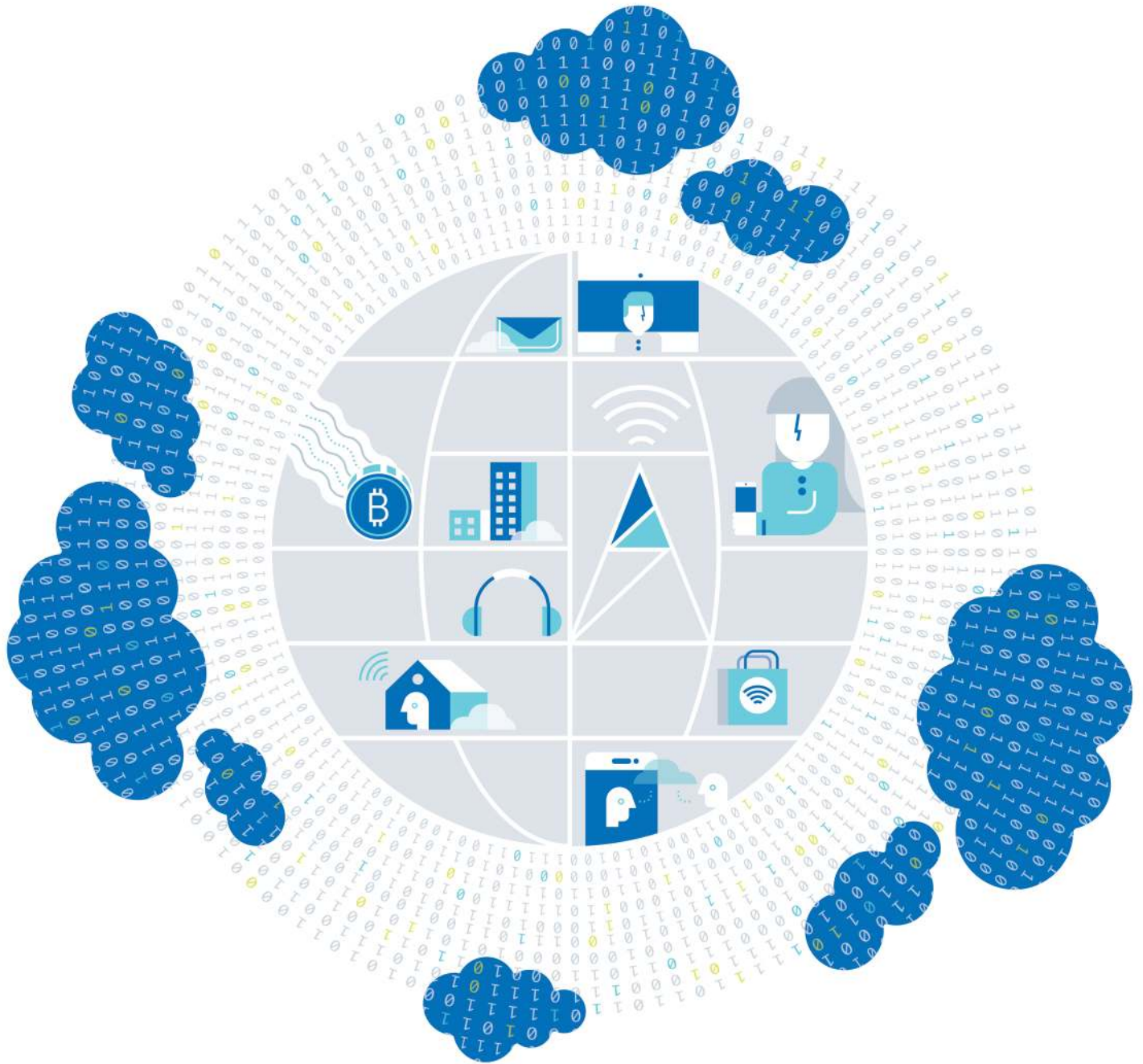


STATE OF THE REGION

2017 - 2018



ABOUT THE PACIFIC ECONOMIC COOPERATION COUNCIL

The Pacific Economic Cooperation Council (PECC) is a non-profit, policy-oriented, regional organization dedicated to the promotion of a stable and prosperous Asia-Pacific. Founded in 1980, PECC brings together thought-leaders from business, civil society, academic institutions, and government in a non-official capacity. Together, PECC members anticipate problems and challenges facing the region, and through objective and rigorous analysis, formulate practical solutions. The Council serves as an independent forum to discuss cooperation and policy coordination to promote economic growth and development in the Asia-Pacific. PECC is one of the three official observers of the APEC process.

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ISBN: 978-981-11-5436-2

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TABLE OF CONTENTS

5	MESSAGE FROM THE CO-CHAIRS OF PECC
7	EXPLANATION OF TERMS USED IN THE REPORT
9	EXECUTIVE SUMMARY
11	CHAPTER 1: ASIA-PACIFIC ECONOMIC OUTLOOK
29	CHAPTER 2: AN ASIA-PACIFIC AGENDA FOR THE DIGITAL ECONOMY
37	CHAPTER 3: INDEX OF ECONOMIC INTEGRATION IN THE ASIA-PACIFIC
45	ANNEX A FOR CHAPTER 1
53	ANNEX B FOR CHAPTER 2: RESULTS OF ASIA-PACIFIC POLICY COMMUNITY SURVEY
61	MEMBER COMMITTEES

MESSAGE FROM THE CO-CHAIRS OF PECC

On behalf of the members of the Pacific Economic Cooperation Council (PECC), it is our pleasure to present our twelfth annual report on the State of the Region. This year we have chosen to focus on the internet and digital economy. In some respects, to qualify the term 'economy' with 'internet' and 'digital' is increasingly redundant. The adoption and embedding of the internet-based technology is becoming pervasive. The internet of things connects everything from crops to toothbrushes. The implications of this for growth, development and jobs are profound. We are likely to have to address these issues in different ways over the coming years.

New technologies are revolutionizing business models and the way in which businesses and consumers interact – from ride sharing services to mobile banking. This offers the opportunity to shape a new phase of growth – one that enables even micro and small and medium size enterprises to engage in global trade. Our work in PECC is predicated on the belief that the realization of the full potential of this region depends on 'free and open economic exchange with the objective of bringing greater economic and social benefits and well-being for the people of the region' (PECC Charter). It is therefore of great concern to us that the top risk to growth in this year's State of the Region survey was increased protectionism. This timing could not be worse – there is a risk that new barriers to trade will be put in place that, far from resolving issues of equity, exacerbate them, and we will miss the opportunity to leverage the opportunity that the digital economy offers for more inclusive growth.

There are deep structural shifts taking place within our economies that need to be addressed. But absent the cooperation and support for open markets in our region, we risk the emergence of disorder in our region, increasingly the center of the global economy; the end result would be a life that is 'solitary, poor, nasty, brutish, and short' (Thomas Hobbes, Leviathan). The reality is that significant parts of our communities feel that they are not benefiting from the rapid growth we have seen. That the top priority for APEC

leaders' discussions was not a trade issue but the promotion of sustainable, innovative and inclusive growth is a clear indication from the regional policy community that we need to focus on the objective of free and open markets – a better life for the people of the region. It is a timely reminder that the free and open trade is a means to an end and not the end in itself. Free trade is neither a panacea nor is it the problem. We are conscious that there is much more work that needs to be done to open markets – but this must be complemented with other policies including improving connectivity and effective social policies.

There are many people we would like to thank for taking the time to help us to provide a gauge on the sentiments of the regional policy community: all of our member committees without whose support this work would not be possible; as well as the many expert groups who sent out the survey to their members, including: the APEC Policy Support Unit; the United Nations Network of Experts for Paperless Trade and Transport in Asia and the Pacific (UNNExT); the Asia-Pacific Research and Training Network on Trade (ARTNET); the US APEC Business Coalition; the US National Center for APEC; Groupe Spéciale Mobile Association (GSMA) Asia Pacific; Asia Cloud Computing Association (ACCA); the Internet Society (ISOC) Regional Leadership Group; Consumer Unity & Trust Society (CUTS International); and the Papua New Guinea Committee on APEC Policy Issues (CAPI).

While this is now PECC's 12th report of the State of the Region, this work has a much older vintage: Pacific Economic Outlook (PEO) report. Given the plethora of economic outlooks, in 2005, we took the decision to evolve PECC's annual report from a pure economic forecasting exercise to one that engages the stakeholder community. The survey is not one of public opinion but attempts to gauge the views of the regional policy community – those involved in regional and international discussions in their individual capacities as thought or opinion leaders.

In previous reports we have included separate chapters on the economic outlook and our survey results. Chapter 1 combines them into a single chapter on the regional economic outlook. We hope that this helps readers to develop a better understanding of perceptions of major trends in the region and the possible reasons underlying that perception.

Chapter 2 is a thematic essay on the 'Asia-Pacific Agenda for the Digital Economy' based on the discussions at the 24th PECC General Meeting held in Hanoi in May this year, authored by the co-chair of the Indonesian PECC committee as well as former Minister of Trade of Indonesia, Dr. Mari Pangestu, and the coordinator of PECC's taskforce on the internet economy, Dr. Peter Lovelock. Those discussions formed the basis for the chapter along with the findings of PECC's survey of views of the policy community on the internet and digital issues.

Chapter 3 provides an update of our index of regional economic integration authored by Dr. Bo Chen. Unlike other attempts, this index not only looks at trade, investment and people flows in our region but also measures the extent to which our economies are 'converging' along several key dimensions.

We thank Mr. Eduardo Pedrosa for coordinating this year's report and for providing Chapter 1 as well as Dr. Kenichi Kawasaki, Dr. Ruan Zongze; and the Chinese Taipei PECC committee who contributed sidebars. We are also deeply appreciative of chapters contributed by Dr. Mari Pangestu and Dr. Peter Lovelock on the internet/digital economy, and Dr. Chen Bo for his continued efforts on the regional integration index. We would like to thank the editorial committee of this report who provide guidance and insight on the various issues it addresses as well as the staff of our International Secretariat for their work on this report.



DON CAMPBELL
Co-Chair



TANG GUOQIANG
Co-Chair

EXPLANATION OF TERMS USED IN THE REPORT

ADB	Asian Development Bank
AEC	ASEAN Economic Community
AIIB	Asian Infrastructure Investment Bank
AP	Asia-Pacific
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
BIS	Bank of International Settlements
BRI	Belt and Road Initiative
CAGR	Compound Annual Growth Rate
CIIS	China Institute of International Studies
CNCPEC	China National Committee for Pacific Economic Cooperation
DRAM	Dynamic Random-Access Memory
EBRD	European Bank for Reconstruction and Development
EEU	Eurasian Economic Union
EU	European Union
FDI	Foreign Direct Investment
FTA	Free Trade Agreement
FTAAP	Free Trade Area of the Asia-Pacific
G20	Group of Twenty (Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom, United States, and the European Union)
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GNI	Gross National Income
GRIPS	National Graduate Institute for Policy Studies
ICT	Information and Communications Technology
ILO	International Labour Organization
IMF	International Monetary Fund
INCPEC	Indonesian National Committee for Pacific Economic Cooperation
ITU	International Telecommunication Union
MFN	Most Favored Nation
MOOC	Massive Open Online Course
MSME	Micro, Small and Medium Enterprises
NA	North America
NAFTA	North American Free Trade Agreement
NEA	Northeast Asia
NTM	Non-Tariff Measure

O2O	Online to Offline
OCE	Oceania
OECD	Organisation for Economic Co-operation and Development
PA	Pacific Alliance
PC	Productivity Commission
pc	per capita
PECC	Pacific Economic Cooperation Council
PNG	Papua New Guinea
PSA	Pacific South America
PSU	(APEC) Policy Support Unit
RCEP	Regional Comprehensive Economic Partnership
RTA	Regional Trade Agreement
SA	South America
SEA	Southeast Asia
SME	Small and Medium Enterprises
SRTA	Services Trade Restrictiveness Index
CTPECC	Chinese Taipei Pacific Economic Cooperation Council
TPP	Trans-Pacific Partnership
TRPC	Technology Research Project Corporate
UNCTAD	United Nations Conference on Trade and Development
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
US	United States
WEO	World Economic Outlook
WTO	World Trade Organization

EXECUTIVE SUMMARY

The Asia-Pacific economy is expected to grow by 3.6 percent in 2017 and 2018. This is a significant improvement from last year when growth was at around 3.2 percent. Much of this improvement comes from faster than expected growth in the region's largest economies: the United States, China and Japan. However, underlying the upbeat forecast, there remain important structural concerns about the nature of growth in the region: high levels of debt; the impact of rising interest rates on the ability of the individuals and the corporate sector to service that debt; slowing trade and its ability to act as a driver of growth; and the impact of the digital economy.

