be valuable. Based on the paper's analysis of SRO capabilities, particular emphasis on the following areas might give the highest marginal benefit, viz: (1) efficient compliance and monitoring; (2) effective consumer and industry awareness; and (3) efficient and resourced administration.



Structural Reform

APEC's Ease of Doing Business: Interim Assessment 2009-2013

Publication Number:
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Published Date: September 2014
Full Report: 63 pages

Launched in 2009, APEC's Ease of Doing Business (EoDB) initiative aspires to improve APEC's performance by 25% in five key areas of doing business by 2015, namely: (1) Starting a Business; (2) Dealing with Construction Permits; (3) Getting Credit; (4) Trading Across Borders; and (5) Enforcing Contracts.

Since 2011, PSU in collaboration with the APEC Economic Committee, has been preparing annual interim assessments to measure APEC's progress towards the 25% goal. This report analyzes the

accumulated progress by the APEC region during the period 2009-2013.

Findings & Recommendations

Using the updated dataset, the interim assessment confirms that APEC has been making continuous overall progress in the EoDB initiative since its inception. During the period 2009-2013, APEC's combined improvement across the five EoDB priority areas was equal to 11.3%, but progress remained below the 2013 pro rata benchmark of 15% improvement.

Table. APEC: Accumulated Overall Progress of Ease of Doing Business Initiative (Average Values)

| Improvement | Starting a Business | Dealing with Construction Permits | Getting Credit | Trading Across Borders | Enforcing Contracts | Overall Progress | Benchmark |
|-------------|---------------------|-----------------------------------|----------------|------------------------|---------------------|------------------|-----------|
| 2009 – 2010 | 6.3 | 3.3 | 1.8 | 1.4 | 0.0 | 2.6 | 2.5 |
| 2009 – 2011 | 17.1 | 6.9 | 3.3 | 2.7 | 0.4 | 6.1 | 5.0 |
| 2009 – 2012 | 22.8 | 15.7 | 4.0 | 2.5 | 0.1 | 9.0 | 10.0 |
| 2009 - 2013 | 27.3 | 19.8 | 6.6 | 2.6 | 0.2 | 11.3 | 15.0 |

Source: PSU calculations using data from World Bank, Doing Business 2014 and updates to Doing Business database.
Note: Figures in percentage values. Improvements are shown with positive values.

The priority areas of Starting a Business and Dealing with Construction Permits showed the strongest accumulated improvements, making progress beyond the pro rata benchmark of 15%. In contrast, APEC's progress was relatively modest in areas such as Getting Credit and Trading Across Borders, and almost negligible in Enforcing Contracts. APEC's collective progress remained uneven among its members.

When analyzing the median values of APEC's EoDB indicators, the combined improvement of APEC's median values in all priority areas between 2009 and 2013 was equal to 8.9%, below the 11.3% progress rate measured by average values and 15% pro rata benchmark. Only the area of Starting a Business had an improvement in median values above this benchmark, but most of it took place between 2009 and 2011.

Table. APEC: Accumulated Overall Progress of Ease of Doing Business Initiative (Median Values)

| Improvement | Starting a Business | Dealing with Construction Permits | Getting Credit | Trading Across Borders | Enforcing Contracts | Overall Progress | Benchmark |
|-------------|---------------------|-----------------------------------|----------------|------------------------|---------------------|------------------|-----------|
| 2009 – 2010 | 6.8 | -2.6 | 5.1 | 2.7 | 0.0 | 2.4 | 2.5 |
| 2009 – 2011 | 22.0 | -5.7 | 3.4 | 5.0 | 0.0 | 4.9 | 5.0 |
| 2009 – 2012 | 23.0 | 4.6 | 4.5 | 5.0 | -0.3 | 7.4 | 10.0 |
| 2009 - 2013 | 23.0 | 9.5 | 5.0 | 6.5 | 0.5 | 8.9 | 15.0 |

Source: PSU calculations using data from World Bank, Doing Business 2014 and updates to Doing Business database.

Note: Figures in percentage values. Improvements are shown with positive values.

Dealing with Construction Permits was the area with the most striking difference between its average and median values - whilst average values improved 19.8% between 2009 and 2013, median values only rose 9.5% over the same period. The raw data shows that most of APEC's progress in this priority area was explained by those economies that did not perform well in 2009.

The comparison of APEC's overall progress with their pro rata benchmarks across time shows that despite the collective progress achieved so far, APEC is not keeping pace to achieve the

25% improvement target by 2015. The gap between the overall progress rates and the annual pro rata improvement targets has increased in the last two years. APEC's collective improvement of 11.3%, measured by the average values in the 2009-2013 period was good, but progress needs to be stronger and more widely spread across all APEC member economies.

This report also shows that APEC's progress vis-à-vis that of the rest of the world was remarkable, but in some specific EoDB indicators certain regions were performing better than APEC. For

example, in 2013, it took on average 21 days to start a business in the APEC region, but it only took 12 days in Eastern Europe and Central Asia. It is possible to assert here that there is more room for improvement.

APEC needs to intensify its efforts to get closer to the 2015 target. For that to happen, it is important that APEC continues with the implementation of capacity-building activities to assist government officials in identifying best practices and ways to promote reforms and make it easier, faster and cheaper to do business in the APEC region.

Regulatory Reform - Case Studies on Promoting Innovation

Publication Number:
APEC#214-SE-01.21
Published Date: October 2014
Full Report: 99 pages

This report contains case studies that investigate the role of regulatory reforms and practices in the promotion of innovation. The three case studies cover intellectual property regulation in Korea; clinical trials regulation in Malaysia; and water regulation in Australia and Singapore.

Findings

Key conclusions emerging from the case studies are as follows:

- Leadership has been important in the initiation of regulatory change – in response to global issues in the case of Korea and Malaysia, and in response to resource constraints for both Australia and Singapore.
- Policymakers need to consider the impact on innovation of their regulations and identify the common links with industry policy in order to harness this innovation to enhance economic benefit.
- Regulation is a process rather than an event and is most effective when coupled with education campaigns prior to enforcement of compliance regimes.

- Institutional structures need to engage all relevant parties but can take many forms.
- All case studies show some compliance to best practice regulation, but none meets all the Good Regulatory Practices criteria discussed within APEC and included in the OECD-APEC checklist.

Recommendations

Recommendation for policymakers are:

- Policymakers need to consider the potential effect of new regulations on innovation and economic development, and actively monitor their impacts. As the three case studies have shown, there is potential for regulation to affect innovation, both positively and negatively, and hence overall economic growth. Policymakers need to consider potential impacts of regulation on innovation and establish systems to measure such impacts, and to make changes to the regulation or its administration should the overall impact be negative.

The establishment of monitoring measures is best done at the time of implementing the regulation, so that indicators can be objective and statistics can be collected from when the new regulation is implemented. In Malaysia, for example, statistics collected by the national regulator are forming the basis of reports to the Prime Minister's Department on progress in meeting the goals set for increasing clinical trials under the Third Industrial Master Plan.

- Where a regulation has the potential to promote innovation, industry policy needs to be harnessed to initiate industry change. The Korean case study has shown that regulation can have no impact on innovation until some other events happen to initiate a change in the industry. This is also the case in Malaysia where international regulatory harmonization has limited impact until the economy's leaders decided to promote capacity development in clinical trials – from then on, economic capacity started to increase, enabled by the regulatory framework.
- New or amended regulations should be preceded by industry and public consultation and the impact on both needs to be continually monitored so that the administration can be adjusted to support compliance and industry development. In Singapore, public and industry education campaigns have preceded the introduction of new water regulations so that there is general acceptance when the new law is finally enforced. While Korea has implemented regulatory changes without substantial public and industry consultation, the Korean Intellectual Property Office is monitoring the impact of such changes on SMEs and is amending its patent law administration to minimize negative effects and costs for SMEs.
- Policymakers need to implement formal review processes to help SMEs to provide input to regulatory evaluations.

As seen from the Korean case study, regulatory review systems can be skewed towards larger companies which have the capacity to interact at senior levels of government. This issue is better addressed in Malaysia, where formal committees provide clear avenues for industry input and include provision for smaller players to provide comments

- End-point impact measures need to be identified during regulatory development (possibly through inclusion in formal Regulatory Impact Statements) so broader impacts on society and the environment can be effectively measured. In Australia, a Regulatory Impact Statement has become a part of standard government practice when considering new regulations. The purpose is to provide evidence of key steps taken during the development of a proposal, including consultation with key stakeholders, and to assess the costs and benefits of different options under consideration. Development of a Regulatory Impact Statement prior to introduction of new regulations enables governments to not only consider longer term impacts but also provides a framework for identification of impact measures that can help agencies measure such impacts in both the short and long term.
- Policymakers need to avoid or manage regulatory gaps in order to enhance both understanding and compliance.

The Australian case study provides an excellent example of how gaps in regulatory coverage can cause confusion amongst those that are being asked to implement it or comply with it. The Victorian government has addressed this through the establishment of the Office of Living Victoria (OLV); however OLV's recent abolition calls into question the capacity for the current responsible agency, the Department of Environment and Primary Industries, to manage engagement with its key target audience who are urban planners. In the other case studies, the national operation of the regulations minimizes these gaps. The overlap with APEC's trade agenda also needs to be considered – harmonization is made more difficult when there are gaps in the regulatory framework.

- Policymakers must actively enforce regulations to ensure compliance and to enhance capacity. The case studies show the impact of effective enforcement of regulation, in particular the comparison between Indonesia's and Malaysia's approach to clinical trial regulation. In the latter case, strong enforcement has enhanced economic capacity to conduct clinical trials. Similarly, in Singapore, enforcement of new water re-use regulations provided the impetus for enhanced capacity in both research institutions and industry and the eventual creation of significant industrial capacity in Singapore's economy.

- Relevant APEC committees, working groups and fora should work together to address the impact of regulations so that their impact on specific industries can be better understood. While the focus of these case studies has been on the OECD-APEC Good Regulatory Practices Criteria, the studies are also relevant to a number of working groups. There is potential for the working groups to work together to consider the issues raised in this report, possibly led by the APEC Economic Committee (EC). There is also potential for the EC to coordinate the work at the other fora such as the Small and Medium Enterprises Working Group; Life Sciences Innovation Forum; Intellectual Property Rights Experts' Group; and Policy Partnership on Science, Technology and Innovation.



Connectivity Including Supply Chain Connectivity & Global Supply Chains

Report to Implement the APEC Connectivity Blueprint

Publication Number:
APEC#214-SE-01.15
Published Date: November 2014
Full Report: 74 pages

The Report to Implement the APEC Connectivity Blueprint was prepared by SOM Friends of the Chair on Connectivity and the Policy Support Unit to support the implementation of the APEC Connectivity Blueprint for 2015-2025, which APEC Leaders endorsed in Beijing in November 2014. It reviews the background and rationale, and goals and objectives of APEC's connectivity agenda. It also discusses the achievements and challenges in the three pillars of connectivity—physical, institutional and people-to-people; strategies for implementation; and monitoring and evaluation mechanism.