According to PECC's annual survey, the top-5 risks to growth were:

- Increased protectionism
- Lack of political leadership
- A slowdown in the Chinese economy
- Possible slowdown in world trade growth
- Failure to implement structural reforms

Over 44 percent of respondents selected increased protectionism as a top 5-risk to growth for their economy. This finding should not be entirely surprising, according to Global Trade Alert, since 2008, Asia-Pacific economies have adopted a total of over 71,000 trade restricting policy measures.

On the side of forward momentum on trade opening, there is uncertainty over the future of regional trade initiatives. According to economic modeling studies, the implementation of the TPP-11 could boost the GDP of the 11 economies by 3.0 per cent. Estimates suggest that if the RCEP economies eliminate all import tariffs that existed as of 2011, the average real GDP of the RCEP economies would be boosted by 1.9 percent.

Underlying the uncertainty over the future of trade integration are concerns about rising income inequality and its distributional impact. Based on modeling simulations, the magnitudes of the adjustments of employment, measured in terms of the share of

the labor force that needs to shift sectors, are estimated to be less than 20 percent of real GDP gains on average among the APEC economies as a result of tariff removals and NTM reductions among the APEC economies.

Close to two-thirds of respondents expect RCEP to conclude in the next 2-5 years and about 50 percent believe that the TPP-11 (the TPP without the US) would go ahead in the same number of years. In addition to traditional trade integration initiatives, other new forms of cooperation are underway such as the Belt and Road Initiative (BRI). Over the past three years, the BRI has gradually entered a new phase of comprehensive and pragmatic cooperation with more than 100 economies and international organizations involved and formal agreements signed with 69 of them. Complementary to the BRI are the Asian Infrastructure Investment Bank (AIIB). In one year since the AIIB started operations, it has approved its first four projects, totaling about US\$500 million and covering areas such as energy, transportation and urban development.

The latest update to PECC's index of economic integration in the Asia-Pacific region has fallen below its 2009 level. This fall follows the zigzag recovery as well as the possible influence of anti-globalization in the Asia-Pacific region after the Global Economic Crisis. The index measures the degree of integration taking place in the Asia-Pacific region based on intraregional flows of: goods, investment, tourists, and five measures of convergence - gross domestic product (GDP) per capita, share of non-agriculture to GDP, the urban resident ratio, life expectancy, and share of education expenditure in gross national income (GNI).

While the traditional trade and economic policy discussions continue, internet-based technologies are rapidly changing the ways in which businesses, consumers and governments interact with each other. The extent to which this transformation is taking place is leading some to conclude that the digital economy is not only the future of our economy, it is the economy. Goods and services are being digitized, not only in how they are developed, but also in how they are delivered and consumed. This transformation

is happening in all sectors - health, education, security, finance, and government. Three immediate questions for policymakers and trade officials arise:

- What is the digital economy and what are its implications;
- What are the opportunities and risks; and,
- What are the policy implications – domestically as well as internationally?

The impact of the digital economy on labor markets will be large. Routine and more mechanical types of work are already being replaced by machines, automation, robots, and systems. This is emerging as a significant political concern which is likely to heighten dramatically in the near future unless policymakers begin to plan for and promote such transitions. The ILO, among others, is attempting to track the impact on jobs resulting from automation and the so-called 4th Industrial Revolution, but without proper, consistent, and comparable measurements of the digital economy, it remains a fraught task. According to the results of PECC's 2017 State of the Region survey, while people expected some types of jobs to decrease, such as clerical and assembly line work, others were expected to increase such as technical and professional jobs.

The digital economy, if successful, can promote efficiency, innovation, and inclusion. The lower cost of accessing and utilizing ICT makes economic activities more productive and innovative. For example, enabling farmers to get information on the weather and real-time market prices, while SMEs gain access to e-commerce platforms. However, each technological revolution and globalization wave has come with creative disruption. As in previous phases of globalization, there is a tendency to try to 'protect' the development of the data economy or the digital economy. In the past, this took the form of tariffs on goods or services trade. Today, these protectionist moves often focus on requiring data to be processed or stored locally, and other restrictions of data flows. Increasingly,

the issues that are becoming policy blockers to free trade are centered on data flows.

APEC could play a significant role in addressing these issues, precisely because of its convening and coordinating role and its non-binding nature. To begin with, APEC could - and should - establish principles for the digital economy that individual economies could implement. This would be much like the work APEC did to socialize investment and competition policy in the 1990s.

For these developments to be successful, trust is required: negotiators, bureaucrats, politicians, advocates in the various economies need to better understand the reasons behind different approaches to the policies that they are adopting.

As APEC Leaders gather for their meeting in Danang, it is most likely that the disconnect between the political environment for freer trade and the need for strategies to boost growth is likely to come to the fore. The top 3 policy priorities for APEC Leaders' discussions identified in PECC's survey were:

- Promoting sustainable, innovative and inclusive growth through the APEC Growth Strategy;
- The emergence of anti-globalization & anti-trade sentiments; and
- Progress toward the Bogor Goals and the Free Trade Area of the Asia-Pacific (FTAAP).

Although the Bogor Goals and the FTAAP were still considered a priority, they came behind the need to discuss promoting sustainable, innovative and inclusive growth in the region. This indicates a strong recognition of the need for APEC to have a balanced agenda that takes into account the concerns of all stakeholders in the regional economic integration process to ensure that growth is more inclusive.

CHAPTER
01ASIA-PACIFIC ECONOMIC
OUTLOOK

CONTRIBUTED BY MR. EDUARDO PEDROSA, SECRETARY GENERAL, PECC INTERNATIONAL SECRETARIAT AND COORDINATOR, STATE OF THE REGION

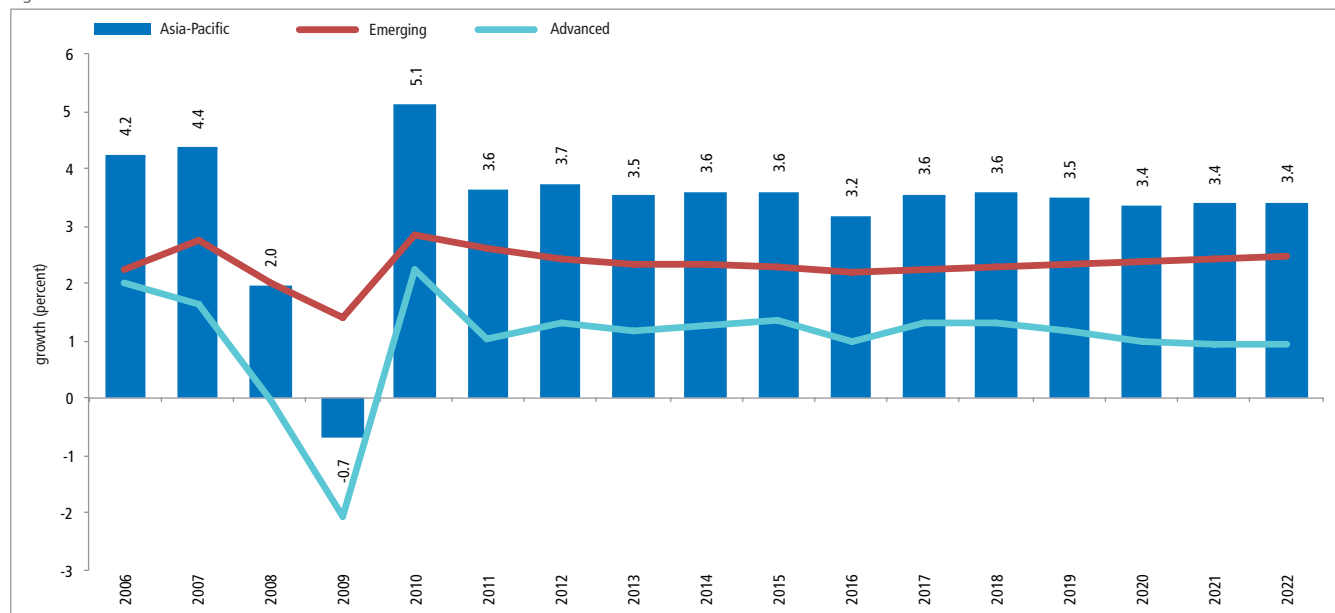
The Asia-Pacific economy is expected to grow by 3.6 percent in 2017 and 2018. This is a significant improvement from last year when growth was at around 3.2 percent. Importantly, this forecast is better than previous estimates potentially ending a cycle of downward revisions. Much of this improvement comes from faster than expected growth in the region's largest economies: The United States, China and Japan. However, there remain important structural concerns about the nature of growth in the region: the extent to which aggregate demand has been boosted by increased levels of debt and the impact of rising interest rates and the end of quantitative easing by the US Federal Reserve; the slowing of trade growth and its future as a driver of growth for the region's economies; and the impact of the digital revolution and the capacity of economies to adapt to and benefit from rapid technological changes.

This chapter on the Asia-Pacific economic outlook includes analysis of the regional outlook and the results of the Pacific Economic Cooperation Council (PECC) annual survey of the regional policy community. This year's PECC survey was undertaken from August

10th to September 13th, 2017. It is not a survey of public opinion but of those engaged in regional policy processes from government; business; and the non-government (comprised of academia; media and civil society) sectors.

As shown in Figure 1.1, last year's moderation in growth was largely caused by a dip in growth of the region's advanced economies. Over the next five years, the forecast is for moderate but sustained growth. The slowdown in growth in 2016 has not resulted, as some had feared, in a lower trajectory of growth, in spite of the end of extraordinarily expansionist monetary policy. Moreover, the external sector is recovering with exports and imports of goods and services expected to grow at 3.5 and 4.3 percent respectively in 2017. This reflects increases in both volume and value terms as discussed below. This is a big improvement over 1.6 percent growth in exports and 2 percent in imports last year. As discussed later in this chapter, there remain many questions on the role that the external sector is likely to play as an engine of growth for the region's economies.