Findings & Recommendations

The overarching goal of the APEC Connectivity Blueprint is to strengthen physical, institutional, and people-to-people connectivity by taking agreed actions and meeting agreed targets by 2025, with the objective of achieving a seamless and comprehensively connected and integrated Asia-Pacific. The report recognizes that to achieve this would require a combination of ambitious targets with concrete initiatives.

Firstly, 'initiatives supporting the blueprint' will provide APEC economies and related fora the scope to implement new initiatives and broaden the range of activities considered under the blueprint. The blueprint will also create a platform within APEC for forward-looking, crosscutting initiatives that currently exist only within a single committee or working group and that can be brought to a higher level of implementation.

Annex A of the report provides a list of domestic and regional initiatives that are pursued by member economies and fora. This information is gathered through a request for information exercise from March to June 2014, with submissions from 19 economies and 17 fora, comprising 131 items for physical connectivity, 253 items for institutional connectivity, and 147 for people-to-people connectivity. The exercise shows that APEC economies and

fora have already done significant work in improving connectivity in the region. The information collected will also serve as a useful reference when considering new connectivity initiatives.

Secondly, the 'connectivity targets' will be specific to each pillar, providing a specific, measurable outcome for APEC to achieve. As each pillar requires a unique focus and has differing requirements as implementation unfolds, the specific targets will provide a long-term goal to help steer work streams over the blueprint's lifetime. A list of initial targets is available in Annex B of the report.

The report also has a section on strategies for implementing the blueprint, among which are to engage with the APEC Business Advisory Council (ABAC) and private sector and to achieve synergy with other forums. The development and implementation of connectivity initiatives will require a significant amount of information on needs, gaps, and imbalances. Information will be needed on what infrastructure projects are needed, what gaps exist in institutional frameworks, and where skills imbalances lie in the labor market. Equally important is information on expectations and direction. While governments may make great efforts to gather this information, the best source is the private sector. In this regard, ABAC, the policy partnerships, and the industry dialogues, can contribute

significantly by providing private sector feedback or insight on market needs, trends and expectations.

The private sector, with coordination from ABAC, can also provide direct support for many of the more bankable connectivity initiatives done in the region. In addition to public-private partnerships (PPP) for infrastructure projects, the private sector could help support capacity building programs as well as educational and cultural exchanges. They could also help in proposing and producing connectivity-enhancing innovations in the region.

Furthermore, in view that many international organizations have the same focus and interest in tackling connectivity issues, the report suggests that APEC should continue its involvement and participation with relevant international organizations and regional groupings to get the latest developments on relevant policy experiences as well as in seeking capacity building opportunities. Examples of other international organizations' and regional groupings' activities under each of the three connectivity pillars can be found in Annex D of the report.

2014 External Indicators Update for the Supply Chain Connectivity Framework Action Plan

Publication Number:
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Full Report: 37 pages

This report updates the progress of the Supply Chain Connectivity Framework Action Plan (SCFAP) which aims to achieve a 10% improvement in time, costs and uncertainty by 2015. The updates were based on agreed external indicators and included recent figures from these reports, namely: Logistics Performance Index (LPI) 2014; Global Enabling Trade Report (GETR) 2014; and Doing Business (DB) 2014.

Findings

Overall the updated results for the external indicators for SCFAP indicate good progress in some areas. There is a very strong improvement in quantitative indicators for time as well as in the documentation indicators – which point to reduction in complexity. Delays and burdensome documentation/procedures increase transaction costs by 1–15% of the value of world trade (OECD 2009). As

such, time spent for trade transactions could also be considered as a cost.

For cost figures, nominal indicators show an increase in costs over the years—a concern as to whether APEC would be on track to achieve the 10% reduction in costs by 2015. Nevertheless, using costs figures that have been adjusted for inflation, APEC figures show some progress.

Recommendations

In addition to efficiency measures to reduce costs, potential areas for improvement for APEC will be on the access to good quality transport infrastructures and services, logistics services and import-export procedures. The World Bank (2014) report on Chokepoint 2 of the SCFAP proposed the use of “informed infrastructure” concept to guide infrastructure planning, development and investment. This means that decisions with regards to infrastructure should be made based on a rigorous and holistic understanding of the impacts and benefits of a proposed infrastructure project, particularly in the context of global value chains.

For logistics services, Tongzon (2004) highlighted eight key determinants of competitiveness in logistics. APEC's performance for port (terminal) operation efficiency level is in good standing, based on the time indicators of LPI and ETI. However, APEC would need to

further improve its competitiveness in freight charges and focus on multi-modal connectivity. Also important is to support a competitive environment and to push for a more rigorous structural reform in transport and logistics services to ensure efficiency and reliability.

For maritime, PSU (2011) study found that a shift towards full liberalization in dimensions such as cabotage, cargo handling and form of ownership for all APEC economies has the potential to reduce maritime freight rates by about 20% on average. For air, using the WTO Air Liberalization Index concept, Piermartini and Rousová (2008) found that by increasing the degree of liberalization from 25th to 75th percentile, passenger traffic would increase by approximately 30%. Grosso (2010) concluded that for APEC, the suggested route is to follow the plurilateral approach in the case of reforming the aviation sector in order to reduce discrimination and minimize distortions.

As for import-export procedures, APEC should further support the implementation of WTO Trade Facilitation Agreement (TFA) to further maximize the benefits from Trade Facilitation for the business community. OECD (2014) estimated that full implementation of the TFA could reduce trade costs by between 12.9% and 14.1%, while limited implementation should bring down the costs by between 11.7% and 12.1%.

Quantitative Analysis on Value Chain Risks in the APEC Region (Phase 1 of 4)

Publication Number:
APEC#214-SE-01.8
Published Date: April 2014
Full Report: 54 pages

This project is the first of a four-phased project on value chain resilience, which aims to examine interconnected issues affecting the decision of global value chains to establish themselves in particular APEC economies, and their subsequent ability to grow and prosper. Phase 1 involves a quantitative analysis of Value Chain Risk in the APEC region; Phase 2 evaluates Value Chain Strength in the APEC region; Phase 3 evaluates Value Chain Connectedness in the region; and Phase 4 involves the creation of a comprehensive model to evaluate the possible impact of value chain resilience by utilizing results from the earlier three phases.

This report analyzes Value Chain Risk under five risk categories: (1) Natural disaster risks; (2) Logistics and infrastructure risks; (3) Market risks; (4) Regulatory risks; and (5) Political risks. Each category is discussed in terms of its connection with the overall concept of

Value Chain Risk. In addition to producing quantitative indices for each category of Value Chain Risk, the report also provides an Overall Value Chain Risk Index.

Findings & Recommendations

Results from the quantitative analysis show that the level of Value Chain Risk is, on average, low to moderate in the Asia-Pacific. Performance is comparable with that of the G-20, which, like APEC, is a group of economies at different income levels. Performance in terms of Value Chain Risk is generally stronger in more homogeneous groups of developed economies, such as the G-8 and the OECD. However, APEC performs comparably with the OECD group in the area of logistics and infrastructure risks. ASEAN, by contrast, is in all cases found to be a riskier environment for value chains than the other groups, including APEC.

A number of important policy implications flow from this report's findings:

- The analysis of Value Chain Risk and its importance for an increasingly common business model in the region suggest that trade and investment issues need to be viewed from the perspective of risk, as a complement to more traditional analysis. Reinforcement of ongoing efforts in APEC, such as the Supply Chain Connectivity Framework Action Plan, could be beneficial for regional economies.

- It is important to recognize that some types of Value Chain Risk—such as regulatory risk—are directly amenable to policy action. There is thus considerable scope for policymakers to contribute to the process of managing and mitigating risk. A likely consequence of taking steps to reduce policy-related Value Chain Risk is that the spread of value chains will be encouraged, with consequent positive implications for trade, investment, growth and employment.

- Although APEC economies exhibit, on average, a low to moderate level of risk, there is clear scope to reduce their Value Chain Risk profile further. The G-8 and the OECD—although made up exclusively of developed economies—display significantly lower Value Chain Risk scores in a number of risk categories. Concerted policy efforts, as well as learning from the experience of other economies in the region, are likely to prove beneficial in this regard.

Quantitative Analysis of Value Chain Strength in the APEC Region (Phase 2 of 4)

Publication Number:

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Published Date: July 2014

Full Report: 69 pages

Phase 2 of the project on value chain resilience examines the inverse of Value Chain Risk, i.e. Value Chain Strength, or the range of factors that determines an economy's ability to respond to risks and limit their economic and social impacts. Following the categories set out for Value Chain Risk in the Phase 1 report, Value Chain Strength is defined in terms of five dimensions: (1) Strength against natural disaster risks; (2) Strength against logistics and infrastructure risks; (3) Strength against market risks; (4) Strength against regulatory and policy risks; and (5) Strength against political risks.

Findings & Recommendations

The methodological strategy of this report is two-pronged. The quantitative section uses internationally-comparable data for APEC economies to measure performance in each area, and in all areas together through an overall index. Results indicate that APEC is generally a strong performer in each of the Value Chain Strength categories. It is hence unsurprising that the region's overall index score is also strong: it is higher than the scores of the G-20 and ASEAN, and comparable to the OECD and G-8 developed economy groups.

The qualitative section of the report complements the quantitative section by conducting dynamic case studies of three major value chain disruptions, from which the APEC region recovered rapidly: (1) the Global Financial Crisis of 2008-2009; (2) the Thailand floods of 2011; and (3) the Great Tohoku Earthquake of 2011. The focus of the case studies, by contrast with the public-sector variables favored by the quantitative analysis, is on private sector strategies. Results indicate that value chains in the Asia-Pacific are very robust, even to extreme shocks. Performance quickly returns to pre-crisis levels, which indicates that value chains are strong and resilient. However, a number of factors determine that overall result. One is substitution: lead firms sometimes switch

to different suppliers (firms or economies) when there are disruptions. It is therefore important to distinguish value chain resilience from the resilience of particular firms or economies taking part in value chains.

For example, a value chain as a whole can demonstrate resilience by changing suppliers if there is a disruption affecting an existing one; however, that existing supplier may not be able to recover itself from the disruption, because all or part of its market share has been acquired by another firm. Second, the nature of the shock is important (supply-side or demand-side). Firms respond differently in each case, although results show that APEC value chains are resilient to both kinds of disruption. Finally, the presence of product-, economy-, or value chain-specific investments is important as a determinant of value chain resilience. When lead firms have made significant investments, they have an interest in ensuring continued operation of the value chain after a shock. Encouraging such investments, through technology transfer or other linkages, for example, is therefore an important policy objective for many economies.

The first phase of this project concluded that APEC economies overall faced a moderate level of Value Chain Risk, but that particular action was required to deal

with some of those risks where levels were relatively higher. This second phase, focusing on Value Chain Strength, shows that APEC economies have indeed been active in this area. They have put in place supporting environments that enable their firms to effectively manage Value Chain Risk. The policy environment is supportive of a combined public-private approach to risk management, which makes it possible to conclude that the overall risk-strength balance in APEC is positively turned towards the greater establishment and development of value chains.

The conclusion to be drawn from the first two phases of this project is that although some risks are significant in the Asia-Pacific region due often to circumstances outside governments' control, the response has been a robust one, which results in a climate in which overall Value Chain Resilience appears to be strong relative to comparator regions. Indeed, APEC's performance appears to be on a par with some developed economy groupings, and is significantly better than that of regional partners made up primarily of developing economies.

In terms of policy implications, there are three main findings:

- Managing the occurrence of value chain risk is typically an activity that involves more than one economy. As a result, a regional approach in which

governments and firms coordinate their responses to the occurrence of risks is often appropriate.

- Although risk management is primarily a private sector activity, there is much that the public sector can do to put in place an environment that is conducive to reinforcing Value Chain Strength and promoting resilience.
- Although APEC's results on Value Chain Strength are generally very strong by world standards—and this is reflected in the rapidity with which its private operators resume and expand activity following negative events—it is necessary to ensure continuous improvement. APEC governments and firms need to work together to ensure that Value Chain Strength remains high, and increases over time.

Given the generally strong level of performance in the region, APEC economies are well placed to maintain and increase Value Chain Strength. These objectives fit well with broader APEC's work on trade and investment, such as improving connectivity in the region.

Evaluation of Value Chain Connectedness in the APEC Region (Phase 3 of 4)

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Full Report: 71 pages

The third of this four-phased project on value chain resilience applies a methodology that is firmly grounded in value chain activity as a complex, nonlinear, network phenomenon. To operationalize the concept of Connectedness, a concept is drawn from the network analysis literature in the social sciences and applied mathematics. Concretely, the connectedness of each economy is a weighted average of the connectedness of all other economies to which it is connected by a value added export flow. The weights in the average are export shares, namely the proportion of each economy's total exports that go to each other economy.

Connectedness calculated in this way has a second, economic interpretation that is of interest to policymakers. Economies that are more connected in the sense in which this report uses the term are

both more susceptible to the effects of economic shocks elsewhere in the trade network, and better able to recover from those shocks as activity picks up elsewhere.

Findings & Recommendations

Results using total value added trade as well as sectoral trade in electrical equipment, transport equipment, and business services show that the Asia-Pacific is relatively well placed in terms of its position in the global value added trade network. In particular, there is evidence that the region to some extent plays the role of a bridge connecting other parts of the world with each other, in addition to being an engine of value addition and trade in its own right. Although APEC economies are present in a variety of geographical, social, and economic settings, there is a certain cohesion among them in terms of the network of value added trade in the Asia-Pacific. This cohesion is consistent with the fact that the early development of value chains as a business model took place in the Asia-Pacific, and many have been operating and growing for a considerable period of time.

By comparison with other economic groups, APEC performs reasonably well in terms of Connectedness. The average level of Connectedness among APEC

members is considerably in excess of that of ASEAN, and is comparable to—indeed slightly greater than—that of the OECD. The G-8 and G-20 groups perform noticeably more strongly, however, largely due to the presence of European hubs that trade intensively among themselves, and, in some cases, with other regions of the world.

APEC is also notable for the very large degree of heterogeneity among member economies when it comes to Connectedness. APEC contains some of the best connected economies in the world, but also some relatively isolated ones. Moreover, there is a significant performance gap between developed and developing economies. Closing this gap, and ensuring that all APEC economies can participate fully in value chain activity, will be a policy priority going forward.

In addition to describing the network of value added trade and providing a quantitative evaluation of Connectedness, this report also looks at some of the policy factors that influence Connectedness.

- The results from the first two phases of the value chain resilience project—indices of Value Chain Risk and Value Chain Strength, respectively—

are shown to be highly relevant. As expected, value chains appear to have a strong preference for operating in environments where risk is relatively low, and there are sophisticated systems for risk management and response in both the public and private sectors. From a policy point of view, these results highlight the fact that it is important for the public sector to put in place appropriate policies to deal with the occurrence of risks, such as those identified in Phase 1 of this project. Although some risks are a factor of geography and geology, and thus cannot be controlled directly by policy, others are much more amenable to policy action. In addition, strength and resilience can be developed even in areas where the occurrence of risk is a purely natural phenomenon. The lesson from this report is that limiting and managing risk can potentially bring significant benefits in terms of improving an economy's position in global and regional value chains.

- Two other sets of policy factors are found to have a significant impact on Value Chain Connectedness: trade facilitation and logistics; and behind-the-border issues, such as contract enforcement. Both sets of policies reduce the cost of doing cross-border business for

value chains, and create a trade and investment environment where transactions are efficient, reasonably priced, rapid, and certain. Economies looking to improve their position in terms of Value Chain Connectedness could consider redoubling efforts in areas such as connectivity (which covers trade facilitation and logistics), and Ease of Doing Business (which covers many behind-the-border issues). APEC's initiatives in this regard are welcome, and provide the basis for productive work going forward.

Although Connectedness can bring many economic benefits, it is not without its risks. In particular, this report shows that economic downturns are transmitted more fully to more connected economies. A good example of the role of Connectedness in the transmission of economic shocks is the Great Trade Collapse that accompanied the 2008-2009 Global Financial Crisis. World merchandise exports dropped from a peak of USD 1.3 trillion in July 2008 to a trough of USD 795 billion in February 2009, a fall of over 40%. The report indicates that better connected economies suffered greater export declines as a result of the crisis. Value Chain Connectedness was clearly a factor that influenced the way in which the Great Trade Collapse was

transmitted among economies. On the flipside, those same economies recover more fully from those same downturns, because they are better able to take advantage of improving market conditions abroad.

The presence of risk is not, of course, a reason for limiting Connectedness. It is an incentive for policymakers to adopt appropriate systems to manage the risks that greater economic integration bring. In policy terms, measures such as social safety nets are important to ensure that markets can operate efficiently, but workers and their families are cushioned from some of the most negative impacts that some market events can have. More generally, sound macroeconomic policies—accounts at or close to balance, adequate but not excessive foreign reserves, appropriately flexible exchange rates, and reliable domestic consumer demand—can help manage the risks, and maximize the benefits, that come with greater Value Chain Connectedness.

Enhanced Resiliency of Cross-Border Value Chains: Impact Evaluation for the Asia-Pacific (Phase 4 of 4)

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Full Report: 51 pages

This report presents results from the final phase of the project on value chain resilience (VCR). The first three phases represent standalone research products, but were also designed to be inputs into this, the final phase. In essence, this report develops a methodology for linking Value Chain Risk, Strength, and Connectedness to a complex model of the global economy. A global Computable General Equilibrium (CGE) model is then used to perform counterfactual simulations based on various scenarios of VCR improvement. Outputs include indications of the impact of VCR changes on important economic indicators such as GDP, exports, imports, investment, and wages.

Findings & Recommendations

Phases 1 and 2 of this project concluded that although APEC economies face on average a moderate level of Value Chain Risk, they have well developed capacities to respond to it through robust Value Chain Strength mechanisms. Both characteristics of value chain trade in the region are reflected in APEC's Value Chain Connectedness, which was analyzed in Phase 3 of this project.

Phases 1-3 were primarily descriptive and diagnostic. This final phase has examined in more detail the economic stakes of VCR, focusing on the three indices developed earlier. It has combined an econometric model with a global CGE model to provide estimates of the economic impact of three reform scenarios, and one negative external shock scenario. All results are counterfactual simulations, not forecasts, and assume that all other exogenous factors remain constant. In other words, they examine the direction of change in key economic variables under a selection of hypothetical scenarios based on assumed changes in VCR variables from the current baseline. A comparison of results across scenarios reveals a number of features that are important from a policy point of view.

- Improving VCR in the region could have major economic gains. The simulations conducted suggest that a 5% improvement in VCR could be associated with a comparative static

increase in GDP of USD 300 billion. Trade (summing exports and imports) would increase by USD 827 billion. In addition, there is suggestive evidence that investment, possibly including FDI, would also increase substantially. This kind of expansion in value chain trade would put upwards pressure on wages, and probably employment in labor surplus economies. From a development point of view, it is important to note that the effects on skilled and unskilled labor appear to be quite similar, which suggests that growth would be socially inclusive.

- The economic gains from VCR improvements are larger when the improvements are non-discriminatory, i.e. implemented on a most favored nation basis. The nature of most VCR improvements is indeed that they are non-discriminatory, but the role of measures such as regional trade arrangements in promoting Connectedness needs to be kept in perspective. APEC's open regionalism and emphasis on concerted unilateral action is the right one to move forward most effectively on VCR.
- The economic gains are larger with more ambitious reforms, even when a self-selected group of economies play a pathfinder role. As in most trade policy, the economic gains from improving VCR accrue primarily to those economies that reform, with spillover

effects to their trading partners and other economies. Individual economies interested in joining or moving up value chains therefore have a real interest in moving forward jointly or unilaterally on VCR. The wide variety of policy measures included in the Value Chain Risk and Value Chain Strength indices is suggestive of a broad set of levers that could be used by policymakers to improve VCR.

- APEC economies are on the whole quite resilient to negative events elsewhere in the world economy. When such events are localized—as in the simulation example used here—the effects on the region overall are relatively small. This finding is a reflection both of the inherent resilience of APEC value chains, and the diversity of APEC’s trading partners and the importance of intra-regional trade in the overall picture. Of course, APEC economies—like all other open economies—remain sensitive to major, worldwide shocks like the Global Financial Crisis. But as the case study on this shock in the Phase 2 report showed, APEC value chains tended to remain intact even as their activity level temporarily fell, and then they rebounded quickly. The overall message is that value chains are relatively resilient in the APEC region, which provides a good basis for moving forward should policymakers decide that improving VCR is a priority.

Integrating SMEs into Global Value Chains: Policy Principles and Best Practices

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Full Report: 68 pages

With global value chains (GVCs) playing a prominent role in the international trading system, integrating SMEs into GVCs brings benefits, but also faces challenges. This study follows a qualitative analysis that identifies the strengths, weaknesses, opportunities and threats for SMEs in the APEC region to participate in the value chains of five selected sectors. Due to the features and challenges pertaining to each sector, it is hard to suggest a list of ‘one size fits all’ policies to facilitate the participation of SMEs in GVCs. Instead, this study suggests some policy principles and best practices to increase the chances for SMEs to play an important role in GVCs.