Figure 1.1: Asia-Pacific GDP Growth



Source: Data from IMF WEO April 2017 database, analysis by PECC International Secretariat

1. ASIA-PACIFIC ECONOMIC OUTLOOK

As shown in Figure 1.2, our respondents' expectations for global growth over the next 12 months are significantly stronger than they were at this time last year. This aligns with most economic forecasts. Over 40 percent of respondents to PECC's State of the Region survey expected world economic growth to be stronger over the next 12 months, compared to only 16 percent at the same point in time last year. Respondents were most optimistic

about emerging economies, especially India and Southeast Asia. Importantly, expectations remain positive about growth in the world's major economies, notably: the US, China and Japan as well as the EU and India. The survey results point to expectations of synchronized growth in the world – a significant turnaround from 2016 when the policy community was expecting growth to slow in China, Japan, and the EU.

Figure 1.2: Expectations for Global Growth

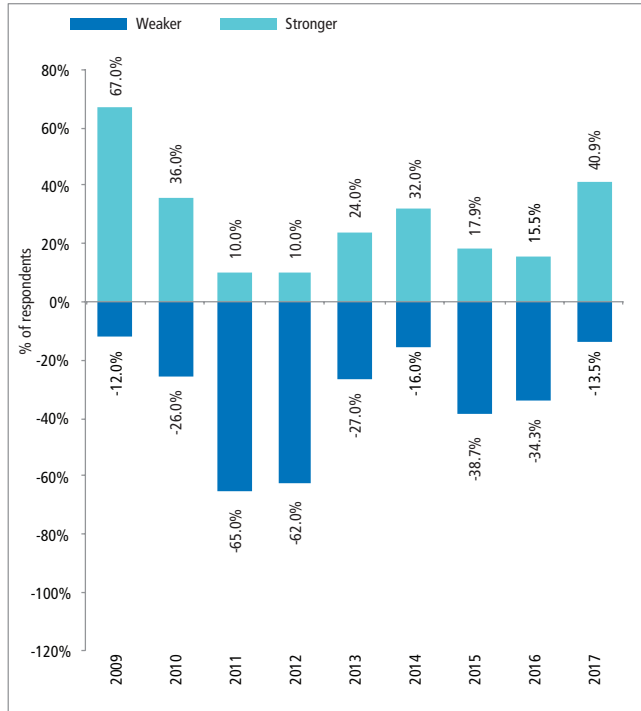
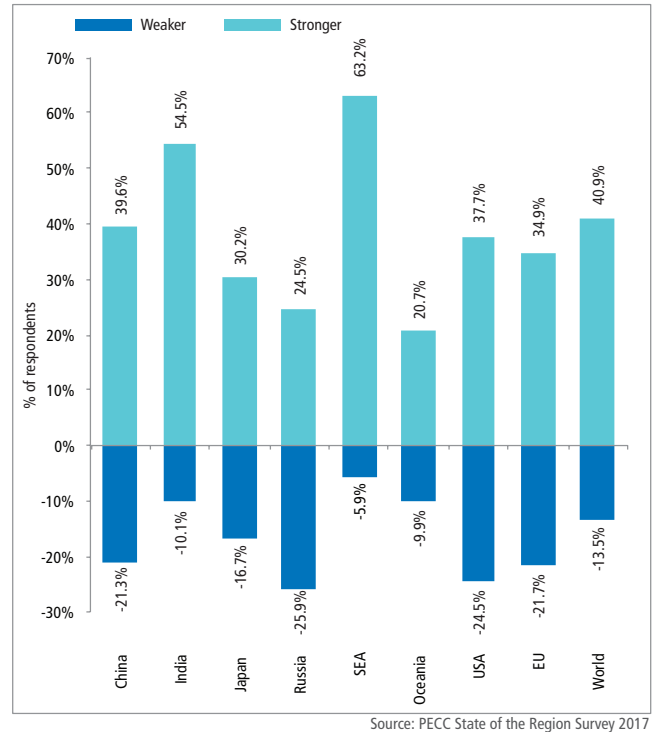


Figure 1.3: Expectations for Growth in Selected Regions



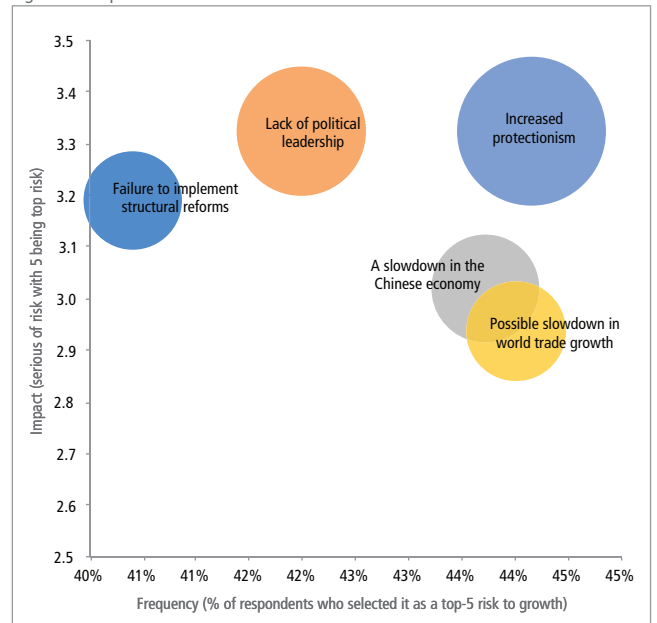
RISKS TO GROWTH

However, there are considerable downside policy risks that the policy community is concerned about. According to the survey, the top-5 risks to growth were:

- Increased protectionism
- Lack of political leadership
- A slowdown in the Chinese economy
- Possible slowdown in world trade growth
- Failure to implement structural reforms

Figure 1.4 shows the top-5 risks to growth where the horizontal axis indicates the percentage of respondents who selected the issue as a risk to growth for their economy while the vertical axis shows their estimate of the seriousness of impact of the risk. The bubble size reflects the overall seriousness in terms of both frequency and impact. Risks in the top right quadrant are those that were more frequently picked and given a relatively high impact.

Figure 1.4: Top-5 Risks to Growth



Question: Please select the top five risks to growth for your economy over the next 2-3 years. Please select ONLY five (5) risks, using a scale of 1-5. Please write 5 for the next most serious risk, 4 for the next third highest risk, 3 for the next fourth highest risk, 2 for the fourth highest risk and 1 for the least serious risk.

FEARS OF INCREASED PROTECTIONISM

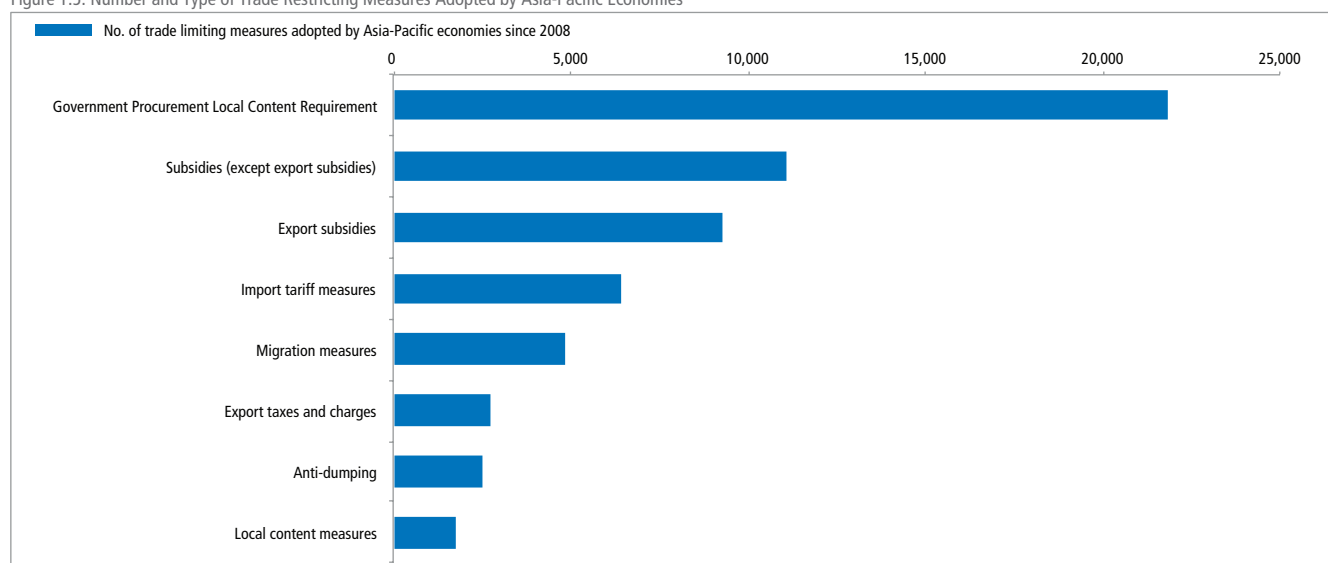
Over 44 percent of respondents selected increased protectionism as a top-5 risk to growth for their economy. By far, the sub-region most concerned was North America – over 70 percent of respondents thought that rising protectionism was a potential risk to growth, more than double the number from 12 months ago.

This finding should not be entirely surprising. According to the Global Trade Alert since 2008, Asia-Pacific economies have adopted a total of over 71,000 trade restricting policy measures. This is only a count of measures – not the extent to which they impact trade. However, this year's Global Trade Alert estimates that 73.5 percent of G20 exports face some type of trade distortion in foreign markets, ten times the trade coverage of protectionism reported by the WTO.¹

Figure 1.5 shows the top 10 most frequently used trade restricting measures adopted by Asia-Pacific economies. The types of measures used have not been tariffs but local content requirements in government procurement and subsidies. While some of these measures may comply with global trade rules, they nonetheless have the impact of restricting already tepid trade growth.

While we have not seen tit-for-tat increases in tariffs, there have been threats that such tariffs would be imposed. Such policy measures would have a disastrous impact on global growth; for example, it has been estimated that a 45 percent US tariff on Chinese imports could reduce global GDP by around 0.45 percent. The US economy would also likely suffer a large setback to the tune of 1.7 percent of GDP.²

Figure 1.5: Number and Type of Trade Restricting Measures Adopted by Asia-Pacific Economies



Source: Global Trade Alert Database; analysis by the PECC International Secretariat

LACK OF POLITICAL LEADERSHIP

Next to 'increased protectionism,' 'the lack of political leadership' was the second highest risk to growth selected by the regional policy community. There was considerable variation among sub-regions on this risk, with those from Pacific South America selecting it most often and those from Northeast Asia the least.