Findings

SMEs in global value chains: Analysis of five selected sectors

The APEC Small and Medium Enterprises Working Group selected five sectors where SMEs have an interest in participating in the GVCs, namely: agriculture, food processing, automobile, electronics, and handicraft. Organized and governed by different types of lead firms, the five GVCs exhibit different features.

- **Agriculture:** This GVC is led by large wholesalers and retailers, and in certain cases, development agencies and non-profit organizations. Standards on safety, quality, size, shape and timely delivery are important and prevalent in this chain. Due to high perishability of agricultural products, investments focus on cold chain management and transportation.
- **Food processing:** This GVC is led by multinational food companies. As competition among lead firms increasingly lies in product differentiation and satisfaction of premium-paying consumers, it is moving towards consolidation. Although private food standards are growing in numbers and significance, food safety, food waste and food losses are prominent concerns.

- **Automobile:** This GVC has a few influential lead firms. Consolidation in this sector started as early as in the mid-1980s. Unlike other global value chains, the automobile value chain always centers in or clusters around major markets, which are mostly developed economies. Since the millennium, the rise of developing economies is evident, with automakers in developing economies gaining market power and car purchases growing exponentially.
- **Electronics:** This GVC has the most extensive geographical coverage. Multinational manufacturers are the lead firms in this chain. Contract manufacturers prevail in the electronics value chain, and large global suppliers provide lead firms with one-stop shopping solutions. A feature in the electronics market is that branded products are mostly sold in developed economies, while low-cost white-label products are becoming very popular in developing economies.
- **Handicraft:** This GVC is expanding strongly. Production agents are gaining market power and becoming the intrinsic lead firms. China and India, together with other Asian economies, are the major producers of handicraft products, and their positions are likely to be strengthened. Ecommerce plays a significant role in handicraft distribution.

Generally, MNCs set the 'rules of the game' in GVCs, and govern a multitude of SME suppliers. This paper discusses five governance structures: market, modular, relational, captive, and hierarchical. Although the five structures reflect distinct strategies, in reality, value chains are more complex, and show complicated configurations with combinations of several governance structures.

Before entering into a business relationship, MNCs will assess the SME suppliers on both hard and soft strengths. Hard strengths cover details such as product quality, product price, and product delivery; and soft strengths cover elements concerning financial soundness, production capacity, flexibility, geographical location, standards and certificates, ICT level of business operations, and talent and innovative capacity. In addition, MNCs need to take into consideration the internal and external factors contributing to the long-term success of the business relationship. The internal factors refer to the MNC's capacity to conduct a performance evaluation on SME suppliers and to establish supplier development programs. The external factors refer to the existence of a business-friendly environment, and the availability of physical and informational infrastructure.

SWOT analysis of the five selected sectors

Based on the understanding of GVCs in the five selected sectors, and the expectations and requirements of MNCs on SME suppliers, this paper uses the strengths, weaknesses, opportunities and threats (SWOT) analysis to compare prospects for SMEs to participate in the GVCs of the five sectors. The analysis shows that for SMEs in developed and newly-industrialized economies, the agriculture and electronics sectors offer the higher potential to participate in GVCs; and for SMEs in developing economies, the electronics and handicraft sectors offer better prospects.

However, since the analysis is derived from a generalized profile of SMEs in the APEC region, this conclusion should only be taken as an illustrative one. APEC economies are encouraged to conduct such analysis at the domestic level or at the industry or product level in order to identify potential to integrate domestic SMEs into GVCs.

Recommendations

APEC economies could consider the following policy principles and best practices to integrate SMEs into GVCs:

- Product attributes:
 - Set up exchange platforms such as trade fairs, conferences, forums, advisory centers or online platforms to bridge information gaps between MNCs and SMEs.
- Company attributes:
 - Promote supply chain finance and provide financial skills training to strengthen financial soundness.
 - Foster collaboration and clustering among SMEs to enhance production capacity.
 - Harmonize standards and conformance procedures, set up public certification systems, and provide training and technical assistance on qualification and certification processes to help SMEs meet standards and obtain certificates.
 - Provide integrated services, such as financing to obtain technology and training for adaptation.
 - Ensure macroeconomic stability, market openness, and transparency of rule of law.
 - Nurture a domestic ICT skill base in the workforce and establish technology hubs and incubation centers to improve ICT level of business operations.
 - Facilitate collaboration and dialogue

between universities and the private sector (including SMEs) and ensure MNCs compensate SMEs fairly for using the intellectual assets of SMEs to enhance talent and innovation capacity.

- External factors:
 - Strengthen local institutions to facilitate business activities and continue to implement trade facilitation and liberalization initiatives to create a favorable environment.
 - Develop both behind-the-border and across-the-border physical and informational infrastructure, and provide SME clusters and networks with access to suitable infrastructure.
 - Play an active role in managing risk and reducing impact of disasters, with initiatives to enhance regional supply chain resilience.

In summary, policies to integrate SMEs are needed on two levels: (1) on a general/horizontal level, economies should promote awareness and understanding of the benefits of GVCs; and (2) on an industry-specific level, economies should identify strengths, weaknesses, opportunities and threats for domestic SMEs to enter into GVCs, and assist SMEs with the relevant policy tools/packages.



Economic & Financial Analysis

Regulatory Issues affecting Trade and Supply Chain Finance

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Supply chain finance is one form of trade financing that has experienced rapid growth in recent years. Noting the current lack of globally agreed definition of supply chain finance, this paper takes the liberty to discuss two ways of understanding supply chain finance and the different policy issues under each. The paper also discusses regulations affecting cross-border transfer of data which can hamper the growth of information-intensive supply chain finance platforms.

Findings & Recommendations

Understanding supply chain finance #1

- Supply chain finance can be understood as 'financing the supply chain'. This may be akin to structured trade financing whereby financial institutions fund various stages of the trade transactions – from raw material sourcing to factory and production, to transport, to warehouse, to shipping, all the way up until the product reaches the buyer. Structuring trade financing means that financial institutions take care that they fund various stages while covering and mitigating their risks at each stage of the supply chain using various financing instruments.
- Various risks in the supply chain include performance risks (e.g., when the supplier delivers products with below par quality), credit risk (e.g., possible default of the borrower), warehousing risk (e.g., inventory losses, theft, fraud), transport risk (e.g., breakage, losses, accident). In addition, there are general risks affecting all stages of the supply chain such as political risk, price risk and other macroeconomic risks. Different risk mitigants also exist for each type of risk such as guarantees, fidelity insurance, credit risk insurance, transport insurance, and others.
- Structured trade financing relies heavily on asset based lending; usually uses the traded goods or underlying shipment as collateral, as well as invoice and approved payable. SMEs, usually with weak balance sheets, can therefore potentially benefit from financing that is asset based, especially if they have good products and high growth potential, and in addition, are linked to a global supply chain of a large buyer with very high credit rating.
- SMEs consider access to finance as very significant obstacles to business growth. Many of them are unbanked and rely for working capital financing from sources other than banks. Those that are part of global supply chains are also increasingly squeezed by the increasing use of open account trade financing and the tendency of large buyers to demand for longer payment terms.
- On the creditors side, survey of financial institutions that was carried out for this paper reveals that, besides credit risk, the major reasons for rejecting trade financing proposals relate to compliance risks associated with know-your-customer (KYC) requirements, customer due diligence (CDD), financial crime risk, as well as performance risk. Performance issue constitutes the most number of UNCITRAL litigation cases.

- Creditors find lack of title document, inadequate, inaccurate, and fraudulent documents, and stringent insurance policies as major problems related to the transportation stage of the supply chain. Warehousing challenges in APEC include insufficiency of fidelity insurance to cover liabilities of warehouse operators and/or collateral management companies, inadequate standards of collateral management companies, unreliability of warehouse receipts as title document.
- On institutions and legal framework, creditors cite as major challenges lack of laws on warehouse receipts as well as inadequate scope of assets that can be used as collaterals for financing purpose, and absence of centralized collateral registries in some economies to ascertain priority of security interests. The paper explores details of the institutional and legal framework that is prevailing in APEC economies as well as reforms that have been undertaken based on data from World Bank Doing Business to complement findings from the creditors' survey. Several economies have already changed their regulatory framework to establish centralized collateral registries, improve access to those information, as well as expand the scope of movable assets that can be used as collateral.
- Of the various policy reforms, the paper highlights the need to improve warehousing capacity in the region through standard setting and licensing of collateral management companies, and if possible, the recognition of warehouse receipts as title documents which can be registered in collateral registries. The growth of fidelity insurance to cover losses from warehousing activity should also be supported.
- Accession to international conventions such as Choice of Court Conventions or UN Convention on the Assignment of Receivables in International Trade may also help improve the reliability of enforcement of security interests.

Understanding supply chain finance #2

- Another way of understanding supply chain finance is as a specific financing vehicle to support buyer-seller supply chain whereby sellers (suppliers), especially SMEs, are able to obtain cheaper financing on the back of the creditworthiness of the buyer, usually large corporates or MNCs. This is the so-called buyer-centric supply chain finance.
- This form of financing makes heavy use of accounts receivables for financing suppliers, either through outright

purchase (at a discount) or through provisions of trade credit line using account receivables from highly rated buyers as collaterals. Purchase order, supply contract agreement, invoice are likewise used as suitable collateral for supply chain financing.

- Supply chain finance helps improve buyer-seller relationship. Buyers are able to maximize its days payable outstanding (DPO) i.e., have long payment terms, even as suppliers get paid earlier at the same time through the supply chain finance funding bank. Albeit paid at a discount, suppliers still find this financing cheaper compared to other available alternatives whereby they seek funding based only on their own credit rating. For buyers, supply chain finance helps them manage strategic supplier relationship in a win/win fashion including by enabling access to affordable financing.
- Supply chain finance has experienced rapid growth but for a wider adoption, attention should be directed to various regulatory issues that are hampering its development. The paper discussed these challenges. Initially, one of the major threat to the availability of trade and supply chain financing was the high capital cost imposed by Basel 3 regulations on all bank lending including trade financing. These regulations

have been adjusted since on account of evidence of low default and loss rates of trade finance instruments. But potential challenges remain from possible regulatory arbitrage due to uneven implementation of Basel rules across economies.

- Other major challenges to trade and supply chain financing pertain to difficulties of onboarding suppliers in the supply chain finance platform due to lack of ICT infrastructure in certain markets, relationship and trust issues between buyer and seller, as well as stringent KYC and CDD rules.
- Huge fines of financial institutions related to compliance violations have resulted to overcautiousness by banks and termination of many correspondent banking relationships. The rupture in the global correspondent banking network is detrimental particularly to some economies, leading to their exclusion from cheap global finance flows. Presumably, the effect on SME finance access is likewise dire due to the increased cost of compliance.
- At a minimum, the paper suggests the creation of a government-authenticated centralized database in each economy where KYC-relevant company information are stored and which can be accessed by financial institutions

to ease the burden of executing KYC/CDD. Any facilitating action will, hopefully, minimize financial exclusion resulting from the heavy compliance burden and overcautious stance of financial institutions.

- Another important inhibitor to the growth of supply chain finance is the growing discussions on prohibition of transferring data cross-border. The paper cautions about the cross-border data transfer restriction which could prevent the adoption and implementation of new innovative instruments like supply chain finance. Cross-border data transfer regulation is the new non-tariff measure that will challenge the trade community in the foreseeable future.

Asia Region Funds Passport: A Study of Potential Economic Benefits and Costs

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This project evaluates the business case for introducing the Asia Region Funds Passport (ARFP) into Asia. It examines the current state of the mutual funds industry in order to evaluate the benefits that ARFP can bring into the region. The potential gains from ARFP are assessed against the potential risks so that decision makers can implement specific measures to maximize the net benefits.

Findings & Recommendations

Mutual funds industries in Asia: Current landscape and dynamics

- Since the 1980s, Asian financial wealth has increased at an impressive rate, riding on the region's strong economic performance. As of 2012, Asia had become the second wealthiest region in the world, collectively holding USD 45.2 trillion, equivalent to 33% of global financial wealth. The asset management industry in Asia has not fully profited from the region's rising prosperity. In 2012, Asia's total assets

under management (AuM) amounted to only 16% of the world's AuM (Boston Consulting Group 2013).

- The Asian funds industry is characterized by a large degree of diversity in terms of the pace of development and the size of the market. The mutual funds industries in Australia; Hong Kong, China; Korea; Japan; Singapore; and Chinese Taipei are relatively well developed. Some markets also are of significant size. Australia's industry, with USD 1,677 billion AuM, is the third largest in the world. At the other end of the scale, the funds industries in Indonesia and the Philippines are small, not only in terms of the absolute size but also in relation to their GDP.
- Asia as a whole holds about 15% of European fund assets. In some of Asia's more open fund markets, there is evidence of a strong appetite for offshore funds as a way to diversify investor portfolios. Some markets, however, impose restrictions on the offer of offshore funds. In these markets, a majority of funds are invested in local funds, highlighting a large concentration of risk and a lack of alternative investment options for investors.
- In general, Asian-domiciled funds have been disproportionately disadvantaged from benefiting the region's growing demand for cross-border funds. In 2011, Asian funds accounted for USD

400 billion of cross-border funds traded in Asia. This is less than the USD 500 billion of Undertakings for Collective Investment in Transferable Securities (UCITS) products traded in Hong Kong, China; Singapore; and Chinese Taipei. In comparison, UCITS funds accounted for 71% of the EUR 9,3922 billion European funds market (European Fund and Asset Management Association 2013).

- Empirical evidence from the US shows that the total expense ratio (TER) – a proxy for the costs to manage funds – has an inverse relationship with fund size. The large size of the US funds market, together with a well-developed funds management industry, has allowed the industry to achieve economies of scale. An examination of the relationship between TER and fund size in some key funds industries in Asia also reveals that only some markets are equipped to attain economies of scale.

Potential gains

- Improving efficiency from ARFP can save Asian investors USD 20 billion per annum in fund management costs: Once ARFP has been established, fund managers in a participating economy will be able to offer a single fund across multiple markets. It is expected that the resulting larger client base will grow the fund size sufficiently to realize economies of scale. Using a conservative assumption of 20% increase per annum in AuM over the five years following the introduction of

ARFP, a simulation exercise shows that almost all Asian funds markets studied in this report would achieve better efficiency, quantifiable in terms of TER reductions. An extrapolation exercise also indicates that if the current costs of managing funds in the Asian region can be lowered by only 20 basis points, a saving of more than USD 20 billion per annum can be achieved.

- ARFP offers better fund performance in the form of higher returns for investment at the same or lower degree of risk: The benefits of a more optimal portfolio can be transferred to investors in the form of better returns for risks. For example, under ARFP, for every 1% increase in volatility, the expected returns increase by 2.3%. In comparison, for every 1% increase in volatility, the expected returns increase by only 0.22% in China or 0.9% in Korea. The Sharpe ratios for selected Asian markets provide another assessment of the performance of these industries from a risk-return perspective. Typically, a low Sharpe ratio indicates that the risk is too high for achieved returns. High Sharpe ratios indicate that the returns are in excess of the low risks assumed. A simulation exercise estimates that the Sharpe ratio for ARFP would be 2.77, higher than that of any individual Asian local product.

- ARFP can potentially create 170,000 jobs in Asia and promote sustainable economic development by facilitating the region's savings toward productive investment: ARFP can bring significant benefits to the wider regional and global economies. By helping to channel resources from surplus markets to markets where capitals are in short supply, ARFP will support the recycling of savings towards productive investments that are critical for Asia's future economic growth. The benefits can also extend beyond financing investment needs. ARFP can introduce to local funds industries foreign technical know-how, competitive pricing and higher standards of disclosure and performance. These promote efficiencies in the local fund industries, resulting in greater global competitiveness of the Asian funds management industry.

Under the right environment, the thriving of the asset management industry can become a vital source of growth in itself. One of the measureable contributions of ARFP to the economy is the potential increase in employment numbers in the funds industries in Asia. An essential feature of ARFP is that it will increase the demand for funds to be domiciled in Asia. This would offer increased job opportunities, not only to manage the funds but also to service the fund structure. It is estimated that for every one full-time employee working directly

in the asset management industry for a locally domiciled fund, there are 4.6 jobs in the industry for servicing the fund structure.

If the 2,200 funds that are currently under management in Hong Kong, China were all domestically domiciled, it would increase the number of employees in the industry to 22,000, from the current 4,000. Assuming each additional professional earning an average wage equals to the average labor productivity in Hong Kong, China, the creation of 18,000 new jobs would add USD 1.7 billion to the economy per year, an equivalent of 0.5% of GDP. In Asia, if ARFP enhances the opportunities for the funds industry to produce more locally domiciled funds, 170,000 new jobs would be created over the next five years.

Mitigate risks to reap full benefits of ARFP

- Adopting ARFP can bring risks. These risks are inherent with any cross-border financing solution in which shocks in one market can be amplified and transmitted to other markets. The speed and scale with which illiquidity and losses seen in some markets could be translated to other markets is often greater with enhanced interconnectedness and efficiencies of the transmission and intermediation process. However, many economies in Asia can no longer afford inefficient financial markets that

since the mid-2000s have resulted in persistently low investment rates in the region. The deepening integration of financial markets will not only help to promote financing of investment but would also mitigate the risks associated with large and volatile capital flows into the regions.

- Governments need to tune the pace of regional financial integration according to the development of their economies. As the benefits of ARFP can only be optimized if the region possesses the requisite infrastructure and institutions, Asian economies need to work together to upgrade and harmonize regulations and market practices and develop mutually recognized regional standards.
- Regulation oversight may result in inadequate protection for investors. In advancing ARFP, policymakers should strike the right balance between achieving market efficiency and investor protection. Emphasis should also be placed firmly on minimizing systemic vulnerabilities and maximizing market transparency. Furthermore, as many asset management firms and their products are complex and operate under multiple jurisdictions, there is an increasing impetus to put in place an institution that can coordinate the work of different regulatory agencies.

APEC Economic Trends Analysis

A biannual report, APEC Economic Trends Analysis provides an overview on emerging trends underlying the region's economic prospects through in-depth analysis on recent macroeconomic and financial developments in the APEC region.

Series: April 2014 - Innovate for a Better Future with Sustainable Growth

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Full Report: 26 pages

Findings & Recommendations

APEC economic recovery is proceeding but at varying speeds

- Economic recovery in industrialized and newly industrialized economies (NIEs) in the APEC region has started to gain traction since the second half of 2013. Collectively, GDP growth in APEC industrialized economies advanced from 1.1% (y-o-y) in Q1 2013 to 2.6% in Q4 2013. At the same time, APEC NIEs saw growth shifting from 1.5% in Q1 2013 to a 3.7% in the last quarter of 2013.
- The strengthening pace in APEC industrialized economies and NIEs has helped to tone up APEC growth. After registering a soft growth of 3.4% in Q1 2013, APEC growth has gradually accelerated in subsequent quarters and ended the year with a 4.1% growth. The regional economic improvement was also aided by the solid advancement of China's economy which grew by 7.7% last year.

Economic growth is expected to accelerate in 2014 and 2015

- APEC GDP is poised for faster expansion, from 4.2% in 2014 to 4.4% in 2015, up from 3.7% in 2013. Despite the recurrent financial turmoil in the first few months of this year, APEC industrialized and NIEs started 2014 on a relatively firm footing. The spillover impact was more noticeable among

developing APEC economies but economic activities in these economies have also started to stabilize.

The weaker-than-expected performance in the past few years places APEC growth on a lower projected growth path

- The 2008-2009 Global Financial Crisis (GFC) and its legacy has had a tremendous impact on APEC growth. Over the six-year period between 2008 and 2013, APEC GDP expanded at an average rate of 3.4% per annum, 1.3 percentage points lower than the 4.7% average annual growth rate seen in the six-year period immediately prior to the crisis.
- Additionally, APEC economic performance in the past few years has been more subdued than expected. This weaker-than-expected economic performance has effectively placed APEC growth on a lower medium-term growth path. The latest forecasts for the APEC region have a projection of 4.4% annual average growth rate between 2014 and 2018, a marked downward shift from a 4.9% per annum average growth rate for the same period being forecast in the IMF April 2013 World Economic Outlook report. This indicates that in the absence of any policy measures the APEC region will see roughly USD 4,000 billion less output over the period between 2014 and 2018 than the amount earlier projected.

Enhancing competitiveness to pave the way towards a higher path of prosperity

- Labor productivity in the APEC region as a whole was impacted by the GFC. Most of the APEC slowdown in labor productivity growth can be attributed to the sharp drop of Total Factor Productivity (TFP) growth – an indicator of technology advances. TFP growth in the APEC region contributed to 0.5 percentage points to APEC GDP growth in the six years post GFC. In comparison, between 2002 and 2007, TFP growth contributed to a significant 1.8 percentage points to the average growth rate seen in this period. Increased investment in capital, both in ICT and other non-ICT capital, has helped to avert the slowdown in output per worker growth.
- In today's tightening fiscal environment, the role of the government to manoeuvre much of the capital deepening may be restrained. In the short to medium term, APEC needs to mobilize private savings into productive capital investment in order to sustain the current momentum of capital input expansion. As capital inputs cannot be added indefinitely, improving the efficiency of capital resources through the advancement of technological progress is important to sustainably improve APEC labor productivity and output.