Given the other risks to growth, this may well be a comment on the relative ineffectiveness of Leaders' statements in the face of policy reality. Almost 10 years ago at the first G20 Summit in Washington in November 2008, world leaders underscored "the critical importance of rejecting protectionism and not turning inward in times of financial uncertainty" and committed to "refrain from raising new barriers to investment or to trade in goods and services, imposing new export restrictions, or implementing World

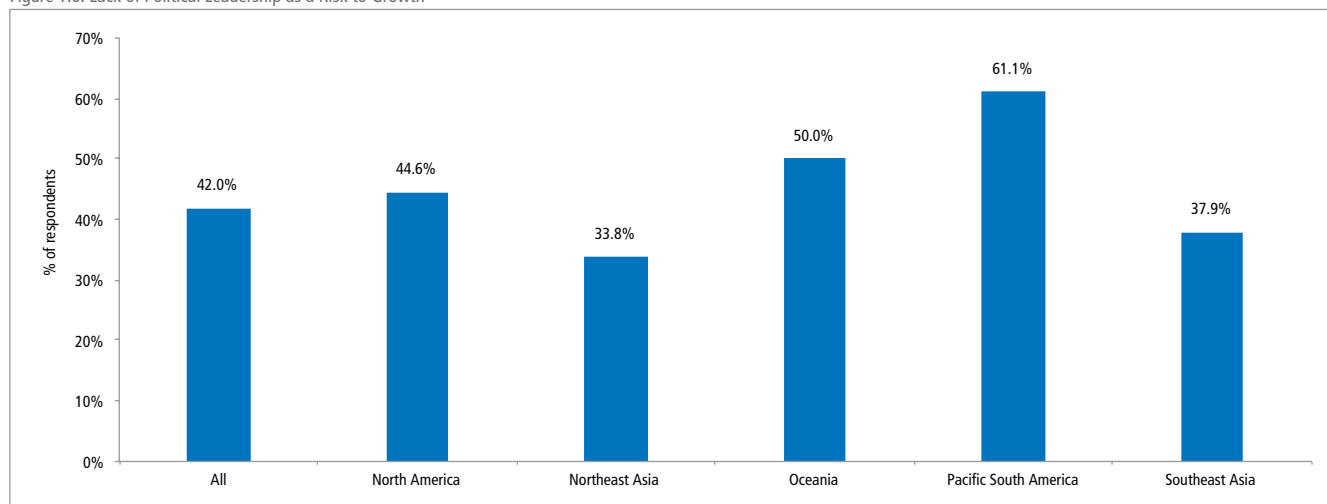
Trade Organization (WTO) inconsistent measures to stimulate exports." Shortly after, APEC Leaders reinforced that message at their meeting in Lima. Since then, every G20 and APEC Leaders' summit have applied similar language.

The increased use of trade restricting measures calls into question the credibility of the G20 and APEC. This is not to say that such statements are not worth the paper they are written on, but that there is an increasing gap between such statements and the reality on the ground. At their summit in Hamburg in July 2017, G20 Leaders reiterated their political commitment to "keep markets open noting the importance of reciprocal and mutually advantageous trade and investment frameworks and the principle of non-discrimination, and continue to fight protectionism including all unfair trade practices and recognise the role of legitimate trade defence instruments in this regard." The reality

¹The 21st Global Trade Alert: <http://www.globaltradealert.org/reports/download/42>

²Kenichi Kawasaki, Uncertainty in Regional Integration: Economic impact of alternative RTA of alternative Scenarios, GRIPS Discussion Paper, January 2017.

Figure 1.6: Lack of Political Leadership as a Risk to Growth



Source: PECC State of the Region Survey 2017

is that such commitments have been honored more in the breach than in the observance.

On the side of forward momentum, there is uncertainty over the future of regional trade initiatives. The US withdrawal from the Trans-Pacific Partnership (TPP) might have ended that particular experiment but when TPP-11 Ministers met on the sidelines of the APEC Ministers Responsible for Trade meeting in May 2017, they agreed “on the value of realizing the TPP’s benefits and to that end, they agreed to launch a process to assess options to bring the comprehensive, high quality Agreement into force expeditiously.”

At the same time, ASEAN and its partners in the Regional Comprehensive Economic Partnership (RCEP) negotiations have been trying to conclude the agreement by the end of this year. The prospects for RCEP completion is discussed further below. In the meantime, outside of the Asia-Pacific region, other agreements

have also been concluded or are near conclusion including the EU-Japan Trade Agreement, and the Canada-EU Trade Agreement. Additionally, the EU and ASEAN announced earlier this year an attempt to explore restarting FTA negotiations with bilateral deals already struck with Singapore and Vietnam, with negotiations underway with the Philippines and Indonesia. As much as the TPP was an attempt to update the rules for trade in the twenty-first century, it seems that much more writing is being led by Europe than the economies of the Asia-Pacific.

Given the benefits that the Asia-Pacific region has had and still stands to gain from increased integration, resolving the conundrum of the general benefits vs. localized costs should be a priority. As discussed in Box 1.1, the macroeconomic benefits of trade integration tend to be large in percentage terms but there are very specific adjustments that come with integration.

BOX 1.1 THE STATE OF PLAY OF REGIONAL ECONOMIC INTEGRATION INITIATIVES

Contributed by Kenichi Kawasaki, Professor and Senior Fellow, National Graduate Institute for Policy Studies (GRIPS), Japan

A high degree of uncertainty on the future of regional economic integration initiatives has emerged over the past 12 months. This box discusses the economic impacts of several possible scenarios of regional trade agreements (RTAs) based on economic model simulations.

On January 23rd 2017, President Trump withdrew the United States from the Trans-Pacific Partnership (TPP) Negotiations and Agreement, removing a critical piece of the regional trade architecture. However, in May 2017, at the sidelines of the

meeting of Asia-Pacific Economic Cooperation (APEC) Ministers Responsible for Trade, the remaining 11 TPP members “agreed on the value of realizing the TPP’s benefits.” A fundamental question is whether or not, absent the continued participation of the world’s biggest consumer market, such an undertaking still makes economic sense. According to economic modeling studies, the implementation of the TPP-11, could boost the GDP of the 11 economies by 3.0 per cent on average by tariff reductions and possible non-tariff measure (NTM) reductions, compared with 4.0 per cent as a result of potential TPP with

the US (Kawasaki 2017). Other estimates show similar positive results, for example, Dade and Ciuriak have also suggested that the economic welfare benefits of about C\$21 billion would be generated for the 11 economies, which is around two thirds of the estimated benefits from TPP-12 (C\$33 billion).

Macroeconomic impacts of TPP would be less affected by the absence of the US because of the possible impacts of NTM reductions. The real GDP gains from tariff reductions by the 11 economies would account for around 40 percent of TPP-12 (Kawasaki 2017). On the other hand, gains from NTM reductions by the 11 economies would be around 80 percent of TPP-12. This is due to the spillover effects of NTM reductions to third economies. As many NTMs relate to differences in regulations, which mostly cannot be altered on a purely bilateral and preferential basis, the reductions will improve market access for third economies as well operating on a most favored nation (MFN) basis.

The current US president has, on occasion, threatened to impose tariffs on imports from China and Mexico. However, such measures would not save jobs across the economy but would more likely lower growth, not just in China and Mexico, but also in the US (Kawasaki (2017) and PC (2017)). While the economic impacts on other economies would be limited, with the trade diversion effects offsetting the adverse income effects, "significant worldwide increases in protection would cause a global recession." (PC 2017). The Productivity Commission's modelling has estimated that worldwide increases in tariffs of 15 percentage points would cause global trade to lower by 22 percent and global output to lower by nearly 3 percent.

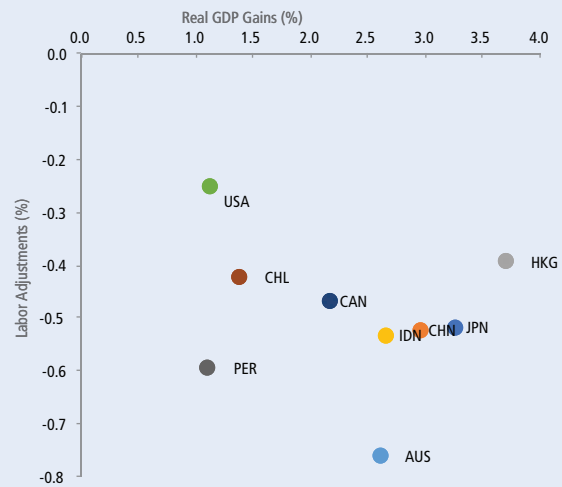
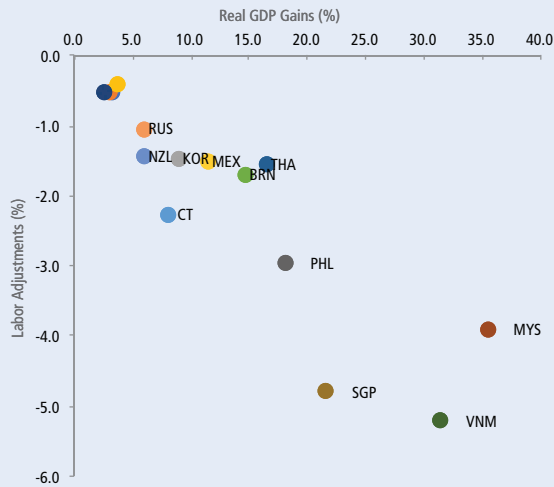
The development of the Regional Comprehensive Economic Partnership (RCEP) negotiations as another major vehicle of mega RTAs in Asia-Pacific has been a matter of great interest to many. The economic impacts of RCEP largely depend on the levels of trade liberalization. As a matter of fact, 115 out of 120 possible combinations of bilateral trade agreements among the RCEP economies are already covered by concluded or implemented RTAs and bilateral free trade agreements (FTAs). The remaining five combinations are Australia-India, China-India, India-New Zealand, Japan-China and Japan-Korea. Estimates suggest that if the RCEP economies eliminate all imports tariffs that existed as of 2011, the average real GDP of the RCEP economies would be boosted by 1.9 percent (Kawasaki 2017). However, if RCEP would be limited to the existing RTAs/FTAs among the RCEP economies with the removal of tariffs just in the five remaining combinations mentioned above, real GDP gains would be far smaller at 0.5 percent. Moreover, the Association of South-East Asian Nations (ASEAN) economies would lose rather than gain from those tariff reductions in the latter case due to trade diversion effects.

Underlying the uncertainty over the future of trade integration are concerns about the rising income inequality and distributional impacts of trade liberalization. While economic models suggest that initiatives such as the TPP, RCEP and possibly an eventual Free Trade Area of Asia-Pacific (FTAAP) would generate substantial macroeconomic benefits, there would be winners and losers at sectoral levels in accordance with their comparative advantage. Capital and technology-intensive sectors are expected to expand in industrialized economies. Labor-intensive sectors are expected to expand in emerging economies. Primary sectors are expected to expand in physically larger economies. However, the magnitude of those structural changes is likely to be limited in comparison with expected macroeconomic gains. For many years, APEC Leaders have considered it a goal to eventually achieve an FTAAP. While much work has been done on the likely economic gains – which are large – relatively little has been done on the likely adjustments that would take place as a result of the FTAAP. Given the current political spotlight on trade, some initial work has been done to estimate the kind of adjustments an FTAAP might require. Based on modeling simulations, the magnitudes of the adjustments of employment, which is measured in terms of the share of the labor force that needs to shift from certain sectors to other sectors, are estimated to be less than 20 percent of real GDP gains on average among the APEC economies as a result of tariff removals and NTM reductions among the APEC economies (Chart 1) (Kawasaki, 2017). Clearly, further work is needed in this area, which APEC should facilitate, if it intends to continue working on this goal.

The modelling exercises are instructive on the importance of unilateral reforms to economic growth. Breaking down the source of economic impacts of the FTAAP by policy measures, most of the macroeconomic benefits come from the reduction of an economy's own tariffs and NTMs rather than from improved access to the market of trade partners (Kawasaki 2015). This is especially true of the smaller economies in the ASEAN and the Asia-Pacific.

The key point is that the economic gains from regional economic integration are sustainable. The effects of macroeconomic policy measures, including monetary easing and fiscal stimulus, disappear when those expansionary policy measures return to business as usual. On the other hand, the impacts of structural reform measures, including those resulting from RTAs/FTAs through more efficient resource allocation and productivity improvements, continue over the medium- and long-term horizons.