Policies need to be carefully crafted to achieve healthy employment growth and strong labor productivity growth

- The GFC adversely affected the labor market in the APEC region with employment growth coming to a virtual standstill in the middle of the crisis. Although the pace has since picked up, employment is still growing at a much reduced rate compared to the way it was in any year between 1980 and 2007.
- In today's increasingly competitive world, the drive of firms to increase profitability and efficiency often comes at the expense of employment. Some job losses are likely to be permanent as during the process of restructuring operations, many companies automate tasks or redesign processes towards fewer labor inputs. Achieving strong employment growth in an environment of relentlessly pursuing efficiency is only possible if governments succeed in creating an environment in which firms are incentivized to pursue innovation as an integral part of enhancing productivity.
- Technological innovation will result in new markets for new products, thereby creating new jobs. However, innovations will alter the structure of labor demand, i.e. favoring skilled workers at the expense of unskilled ones. The success of raising labor productivity while at the same time

ensuring robust and sustainable job creation depends critically on the ability to design a flexible labor market as well as a comprehensive strategy to develop a workforce of tomorrow.

Innovate for a better APEC future with sustainable growth

- APEC governments have increasingly placed emphasis on encouraging innovation as a means to promote increased productivity and higher standards of living. As host of APEC 2014, China had specified “promoting innovative development, economic reform and growth” as one of the three top priorities for the year.
- Across APEC, there are economies that lead global innovation efforts while others have performed less well. Over the 10-year period from 2002 to 2011, 76.7% of patent registrations in APEC were filed in high-income APEC economies. However, patent applications per 10,000 population in developing APEC economies are generally fewer than that of high-income APEC economies. Data on R&D spending shows a similar pattern. The APEC region accounted for roughly 60% of the world's total R&D spending in 2011. However, investments in developing economies captured only a small portion (an equivalent of 16%) of the region's total R&D expenditure.

The role for APEC

- In 2012, APEC established the Policy Partnership on Science, Technology and Innovation (PPSTI) to support the development of science and technology cooperation and effective innovation policy in APEC economies. A recent focus of PPSTI has been on reinforcing policy measures to develop and secure human resources which aim to support science and technological innovation.
- It is important that APEC devotes attention to encourage enhanced mobility of skilled workers across borders. Concurrently, economies need to strengthen the environments to train and nurture scientists in order to prevent the loss of local talents to foreign innovation centers.
- APEC should also actively address regulatory barriers that impact private investment in R&D, including the removal of administrative burdens on start-up firms as well as broader barriers to competition. These priorities fit well with the work agenda of the APEC Economic Committee whose aim is to remove structural and regulatory obstacles that inhibit cross-border trade and investment and create behind-the-border barriers to doing business.
- Other areas that APEC can focus on include ensuring a well-functioning intellectual property rights system that provides for effective legal protection for inventions. Capacity building on the role of fiscal and taxation instruments to private R&D is also imperative.

Series: November 2014 – Building a Dynamic and Innovative Services Economy as an Engine for Growth

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Findings & Recommendations

APEC recovery is expected to firm up but growth potentials are projected lower

- The APEC region unexpectedly registered slower growth in the first half of 2014. APEC GDP is estimated to have expanded by 3.9% in the first half of this year, down from the 4.3% growth rate seen in the second half of last year. With a few exceptions, this slower growth was seen across both advanced and emerging and developing APEC economies. Subdued trading activity was one of the factors affecting APEC economic performance.
- Domestic demand has played a less supportive contribution to growth despite a buoyant financial market. The prolonged period of sub-par economic performance has eroded the profitability of firms and reduced their propensity to spend. Private consumption growth also softened in most APEC economies.

In some economies, easing labor conditions and/or falling real wages have affected consumer confidence.

- Activities in the region are expected to firm up but at different rates of momentum. This diverging momentum and the softness at the start of the year has effectively lowered the expected growth for 2014 to 3.9%, a touch lower than the 4.0% achieved last year. APEC output is forecast to accelerate at 4.3% in 2015. Information gathered from the latest IMF World Economic Outlook indicates that the APEC region is projected to grow at an average annual rate of 4.2% between 2014 and 2018. This represents a marked downward shift in growth forecasts of APEC output expansion. In particular, in early 2013, the IMF had forecast an average annual growth rate of 5.1% for the APEC region from 2014 to 2018.

Building a more innovative and dynamic services sector is important to secure and sustain higher APEC growth

- Twenty-five years into the remarkable economic transformation of the APEC region, the services sector has become the most important part of the regional economy, accounting for almost 70% of APEC output and 46% of the region's employment. There is now more pronounced interaction between the services sectors and other sectors such as manufacturing and primary sectors, to the point where there is no clear line dividing goods and services. Services are increasingly used by firms as an

instrument of product differentiation or improving production efficiency. Additionally, services occupy a strong presence in global production chains and its share is increasing.

- The pervasiveness of services in the production chain indicates that the development of the services sector and its productivity will not only be important to enhance the economy-wide level of productivity but it will also deepen the region's capacity to move up the global value chain. Since services account for a large proportion of private consumption, developing this sector is critical to strengthening domestic demand, and thereby helping to lift the APEC region out of the legacy of the GFC.
- In many emerging and developing APEC economies, the services sector still remains underdeveloped compared with other advanced APEC economies. The wide gap in services labor productivity between the US and many other APEC economies suggests that much remains to be done to transform this sector in the region. In many advanced economies, labor productivity growth has been higher in services than in industry and it remains positive, implying that there is room to shift outward the global technology frontier for services.

- The services sector as a whole is a heterogeneous conglomerate of industries. Across many developing APEC economies, the overall low level of services productivity stems from the dominance of traditional services – such as wholesale and retail trade, hotels and restaurants and transportation – all which feature lower productivity levels. Higher income APEC economies have shifted toward a larger and more productive knowledge-based services sector – which includes information and communications and finance and professional business services, helping to lift up the overall productivity in these economies.

APEC can play an important role in fostering the competitiveness in the services sector through promoting services innovation

- Given the importance of the services sector and the central role played by innovation in defining competitiveness, boosting innovation in the service industries will contribute in a significant way to economic development. Although many aspects of innovation policies – such as building an innovation culture, enhancing technology diffusion throughout the economy, promoting networking and clustering – are overlapping for manufacturing and services sectors, macroeconomic and structural policies may need to take more account of the special characteristics of services innovation.

- A fair share of innovation in services is not represented by new products but is more closely connected to the way products are delivered, i.e., the number of hours during which a service can be delivered or with improvements in the spatial dimension of the services. As no new product is created, a formal intellectual property rights (IPR) regime, such as a patent, is often not appropriate for services innovation. The lack of adequate IPR protection in services and the ease of imitating information have been highlighted as a barrier for services innovation. The APEC Intellectual Property Rights Experts' Group (IPEG) provides an appropriate platform for policymakers to discuss possible changes to the IPR scheme to reflect the nature of services innovation. Some new initiatives such as software-related and business methods patenting have been utilized in some economies. Services innovation will also benefit from enhancing international cooperation on IPR protection.
- A productive services sector, even more so than other sectors of the economy, depends on the supply of high-skilled workers, such as ICT professionals. Therefore, the shift towards a more modern and productive service economy may also require changes to human resource, training and educational policies. APEC can also promote the exchange of skills and knowledge across borders by enhancing greater people-to-people connectivity.

- As the modern services sector relies heavily on the successful adaptation of productivity-enhancing technology, it is important to remove impediments that prevent services firms from seizing the benefits of ICT advances. In this regard, policies that promote effective competition in ICT infrastructure, network services and applications, notably for broadband, will be crucial. These priorities fit well with the agenda of the APEC Telecommunications and Information Working Group which aims to improve telecommunications and information infrastructure in the Asia-Pacific region.

Key Trends and Developments Relating to Trade and Investment Measures and Their Impact on the APEC Region

First published in 2009, this semi-annual report is prepared for the APEC Ministers Responsible for Trade and the APEC Ministerial Meeting to inform them on recent trade and investment trends in the region as well as trade- and investment-related measures recently implemented by APEC member economies.

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Full Report: 27 pages

Findings

Economic outlook

- The global economy showed signs of a recovery towards the second half of 2013. Global GDP growth accelerated to 3.8% in the latter half of 2013 – the fastest growth rate recorded since the first quarter of 2011. The Euro area registered positive growth in the last quarter of 2013, ending seven consecutive quarters of contraction. However, the recovery remains on an uneven path with activities

moderating in the first few months of this year. An increase in volatility in the financial markets earlier this year has impacted real economic activities in many developing economies. These developments prompted the IMF to slightly lower projections for global GDP growth in 2014.

- In the APEC region, the pace of growth diverged between advanced and developing economies throughout 2013, slowing down in many developing economies just as economic activity picked up pace in advanced economies. Growth in industrialized APEC economies accelerated to 2.3% (year-on-year) in the second half of the year after growing 1.4% (y-o-y) in the first half. The strengthening growth in advanced APEC economies has given the region an impetus to stage a tentative recovery since the third quarter of last year.
- Some of the momentum, however, has faltered in the first few months of this year. An advance estimate of first quarter growth indicates that GDP in the US increased at a weaker-than-expected rate, mainly due to the severe winter earlier this year. Growth in China also slowed to 7.4% in the first quarter of this year, from 7.7% growth in 2013, partly due to the shutdown of manufacturing during the Lunar New Year holiday. First quarter growth in the rest of APEC region has also been weaker than expected with only a few exceptions.

- Going forward, growth forecasts for the APEC region have been revised moderately downwards but the region's economic outlook remains favorable compared to the rest of the world. APEC's economy is projected to grow by 4.1% in 2014 and 4.3% in 2015. In comparison, GDP for the rest of the world is forecast to rise by 2.9% and 3.4% in 2014 and 2015, respectively.

Merchandise trade

- Global merchandise trade, in volume terms, continued to moderate in 2013. The pick-up in industrial production in advanced economies did not translate into an increase in their import demand. Import demand from emerging and developing economies also subsided, reflecting a slowdown in their industrial production. In nominal USD terms, global export earnings picked up in 2013, but continued to slow down in the APEC region. World merchandise export earnings grew by 2.0% in 2013, an improvement over the 0.1% growth seen in 2012. The European Union (EU), whose merchandise exports earnings grew 4.4% in 2013, gained the most from the pick-up in global trade. In contrast, export earnings by APEC economies grew more slowly at 1.3% (from 3.1% growth in 2012), while earnings in the rest of the world outside APEC and EU contracted. Despite the pick-up in economic activity in the Eurozone, their demand for APEC goods continued to fall. APEC exported USD 923 billion worth of goods to the Eurozone in 2013, almost 4% lower than the value exported in 2011.

- Most APEC economies reported subdued export earnings in 2013 relative to historical averages. The exception was New Zealand, where strong global demand for milk and proteins, and higher prices for its export commodities, led to an increase in export earnings despite a mild contraction in volume. However, other APEC commodity exporters did not perform as well in 2013. Export earnings in Australia; Chile; Indonesia; Peru; and Russia all contracted during the year due to lower world prices for precious metals (including gold), natural gas, and palm oil.
- World trade continued to slow down in the early months of this year, with export volumes contracting marginally at 0.6% (3m/3m saar) in February. Likewise, the volume of exports from developing economies contracted by 4.7% (3m/3m saar)—the sharpest contraction since April 2009—as economic recovery in advanced economies has not yet translated to higher import demand.

Foreign direct investment

- Foreign direct investment (FDI) recovered in 2013, with two-thirds flowing into APEC economies. Global FDI picked up steam in 2013. After a 22% decline in FDI in 2012, UNCTAD estimates global FDI to have increased by 8% in 2013. FDI into APEC economies grew by 16% in 2013, reaching USD 490.7 billion, accounting for two-thirds of global FDI. Notably, the increase in FDI inflows occurred against the backdrop

of increased volatility in financial markets in the second half of last year, particularly in emerging economies. As developed economies showed signs of recovering, expectations on the direction of monetary policy shifted and there was a reallocation of investment portfolios. Some emerging economies experienced large capital outflows as portfolio investors moved to industrialized economies in the expectation of higher returns.

- FDI inflows into China; Mexico; and Russia grew by 40% in 2013 relative to 2012. Russia posted stellar FDI growth of 83% during the year, placing it in third place among the top FDI destinations in 2013. FDI into smaller APEC economies, however, did not perform as well. FDI inflows into Hong Kong, China and Singapore stagnated in 2013, while falling commodity prices led to falling FDI into Chile and Peru. FDI inflows into industrialized APEC economies also continued to decline in 2013, falling 3% relative to 2012 and 18% relative to 2011.

Trade and investment measures

- Between mid-May and mid-November 2013, information from the WTO indicates that APEC economies implemented seven trade-facilitating measures, 89 trade remedy measures (mainly anti-dumping measures), and 17 other trade and trade-related measures. Between June 2013 and February 2014, ten APEC economies adopted 18 new policy measures

relating to foreign investment, 14 of which were aimed at liberalizing or promoting investment while four had the potential to restrict investment.

Despite a slowdown in exports growth in early 2014, trade and investment are still projected to pick up in 2014 and 2015. Recovery in the world's developed economies is expected to lead to higher consumer demand, which encourages trade and investment. Hence, the WTO projects that world merchandise trade will increase by 4.7% in 2014 and 5.3% in 2015. Similarly, UNCTAD forecasts FDI flows to rise to USD 1.6 trillion in 2014 and USD 1.8 trillion in 2015. However, downside risks still remain. Persistently high unemployment in Europe and the possibility of continued financial market volatility in developing economies can weigh down the expected rise in consumer demand. On the supply side, the WTO warns that an escalation in ongoing geopolitical tensions can hamper trade and increase energy prices. Furthermore, risks posed by natural calamities and climate change continue to threaten trade in APEC economies through their impacts on supply chain networks across the region. Already, extreme weather events in the Northern Hemisphere have contributed to a weaker trade performance in the first two months of this year. Addressing these risks to trade and investment will require measures that promote trade and investment facilitation, connectivity, productivity, and sustainable growth.

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Findings

Merchandise trade

- Trade during the first half of 2014 took place amidst the backdrop of weak global economic growth. GDP growth was weaker than expected in the three largest APEC economies in terms of GDP—China (7.4%); Japan (1.3%); and the US (2.2%)—while economic activity was stagnant in the EU (1.3%). Economic growth also slowed down during the first half of 2014 in some large APEC and non-APEC developing economies, such as Brazil (0.5%); India (5.8%); and Indonesia (5.2%). As a result of weaker-than-expected economic activity in the first half of 2014, the IMF has downgraded its growth projections for 2014 and 2015, with larger downgrades for developing economies.
- The WTO also lowered its trade growth forecasts for 2014 and 2015. Global trade is now expected to grow 3.1% in 2014, down from the 4.7% forecast made in April. Similarly, global trade in 2015 is expected to grow 4.0%, down

from the previous forecast of 5.3%. Exports from developing economies are expected to grow faster than that from developed economies in 2014 and 2015, but imports from developed economies are expected to outpace those from developing economies in 2014 before developing economies catch up in 2015.

- Exports growth in APEC in the first half of 2014 has been sluggish, contracting in the first quarter before growing again in the second quarter. Merchandise export earnings in the APEC region contracted by 0.2% in the first quarter of 2014 before going back to 2.9% growth in the second quarter. In contrast, merchandise export earnings in the rest of the world (ROW) grew 3.1% in the first quarter and continued to grow, albeit slower, at 2.0% in the second quarter. A similar picture emerges with service exports earnings in the first quarter of 2014, with APEC growing 4.2% compared to 6.4% for the ROW. Export volumes from practically all APEC economies contracted in the first quarter of 2014, before going back to positive growth in the second quarter. The poor performance of APEC exports may be due to the sluggish global economic growth during the first quarter, resulting in lower demand for foreign products as well. The second quarter of 2014 saw a rebound in both export values and volumes, reflecting a similar increase in imports growth.

- APEC imports have stayed in positive growth territory in 2014, but growing faster in the second quarter than in the first. However, imports spending in APEC is slower than the world average, growing about a third of the rate in the rest of the world. One of the explanations is that imports in the EU are starting to reflect increasing consumer confidence in the region after several years of uncertainty. While imports spending growth of APEC economies remained positive throughout the first half of 2014, imports volume shows a different picture. APEC imports volume contracted by 5.6% in the first quarter of 2014 compared to the same quarter a year ago, reflecting the sluggish economic conditions faced by many economies during that period. For example, in North America, a particularly harsh winter slowed down economic activity in the US. Only Japan increased imports volume in the first quarter of 2014, possibly due to increased consumer demand prior to an increase in sales tax in April. By the second quarter, imports volume in most APEC economies experienced positive growth relative to the same period in 2013, led by high imports growth in North American economies Canada; Mexico; and the US.
- Between November 2013 and May 2014, APEC economies implemented 20 measures facilitating trade; however, the accumulation of trade and trade-restricting measures persists. APEC

economies implemented 29 trade-restricting measures during the period, increasing import tariffs, imposing of import taxes and export duties, and quantitative restrictions, among others. Similarly, APEC economies initiated 33 trade remedy investigations during the same period, mostly relating to anti-dumping, and terminated 31 trade remedies.

Foreign direct investment

- APEC economies received 54% of global FDI inflows in 2013, receiving a total of USD 788 billion. In terms of FDI inflow growth, the APEC region outpaced the rest of the world, growing at 13.6% in 2013, compared to the ROW's 4.3% growth. FDI inflow performance in 2013 reflects renewed albeit cautious optimism in the global economy, which is in stark contrast to the pessimism seen in 2012, when world FDI inflows contracted by 22% while that for APEC contracted 9.2%. Emerging and developing APEC economies received USD 486 billion in FDI inflows in 2013, more than that received by APEC developed economies. FDI inflows into emerging and developing APEC economies grew at 12.6%, with Mexico growing at 117.2% and Russia growing at 56.7%. On the other hand, the 15.2% FDI inflow growth in developed APEC economies was led by 44.9% growth in Canada and 16.8% growth in the US.

- On the other hand, APEC economies contributed USD 935 billion in FDI outflows in 2013 (or 66.3% of world total). After contracting 21.3% in 2012, world FDI outflows grew 4.8% in 2013, led by 10.9% FDI outflow growth in the ROW. FDI outflows from APEC, on the other hand, grew slower at 1.9% in 2013 (from -1.0% in 2012). Emerging and developing APEC economies led the growth of FDI outflows from the region, growing 12.0%. Russia had the biggest growth in FDI outflows in 2013, recording USD 46.1 billion in outflows and growing 94.4% relative to 2012. Meanwhile, Singapore registered 100.3% growth in 2013, contributing USD 13.5 billion in FDI outflows. On the other hand, FDI outflows from developed APEC economies contracted by 4.9% in 2013 compared to the previous year.
- Despite weaker-than-expected economic and trade performance in the first half of 2014, foreign investment activity is still expected to pick up in 2014 all the way to 2016. In its July 2014 report, UNCTAD expects world FDI inflows to total USD 1.6 trillion in 2014, USD 1.7 trillion in 2015, and USD 1.8 trillion in 2016. While M&As have been increasing, mainly flowing into firms in the financial, consumer goods, and energy and power sectors, greenfield investments still constitute the majority of FDI although it has been contracting in recent years. This is a matter of

concern as greenfield investments constitute an important source of job creation and increase the productive capacity of an economy.

- Between February and May 2014, four APEC economies implemented various investment measures affecting foreign investments. China and Indonesia relaxed some requirements and restrictions for foreign investors, while Russia and the US modified investment rules regarding transportation security and foreign banking operations, respectively.

Risks to future growth

Although projections for 2014 and 2015 are still pointing towards positive growth, the weaker-than-expected performance of economic growth and trade in the first half of 2014 show that many downside risks remain to global economic recovery. As seen in early 2014, extreme weather events can severely disrupt economic activity and slow down growth. Acute public health risks such as the possibility of expansion of the Ebola outbreak can also slow down economic activity and trade directly by raising the costs of doing business (e.g., costlier and lengthier inspections) or indirectly by preventing economic transactions from taking place (e.g., avoidance of travel or cancellation of orders).

In addition, geopolitical tensions, particularly in Asia, the Middle East, and Eastern Europe, have the potential to increase commodity prices and stifle international trade and investment through retaliatory trade restrictions and economic sanctions. However, downside risks to commodity prices are also a possibility, threatening the exports value of APEC commodity exporting economies. Some causes for the fall in commodity prices include the slowing down of economic growth in some large developing economies—such as China and India—leading to lower demand. This is coupled with expectations of monetary policy normalization in the US and Europe, which are causing some disinflationary pressures as well as exchange rate fluctuations in emerging and developing markets.



Sustainable Economic Development

Shaping the Future through an Asia-Pacific Partnership for Urbanization and Sustainable City Development

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This study discusses the challenges, policies and issues facing the development and management of cities. Drawing on research on five cities and four urban corridors, the study outlines important lessons from the ways cities are addressing urbanization and sustainable development issues. It discusses the role of innovation in identifying solutions to address the problems of cities. The study also outlines a framework for an Asia-Pacific partnership to shape the future of urbanization and sustainable city development in the region, and provides recommendations for consideration by APEC members.