Chart 1. Macroeconomic gains and sector adjustments



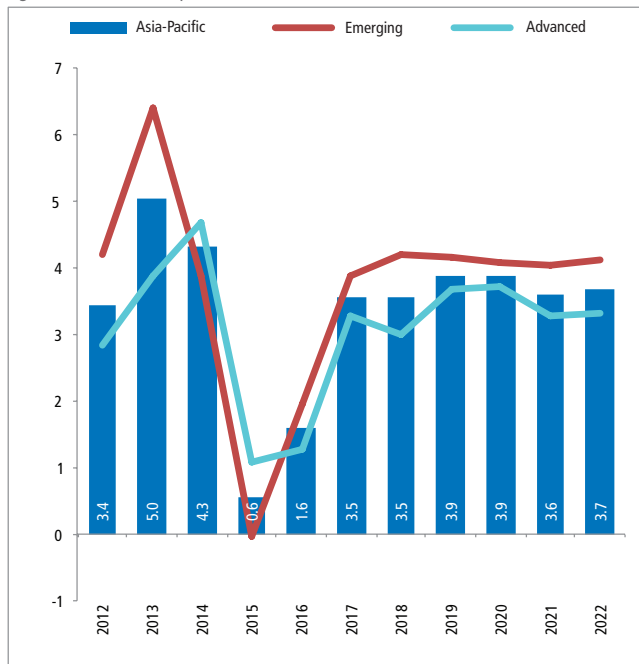
POSSIBLE SLOWDOWN IN WORLD TRADE GROWTH

Regional export growth is expected to bounce back from post-crisis lows of 0.6 and 1.6 percent growth in 2015 and 2016 to 3.5 percent growth in 2017. Moreover, as shown in Figure 1.7 export growth is expected to further accelerate to 3.9 percent in 2019. A similar forecast is seen on the import side. While this improvement in trade growth is welcomed, it is well below pre-crisis levels and

there is a debate on whether the slowdown in trade growth is caused by: business decisions (shortening value chains), slower growth in major markets, or the impact of protectionist policies discussed above.

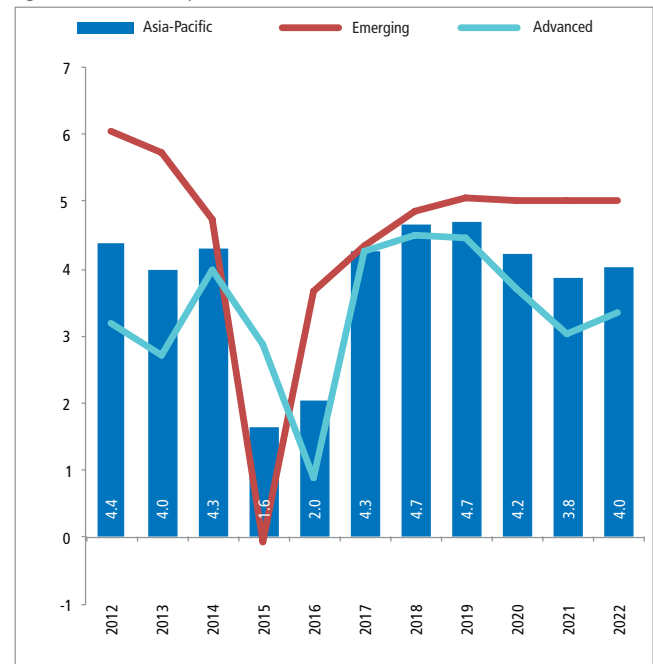
A central question over the past few years has been the extent to which trade has 'peaked.' A special edition of this report in 2015 that focused on trade suggested a need for caution before reaching any conclusion.

Figure 1.7: Growth of Exports of Goods and Services



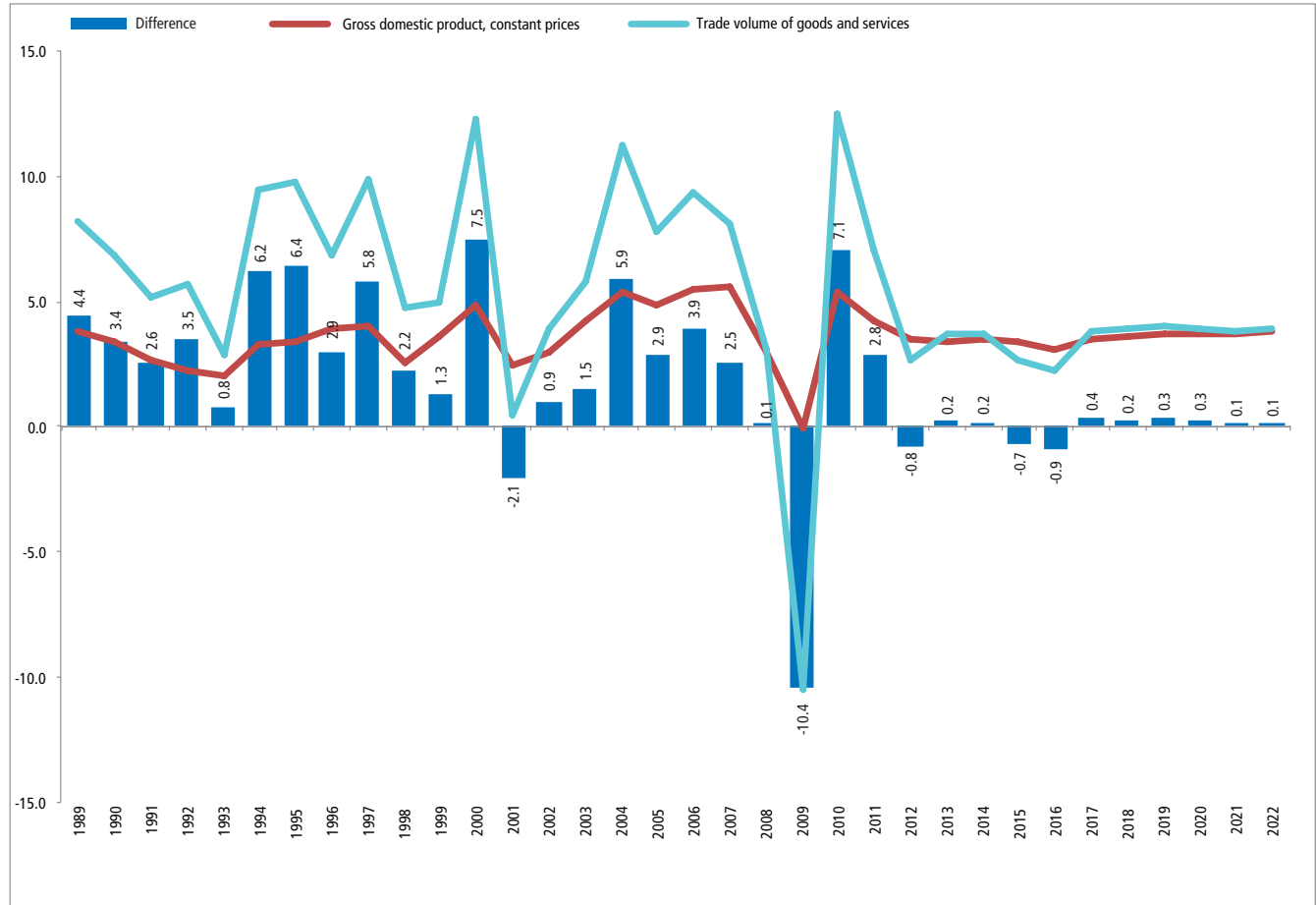
Source: Data from IMF WEO April 2017 database, analysis by PECC International Secretariat

Figure 1.8: Growth of Imports of Goods and Services



Source: Data from IMF WEO April 2017 database, analysis by PECC International Secretariat

Figure 1.9: GDP and Trade Volume Growth



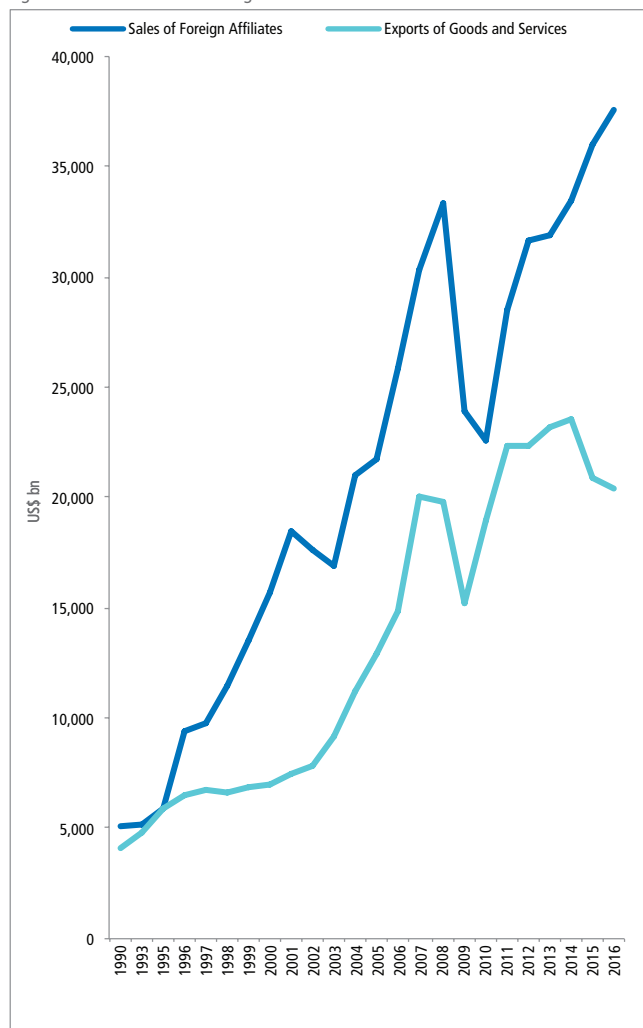
Source: Data from IMF WEO April 2017 database, analysis by PECC International Secretariat

As shown in Figure 1.9 above, trade grew at a slower rate than GDP in 2015 and 2016. While trade growth is expected to outpace overall demand in 2017, the differential is markedly smaller than during the boom years of 1989-2007. The central argument was

whether this is a structural or cyclical phenomenon.³ An analysis by the IMF and World Bank suggests that the changing relationship between trade and income at the global level is driven primarily by changes in supply-chain trade.

³ See for example: Slow Trade by Cristina Constantinescu, Aaditya Mattoo, and Michele Ruta in Finance and Development, December 2014, Vol. 51, No. 4 <http://www.imf.org/external/pubs/ft/fandd/2014/12/constant.htm>

Figure 1.10: Are GVCs Contracting?

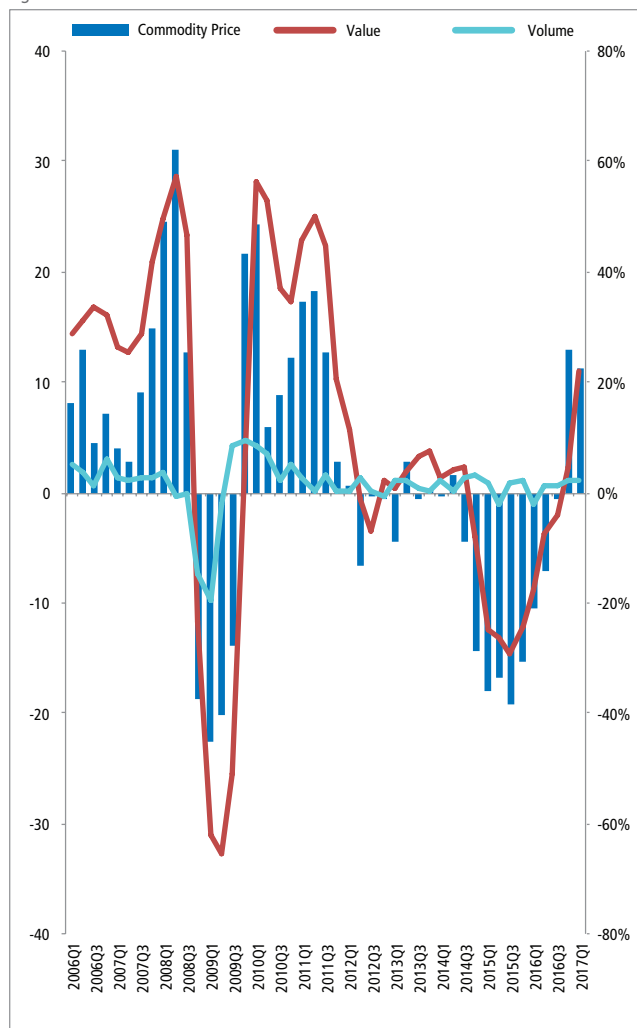


Source: UNCTAD World Investment Report (various years) and analysis by PECC International Secretariat

There has been mounting evidence that global value chains have been contracting with more multinational companies ‘onshoring.’ As shown in Figure 1.10, from 1990 to 2013, sales of foreign affiliates of multinational companies moved in lockstep with exports of goods and services. However, from 2014 to 2016, even as sales of foreign affiliates increased by over 12 percent, exports of goods and services decreased.⁴ UNCTAD argues that the deceleration in international production is a contributing factor behind slower trade expansion.⁵ The decision to produce onshore, closer to major markets, may be driven by changing commercial realities. However, in some cases it is possible that rhetoric and actual measures by governments listed in Figure 1.5 are influencing the decision-making of businesses.

Another possible explanation for the slowdown in trade growth is depressed prices. For example, crude oil prices peaked in 2008 at a price of over US\$133 per barrel. Today, West Texas Intermediate is at less than US\$50 a barrel. Figure 1.11 shows year-on-year

Figure 1.11: Trade Value vs. Trade Volume



Source: WTO: Quarterly merchandise trade value and merchandise trade volume and IMF: All Commodity Price Index and analysis by PECC International Secretariat

changes in trade volume, value and commodity prices. At first glance, it appears that changes in trade measured in value terms is more closely linked to changes in commodity prices than changes in trade volume. However, analysis of the numbers suggests that variations in volume explain about 61 percent of changes in value. There is also a link but not that strong a link between changes in the commodity price index and the trade value index.

In recent months, as shown in Figure 1.11, prices of commodities have been rising. While the IMF All Commodity Price index is limited to commodities, prices of other key products have also been rising. For example, the price of 2GB of DRAM rose by 14.2 percent in the first quarter of 2017, showing an upturn in the semiconductor segment.⁶ Part of this has come from very strong demand growth, with worldwide sales of semiconductors reaching US\$97.9 billion in the second quarter of 2017, a 23.7 percent increase compared to the second quarter of 2016.

⁴ UNCTAD, World Investment Report 2017, <http://unctad.org/en/pages/PublicationWebflyer.aspx?publicationid=1782>

⁵ Ibid.

⁶ See Monetary Authority of Singapore, Macroeconomic Review, Volume XVI, Issue 1, April 2017: http://www.mas.gov.sg/~media/resource/publications/macro_review/2017/April%202017/MRApr17.pdf

A SLOWDOWN IN THE CHINESE ECONOMY

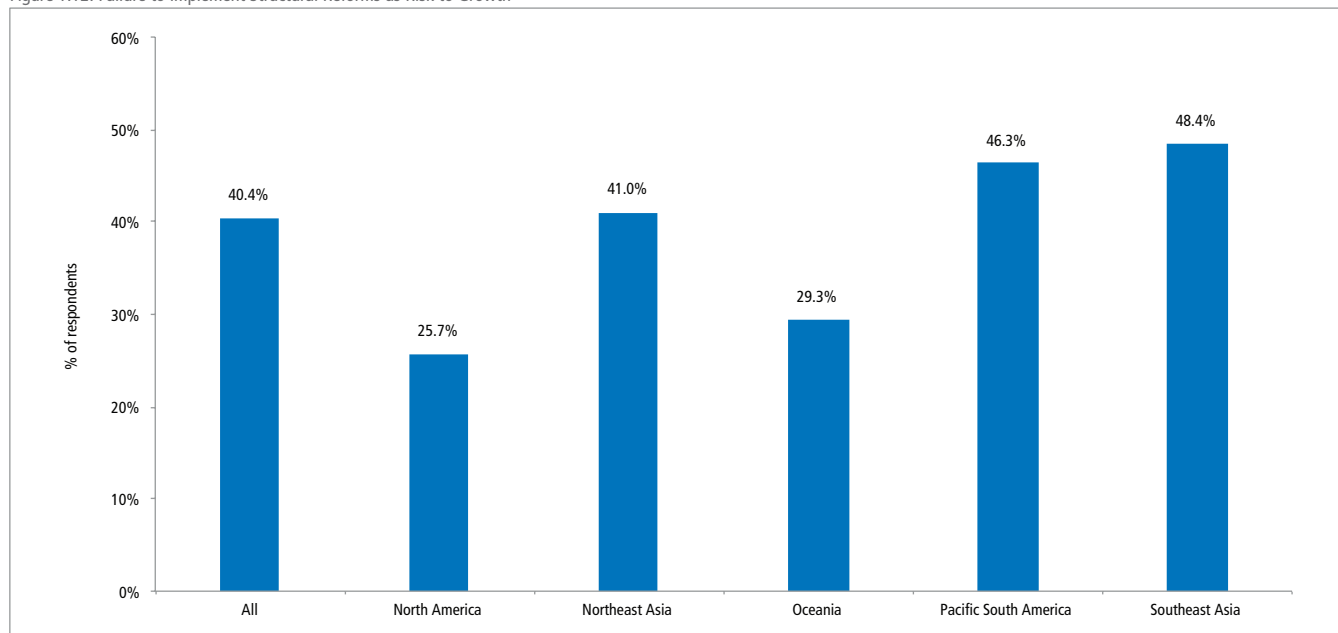
For several years, a slowdown of China's economy has been a top-5 risk to growth in PECC's annual survey. Even though China's headline growth number has slowed from 10 percent annual growth to around 6.7 percent, the region's largest emerging economy continues to account for around 40 percent of the region's total growth. After China, growth in the United States contributes around 20 percent of the increase in the region's output. As discussed in Box 1.2, one of China's objectives is to transform itself from being the world's factory to become the world's market.

That would involve a series of structural reforms which are already underway but not easy to manage in such a large economy.

FAILURE TO IMPLEMENT STRUCTURAL REFORMS

The fifth most serious risk to growth was the failure to implement structural reforms. Southeast Asian and Pacific South American respondents were most concerned, with almost half selecting it as a top-5 risk to growth.

Figure 1.12: Failure to Implement Structural Reforms as Risk to Growth



Source: PECC State of the Region Survey 2017

Question: Please select the top five risks to growth for your economy over the next 2-3 years

A PECC taskforce established in response to the Global Financial Crisis (GFC) argued that the crisis occurred - at least as a partial explanation - due to unbalanced economic growth. To rebalance growth and avoid a reemergence of such imbalances, economies should pursue different structural reforms: to encourage either more savings and less investment in the case of deficit economies and the opposite in the case of surplus economies. It was argued that the magnitude of such changes was relatively small compared to broad categories of domestic expenditures. The same report argued that while temporary stop-gap measures such as fiscal and monetary stimulus were necessary to sustain aggregate demand, they needed to be replaced by productivity enhancing structural reforms.

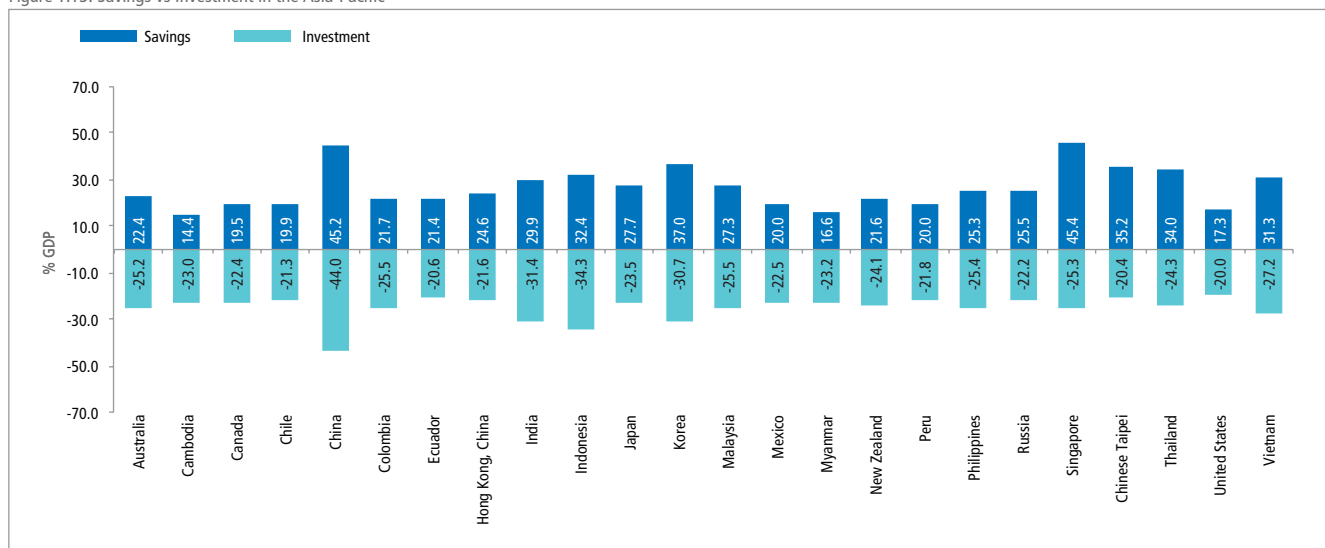
In the years following the GFC, while low interest rates and unprecedented insertions of liquidity into the financial system have helped sustain economic growth, it resulted in massive increases in debt. That stimulus has helped governments avoid swallowing the bitter bill of often painful - and politically difficult - but necessary structural reforms. For example, in 2009, APEC Leaders committed

to "strengthen social resilience to help individuals overcome short-term difficulties" and to "improve outcomes in education and skills-training to enhance long-term economic security; consider income supplements or earned income tax credits that encourage work and enterprise; and design social safety nets that provide short-term economic security but avoid long-term dependency."

One metric of imbalances in recent years has been the current account. Current account imbalances remain largely in check and far from the peaks in the mid-2000s when they began to reach close to 6 percent of GDP for the United States, and over 8 percent in China. Today, China's current account surplus is estimated to be at around 1.3 percent of GDP and the US deficit at around 2.7 percent of GDP, within the boundaries of what is considered sustainable. Moreover, as was noted in PECC's *Pacific Economic Outlook* in 2001, "current account imbalances reflect private economic decisions to save and invest and are no economic problem in themselves...however, [they] risk generating negative political reactions in deficit economies."