Findings

Experiences of selected APEC cities and urban corridors

Research was undertaken in APEC economies to examine cities from five aspects: investment environment; innovation and business support; strategic infrastructure; social and environmental sustainability; and governance effectiveness. The scope covers five cities: Brisbane, Manila, Lima, Mexico City and Santiago de Chile; and four urban development corridors: Pearl River Delta, Ho Chi Minh–Bangkok trade corridor, Jing-Jin-Ji Circle, and the Seattle–Vancouver urban corridor.

The practices and lessons gained from the research can be adapted and applied to APEC economies to help shape the overarching strategies for the development of competitive and sustainable cities in the region. They are:

- Enhancing the investment environment through improving the productivity of human capital, providing value-for-money infrastructure services, and keeping bureaucracy to a minimum.
- Fostering innovation through providing research and development support appropriate to the industry clusters in the urban area.
- Building a solid framework of business support services and encouraging the establishment of a full range of financial services accessible to the spectrum of enterprises in the city.

- Planning, financing and building resilient strategic infrastructure appropriate to industry clusters in the city and the systems and institutions for efficiently managing that infrastructure.
- Developing a healthy environment, educated, engaged and empowered citizens, and enabling frameworks conducive for knowledge and enterprise development.
- Delivering environmental infrastructure, healthcare, education, water and power, and management systems to the innovators and investors.
- Building a community consensus on safety, social inclusiveness and environmental objectives.
- Building transparent, accountable and collaborative urban governance systems that can span the spatial scope of economic organization – from cities to economic corridors between economies.
- Undertaking the required planning, program and project development, financing and implementation oversight for inclusive, resilient and climate change responsive development.
- Supporting partnership programs which support the sustainable development of systems of cities in both scope and scale.

The research shows varying approaches to overarching spatial policies in APEC economies. Spatial urban policies for sustainability need to be targeted according to the typology and

functionality of cities. Cities which focus on enhancing the economic drivers of competitiveness, such as business dynamics, economic governance, human capital development and livability, offer more favorable locations for business development, innovation and investment.

Key areas of strategic support for sustainability of cities in APEC region

The study identifies key areas to improve the sustainability, development and management of cities in the APEC region, as follows:

- Economic environment: Fostering support for:
 - Investment – building the attractiveness of cities and trade corridor areas for the entrepreneur, and value-for-money infrastructure, labor, and property required for a business.
 - Business Support and Innovation – building ‘local economic dynamism’ through financial and other support, for example, through the development of local clusters and their supply chains.
 - Strategic Infrastructure – building logistics systems and infrastructure to support local industry clusters and social infrastructure, particularly education and health.
- Social and environmental sustainability: Fostering a good ‘quality of life’ by investments that improve social inclusiveness, environmental outcomes and the capacity to preserve natural capital.

- Governance effectiveness: Building institutions that are effective in managing multi-level urban systems and producing outcomes in 1 and 2 above.

Recommendations

- Address the gaps in policies related to urbanization management and urban governance: Based on the review of urban related policies, it is critical for APEC economies to promote policies that enhance competitiveness, innovation systems, and reinforce the efficiency of economic linkages among cities. APEC economies are encouraged to:
 - Promote effective economic corridor governance systems, including policies for gateway development. In the case of cross-border corridors, these include efficient processes for border crossings and minimization of transactions costs.
 - Promote investment in the development of secondary and small–medium cities, recognizing the variety of circumstances of such cities, with the objective of simultaneously enhancing exogenous (export-oriented) and endogenous growth strategies.
 - Promote integrated approaches to environmentally sustainable and inclusive economic growth at city level through more responsive institutions and systems.
 - Put in place a structured mechanism to promote city-to-city cooperation

projects, preferably linked to an agency that can support such efforts with additional technical assistance, capacity building and links to finance. The projects should take into account aspects of innovation, trade and investment.

- Bolster cities to support sustainable economic growth, trade, business development and job creation: To bolster long-term economic development and increase trade through urban areas, and to promote the policies listed above, APEC economies should foster partnerships to develop:
 - A research network focused on urban innovation and collaborative governance for sustainable development to investigate the economic linkages among cities (including cross-border linkages), comparative city economies and environmental and social factors that support or threaten economic development.
 - A policy forum, formulated by the research network, which discusses domestic policy measures to foster sustainable urban development, with a view to putting forward policy proposals to the relevant APEC committees.
 - A network of peers, including domestic urban policymakers and the private sector, focused on disseminating best practices in planning, financing, and implementing strategic infrastructure in support of sustainable urban development.

- Establish an Asia-Pacific partnership for urbanization and sustainable development: To achieve the actions mentioned in the above recommendations, APEC should establish an Asia-Pacific partnership for urbanization and sustainable city development. As a first step in establishing the partnership, APEC should create a coordinating mechanism led by APEC Senior Officials to advance the following priority areas:
 - Undertake a scoping study of the potential structure of, and participants in, the proposed research network and the feasibility of establishing sustainable innovation hubs.
 - Canvass support for the development of a 'best practice' network on strategic infrastructure for sustainable urban development.
 - Incorporate innovative development, economic reform, and growth in urban governance at a local level.
 - Establish collaborative mechanisms with existing key economies, agencies, organizations, and networks to leverage on common resources in support of the sustainable development of cities in the region.

Innovation, Competitiveness and the Role of Fiscal Policies

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Given the benefits of innovation in improving competitiveness and advancing economic growth, many economies have recently begun to more actively promote policies relating to innovation. This paper focuses on the role of fiscal and taxation policies in promoting R&D investment, which is viewed as one of the important inputs of innovative outcomes. It also maps out the current R&D subsidies and tax incentives currently offered in the APEC region.

Findings

In many economies, fiscal subsidies and tax incentives have become an integral part of a broader strategy to increase investment in R&D and promote innovation. Businesses have long considered tax incentives to be an important and sometimes necessary relief given the typically high costs of conducting R&D. However, a successful R&D fiscal incentive strategy depends to a large degree on understanding the different advantages and costs of the various instruments and designing them to best suit the government's overall economic growth policies. Tax incentives and direct subsidies, for example, have different roles within a policy mix for

business R&D and are complementary to each other.

From an administrative point of view, tax incentives are the least burdensome way of increasing business R&D and can therefore be used to encourage an increase in R&D across the whole spectrum of firms. Therefore, if the government's objective is to increase R&D intensity among firms from a relatively low level, tax incentives may be the most sensible approach. Meanwhile, direct subsidies are better suited to encourage higher risk projects and to meet specific policy goals. If the government's objective is to enlarge the R&D capacity within certain fields, subsidies would be the natural choice since it is more difficult to target specific fields or areas of R&D activities through tax incentives.

In recent years, APEC members have increasingly implemented fiscal incentives to encourage firms to undertake R&D, with all members offering some type of direct subsidy in the form of grants or loans in order to help businesses finance R&D projects. However, APEC economies differ widely in the use of R&D tax incentives. In some APEC economies, there are multiple R&D incentive packages available, while in others there may be one main incentive in the form of a tax deduction or credit. Some APEC economies, including Indonesia; Mexico; and New Zealand do not have a defined R&D tax incentive scheme. Therefore, the total amount of government support to business R&D varies significantly across the APEC members.

While it is generally agreed that markets may fail to provide a socially optimal quantity of R&D on the basis that it has some characteristics of a public good, R&D tax incentives are expensive.

Volume-based R&D tax incentives may transfer a large cost from the private sector to the government by supporting pre-existing R&D which would have been carried out even in the absence of R&D tax incentives. Given their high costs, the dynamics of R&D subsidies and tax incentives have been widely debated, underscoring the need to better assess firms' reaction to the policies and the potential efficiency effects.

Among the APEC economies, the R&D tax credit scheme introduced in the US in 1981 provides a good empirical base for evaluating the effectiveness of this instrument. This paper summarizes the findings of key econometric studies. At first glance, it appears that the empirical studies are inconclusive in terms of determining the effectiveness of R&D tax incentives. However, a careful review of some key studies suggests that the variations in results are due to the methodological limitations which the various studies faced.

Since 1990, evaluation techniques have become more reliable and sophisticated. The longer time lag since the introduction of the US tax credit in 1981 has also allowed for a longer time frame in order to evaluate its impact to a fuller extent. As a result, later studies found a statistically significant relationship between R&D tax incentives and increased levels of R&D investment. Many of these later studies not only concluded that R&D tax incentives have been effective in encouraging firms to undertake more R&D, but also suggested that the increases in private R&D often outweigh the fiscal costs of the tax incentives. In some studies, the estimated input additionality effects are larger than two, indicating that for every dollar forgone in tax revenue due to the tax credits, firms raise their R&D investment

by 2 dollars. One can conclude that R&D tax incentives have been a useful tool to stimulate private R&D and raise the level of business R&D expenditure to a higher level in the US.

The findings for the US, however, cannot be generalized for other APEC economies due to the variations in incentive schemes across the region. Studies on the effects of the Canadian R&D tax credit scheme on the innovation success of firms found that the program had a positive impact on the frequency of new product development, the introduction of new-to-the-market products and the sales share of new products. Outside the US and a few advanced APEC economies, empirical literature evaluating the effectiveness of R&D tax incentives is limited. Additionally, there are very few studies assessing incentive schemes across multiple economies, making it challenging to understand the economy-specific conditions and policy design features that determine the success or failure of an R&D tax incentive scheme. An examination of the data on the amount of government support to business R&D and business enterprise research and development (BERD) intensity across selected APEC economies reveals that there does indeed appear to be a positive correlation between the generosity of the R&D scheme and private R&D investment. Although it is only one contributing factor, those APEC members that provide a greater amount of government support typically also have a higher level of BERD intensity.

Recommendations

The limited availability of empirical studies evaluating the effectiveness of R&D subsidies and tax incentives in many APEC economies is a call for

further research in this area. Developing APEC economies are at different stages of technological development and they possess different institutions and policy frameworks. Future studies in this area should therefore be fine-tuned to the economic context of developing economies. APEC can stimulate this shift in research agenda and foster the links between leading research institutions and policymakers.

Another observation is that despite the plethora of studies on the impact of R&D tax incentives, most of these studies refer to programs that took place in the 1980s and early 1990s, with only a few exceptions. As such, our knowledge on recently introduced and redesigned fiscal incentive schemes remains limited. Further refinement to the methodologies is also important in order to derive more accurate estimations of the economic costs and benefits of tax incentives.

The effectiveness of R&D tax incentives depends to a great extent on their design and on the broader regulatory environment and its stability over time. Factors include well-functioning financial markets as well as the overall tax system. These factors can enhance the returns to investing in knowledge-based assets, thereby making R&D investment more attractive to private investors. R&D policies should also be transparent and consistent. The OECD analysis suggests that the impact of R&D credits on private R&D expenditure will generally diminish in economies that have experienced a large number of R&D tax policy reversals (OECD, 2013). It is therefore important that governments minimize policy uncertainty for firms by maintaining the continuity of R&D policies as long as possible.



**Asia-Pacific
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