1. ASIA-PACIFIC ECONOMIC OUTLOOK

Figure 1.13: Savings vs Investment in the Asia-Pacific



Source: Data from IMF WEO April 2017 database and analysis by the PECC International Secretariat

Moreover, the savings needs of an economy and its propensity to consume are linked to both the availability of social safety nets, credit, as well as population structure. Given the rapid aging of societies in the Asia-Pacific, it should not be surprising that households tend to save more, especially given the underdevelopment of the financial sector and lack of breadth or depth (and often both) of social safety nets such as medical and unemployment insurances, as well as pensions.⁷ The future trajectory of savings-investment balance and therefore the current account balance remains unclear. Generally, with aging populations, it would be expected that the savings rate would decline. However, the household savings rate will increase if uncertainties about the future rises, or social safety nets are degraded or viewed as likely to be insufficient for future needs. One possible scenario is that the aging of the population leads to strains on the finances of public pension and medical insurance programs, which in turn causes benefits to be reduced. As people save more to compensate, this indirect effect of aging may more than offset the direct effect of aging (which is to cause the household saving rate to decline). It all depends on the relative strengths of the direct and indirect effects of population aging on household savings.

In October 2016, the IMF warned that the global debt of the non-financial sector (general government, household, and non-financial firms) was at a record high of 225 percent of world GDP. Almost two-thirds - US\$100 trillion - is debt of the private sector.⁸ While no universal agreement exists of what is an excessive level of debt, there is little doubt that this issue will need to be dealt with in the coming years. On September 20th, 2017, the US Federal Reserve announced that it would begin a 'balance sheet normalization program' – in other words, ending quantitative easing. Importantly, the Federal Reserve's announcement noted the strength in the US

economy which was expected to continue in the coming months despite the devastation wrought by a succession of hurricanes that hit the US mainland.

Even though some central banks are likely to continue quantitative easing, the September decision represents an end to an extraordinary period of monetary stimulus. There are risks that as interest rates rise and financial conditions tighten, borrowers will face challenges servicing that debt, especially if growth rates remain sluggish and revenue growth fails to match rising debt obligations.

Data from the Bank of International Settlements (BIS) for a few selected Asia-Pacific economies suggest that over the past ten years, household debt has increased by 40 percent but debt levels in the non-financial corporate sector have increased by a significantly larger percentage of 84 percent. While both household and corporate debt levels have increased in all those sampled economies, the trend has been more notable in some economies than others.

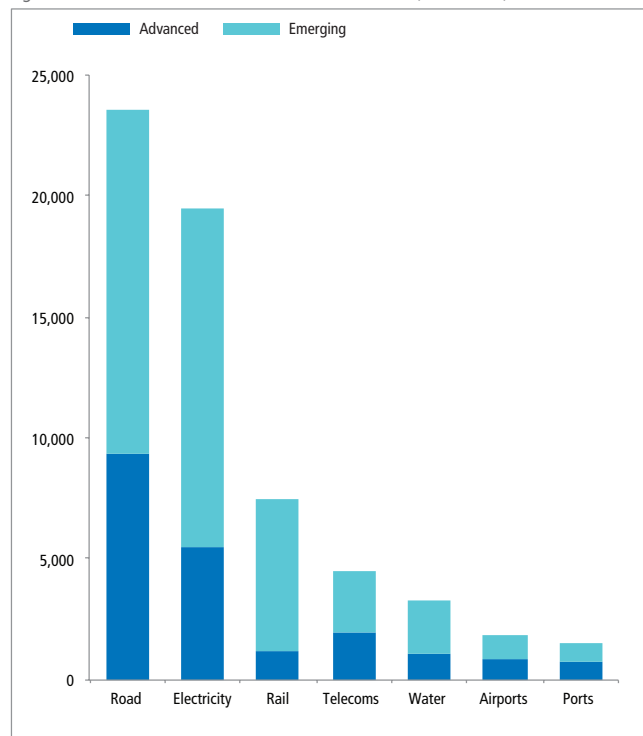
A critical point in resolving the debt issue as interest rates rise will be to raise growth rates and productivity levels. The Global Infrastructure Hub estimates that globally, the infrastructure requirement from 2016 to 2040 would be around US\$94 trillion - on average \$3.7 trillion per year and 19 percent higher than is currently being invested. The estimated increases by a further US\$3.5 trillion will be required to meet the United Nations' Sustainable Development Goals for electricity and water.⁹ Of this, 54 percent of that infrastructure investment is needed in Asia. This is not limited to the emerging economies but the more advanced economies as well.

⁷ See: Charles Horioka, "The Determinants of Saving Rates in the Developed and Developing Economies: The Impact of Social Safety Nets" in Towards a More Resilient Society: Lessons from Economic Crises, PECC International Project, October 2010, The Japan Institute of International Affairs: http://www2.jiia.or.jp/en/pecc2010/SRpdf/101021_0.pdf

⁸ See: Fiscal Monitor, International Monetary Fund, October 2016: https://www.imf.org/~media/Websites/IMF/imported-flagship-issues/external/pubs/ft/fm2016/02/pdf/_fm1602pdf.ashx bid.

⁹ Global Infrastructure Outlook: <https://gihub-webtools.s3.amazonaws.com/umbraco/media/1529/global-infrastructure-outlook-24-july-2017.pdf>

Figure 1.14: Asia-Pacific Infrastructure Needs 2016-2040 (US\$ billions)

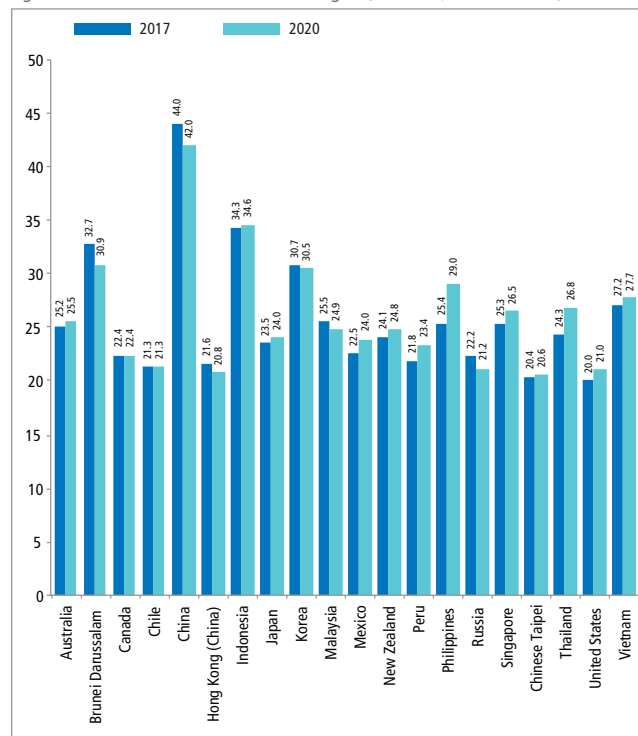


Source: Global Infrastructure Outlook

As shown in Figure 1.14, while emerging economies account for most of the region's infrastructure investment requirements over the next 24 years, the region's advanced economies still need to invest around US\$20 trillion in infrastructure. For example, the Global Infrastructure Outlook estimates that the United States needs to spend around US\$12.3 trillion in infrastructure over the next 25 years. However, the gap between estimated infrastructure expenditure and the total needed is also the highest for the US where the gap is estimated at around US\$3.8 trillion or 31 percent of its need. While investment, as a percentage of GDP in the US, is expected to climb to 21 percent over the next few years, it is well below the levels in other advanced income economies such as Japan and Australia, which are expected to be investing about 24 and 25 percent of GDP respectively. Investment in infrastructure was a campaign theme for President Trump and it could bring a tremendous boost to growth in the world's largest economy. However, as discussed above, the savings-investment balance in the US remains in deficit, with investment of around US\$500 billion more than in savings. A significant increase in investment would push the US current account into a greater deficit – not a problem in itself but likely to attract domestic criticism.

On the other hand, investment in China had been a significant driver of growth in the immediate post-GFC period helping to

Figure 1.15: Investment in the Asia-Pacific Region (% of GDP, 2017 and 2020)



Source: IMF World Economic Outlook, April 2017

sustain growth in the face of a deteriorating external market. In 2011, gross capital formation was estimated to have reached a peak of 48 percent of GDP and has been declining since then. It is expected to reach about 42 percent of GDP by 2020 in line with China's ambition to move from being the world factory to the world market (see Box 1.2). Indonesia is looking at a period of sustained investment growth and the rate is expected to be above 34 percent of GDP over the next four years. This is a marked improvement to the long period after the Asian Financial Crisis when investment fell to levels around 25 percent of GDP. Likewise, in the Philippines, investment as a percentage of GDP is expected to grow to around 29 percent. Addressing the infrastructure deficit has been behind the thinking of initiatives to improve connectivity in the region such as ASEAN Masterplan for Connectivity, the APEC Connectivity Blueprint and the Belt and Road Initiative. As previously discussed in this chapter, the nature of trade in the region is changing with global value chains shortening and cross-border trade shifting from an emphasis on high value and low volume to low value and high volume.¹⁰ While this may not be a consistent phenomenon, as the opportunities for cross-border e-commerce and digital trade increase, it is increasingly likely that more trade flows will be of lower value but higher in volume, which underscores the need to think about changing infrastructure requirements.

¹⁰ See for example, Digital disrupts the foundation of business, Accenture Strategy, <https://www.accenture.com/us-en/blogs/blogs-digital-disrupts-foundation-business>

BOX 1.2 THE BELT AND ROAD INITIATIVE: A NEW FRONTIER FOR WIN-WIN COOPERATION

Contributed by Ruan Zonqze, provided by CNCPEC*

China's economy is expected to grow by 6.7 percent in 2017 continuing in its role as the leading contributor to global growth. In recent years China has increased its pace of its reform while widening the footprint of development by encompassing both sea and land areas, as well as its eastern and western regions. The aim is to continue to open, transforming China from a "world factory" into a "world market."

Injecting Impetus into World Economy

The world economy is at a critical juncture, undergoing overall recovery yet facing multiple risks and challenges. Therefore, providing positive energy and injecting new momentum into world economic growth, while directing globalization toward a more balanced, inclusive, and sustainable development has become a major issue facing the international community.

The Belt and Road Initiative (BRI) is the "Chinese prescription" for addressing these issues. It has been four years since China put forward the BRI. Despite the rising anti-globalization sentiments and protectionism, the BRI stands out by firmly adhering to the initiative's openness and inclusiveness, characterized by wide consultation, joint contribution and shared benefits. Over the years, the BRI has gradually entered a new phase of comprehensive and pragmatic cooperation. So far, more than 100 economies and international organizations have voiced their positive response and support to the initiative, while China has signed cooperation agreements with 69 of them. As such the BRI has ultimately offered a new paradigm and momentum for promoting the sustainable development of global economy toward a new type of international relations with win-win cooperation at its core.

Complementary to the BRI are the Asian Infrastructure Investment Bank (AIIB), the Silk Road Fund and the BRICS New Development Bank, which operate independently. They have also become key drivers for emerging economies to facilitate infrastructure construction, promote world economic growth and contribute to the reform of international economic governance. In the year since the AIIB started operations it has approved the first four projects, totalling about US\$500 million and covering such areas as energy, transportation and urban development in Bangladesh, Indonesia, Pakistan and Tajikistan. On March 23, 2017, the AIIB announced its approval of 13 new members, with its membership reaching 70, more than that of the European Bank for Reconstruction and Development (EBRD) and the Asian Development Bank (ADB), thus becoming the world's second largest multilateral development institution. The Silk Road Fund focuses on the medium and long-term

investment under the BRI and is the largest multilateral cooperation fund with high standards sponsored by the Chinese government. In early 2016, the first investment project of the Silk Road Fund, the Karot hydropower project which is part of the China-Pakistan Economic Corridor, was initiated.

Development Opportunities for Participating Economies

Through the BRI, over the past three years, China has increased positive interactions with economies along the routes, and offered an historical opportunity for common development. The focus of BRI economies is policy coordination, facilitating connectivity, unimpeded trade, financial integration and enhancing people-to-people connectivity. In 2016, the total imports and exports between China and BRI members amounted to 6.3 trillion yuan; while the direct investment from China to those economies reached US\$14.5 billion and the cumulative investment was over \$18.5 billion, which produced nearly \$1.1 billion of revenue and 180,000 jobs. Investment cooperation between China and those economies continued to rise in 2017. In the first quarter of 2017, non-financial direct investment by Chinese enterprises in 43 economies along the Belt and Road witnessed an increase of US\$2.95 billion, accounting for 14.4 percent% of China's total foreign investment over the same period, an increase of 5.4% from the previous year.

The BRI has successfully established several cooperative platforms and bilateral and multilateral mechanisms at different levels, linking China's development strategy to that of the Belt and Road members and regions. The BRI has become connected in its strategic planning with multiple economies and regions: including the Eurasian Economic Union (EEU); the "Prairie Road" of Mongolia; the "Bright Path" of Kazakhstan; the Juncker Investment Plan of the EU; the "Two Corridors and One Ring" of Vietnam; the "Vision 2030" of Saudi Arabia; the "Northern Powerhouse" of the United Kingdom; Turkey's Middle Corridor Initiative; Australia's plan to develop its northern region; and Laos' national strategy to transform from a land-locked to a land-linked state. As the BRI's flagship project, the China-Pakistan Economic Corridor sets a strong example for the construction and overall deployment of Belt and Road projects in other regions. The development of the China-Mongolia-Russia Economic Corridor has also been proceeding apace.

The BRI connects the two ends of the Eurasian continent: one end is the vibrant East Asian economic circle, the other is the developed European economic circle, while the middle section

is the hinterland with huge potential. The BRI matches the development demands of China with those of the economies along the Belt and Road. For example, as the “Silk Road on the track,” the China-Europe freight railway line is an artery across the Eurasian continent, which has established connectivity, enhanced trade and investment, upgraded industrial capacity, and forged a super development area on the Eurasian continent.

Important Practice for a New Type of International Relations

Twenty years after the end of the Cold War, the world trend toward multi-polarization is increasingly irresistible, and human society will become more pluralistic, inclusive and balanced. However, peace and development for mankind still faces a multitude of obstacles: the international situation is intricate and complex, and global challenges are continuously emerging, thus increasing the uncertainty of the future. Resolving global challenges, therefore, requires global efforts.

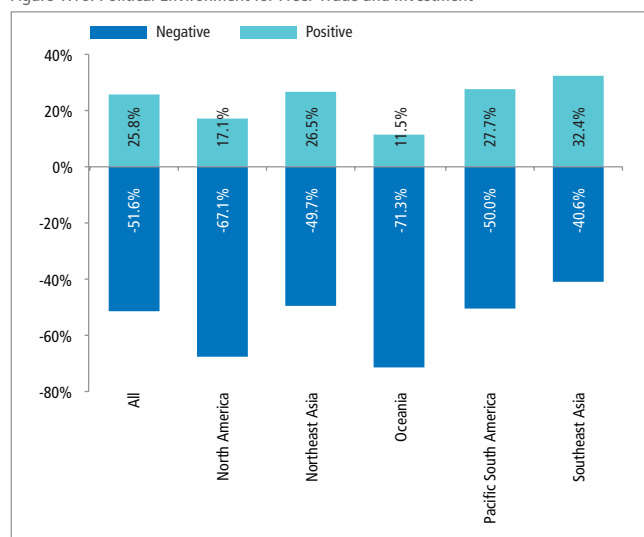
Under such a historical context, China has grasped the opportunity to launch the idea of building a community of shared future by proposing the BRI which shapes a new type of international relations and improving global governance. The underlying concept of the BRI is not a collection of short-term projects but to strive to build a grand future of common destiny. Although a zero-sum mentality still manifests itself in current international relations, the BRI concept of wide consultation, joint contribution and shared benefits aims to build a global network of partnerships in place of alliances. It is also conducive to reshaping the pattern of relationships among economies toward a new focus on win-win cooperation and common development.

Over the years, the BRI has gone from being a Chinese proposal to a program for the world, while its concept of win-win cooperation has been welcomed and endorsed by more and more economies and international organizations. In November 2016, the BRI's core concept of wide consultation, joint contribution and shared benefits was written into the Leaders' Declaration for the first time at the APEC Leaders' informal meeting in Lima, Peru. On November 17, 2016, the BRI was for the first time written into the resolution of the 71st session of the UN General Assembly. On March 27, 2017, China and New Zealand signed a memorandum of arrangement on strengthening BRI cooperation. New Zealand is the first Western developed economy to sign a BRI cooperation document with China. On April 11, 2017, a Letter of Intent on Advancing Regional Connectivity and the Belt and Road Initiative between the Ministry of Foreign Affairs of the PRC and the UN's Economic and Social Commission for Asia and the Pacific (UN ESCAP) was signed in Beijing. This is the first BRI cooperation document signed by China and an international organization.

In summary, the BRI embodies the common resolve by China and the international community to further promote economic globalization, support open and free trade, and build a community of shared future, which bears particular significance given the current challenging international context.

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Figure 1.16: Political Environment for Freer Trade and Investment



Source: PECC State of the Region Survey 2017
Question: How do you assess the political environment for freer trade and investment today?
Please tick the box that best fits your assessment.

PROSPECTS FOR FREER TRADE

In spite of the macroeconomic benefits of freer trade discussed in Box 1.1, further integration initiatives are hampered by a less than benign political environment. Over half of all respondents to PECC's survey had a negative assessment of the political environment for freer trade and investment today.

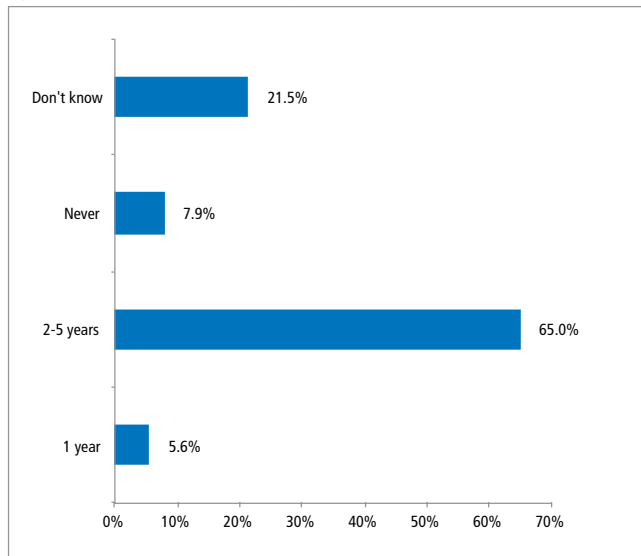
As shown in Figure 1.16, the most negative were respondents in North America and Oceania. However, unlike last year's survey, no sub-region of the Asia-Pacific had an overall net positive assessment of the political environment for freer trade. The least negative were Southeast Asians and those from the Pacific South America. This potentially gives some higher hopes for initiatives such as the ASEAN Economic Community and the Pacific Alliance and their plans to deepen integration, such as the AEC 2025 and the RCEP, the Pacific Alliance's negotiations with other regional economies through an associate member status with Australia, Canada, New Zealand, and Singapore.

WHAT PROSPECTS FOR THE FTAAP?

Despite the negative prognosis on the political environment for freer trade in the region, the regional policy community remained somewhat optimistic on the prospects of the two most likely pathways for achieving the Free Trade Area of the Asia-Pacific.

Close to two-thirds of respondents expect that RCEP, which brings together ASEAN's Plus-1 agreements into a single trade area, will be completed within the next 2-5 years. Even though this is beyond the revised end of 2017 deadline, that there remains a positive view on RCEP completion is encouraging given the dour view on the political environment for freer trade around the region. Opinions across the region were evenly shared with no sub-region or sector thinking that the RCEP could be completed within a year or never.

Figure 1.17: When will the RCEP be completed?

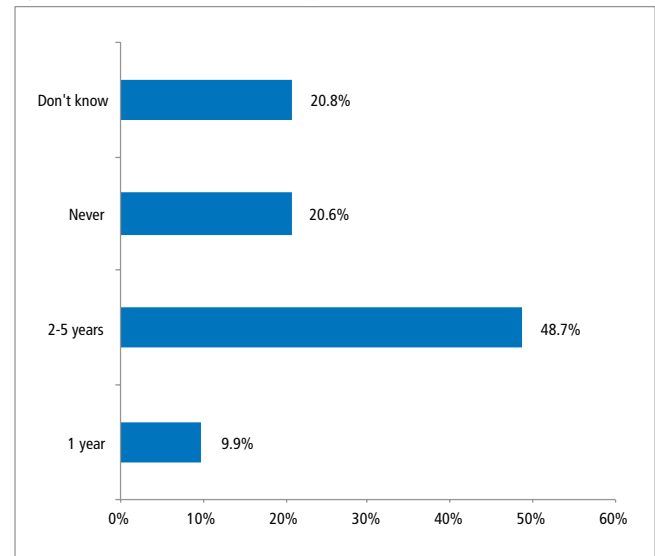


Source: PECC State of the Region Survey 2017
Question: Please state your view on the following statements by ticking the appropriate box:
The Regional Comprehensive Economic Partnership negotiations will be completed in:

A similar set of responses was given with respect to whether the TPP would go ahead without the US. Close to 50 percent of respondents thought that the TPP-11 (the TPP without the US) would go ahead within the next 2-5 years but a sizeable 21 percent thought it would not happen. The most optimistic about the prospects for the TPP-11 were respondents from North America and Oceania with 18 and 19 percent respectively thinking it could happen within a year.

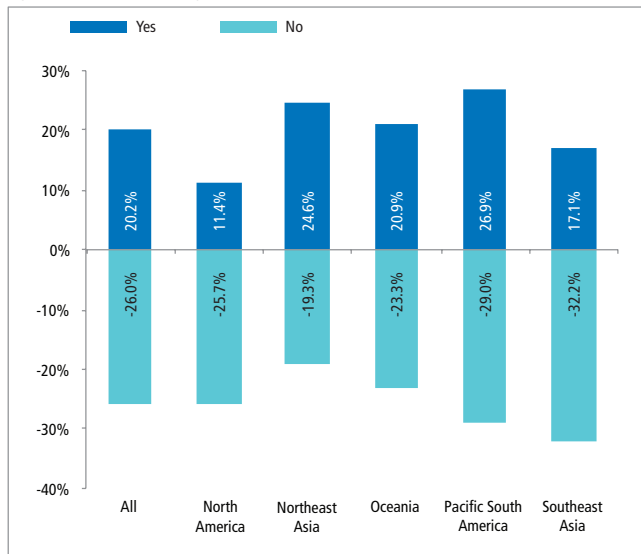
Just over a quarter of respondents thought that the US would not rejoin the TPP but a fifth thought that it would rejoin eventually. Almost 38 percent of respondents thought the US would join but under a different name. Moreover, as shown in Figure 1.20, most North Americans thought that the US would rejoin the TPP but under a different name.

Figure 1.18: When will the TPP 11 be completed?



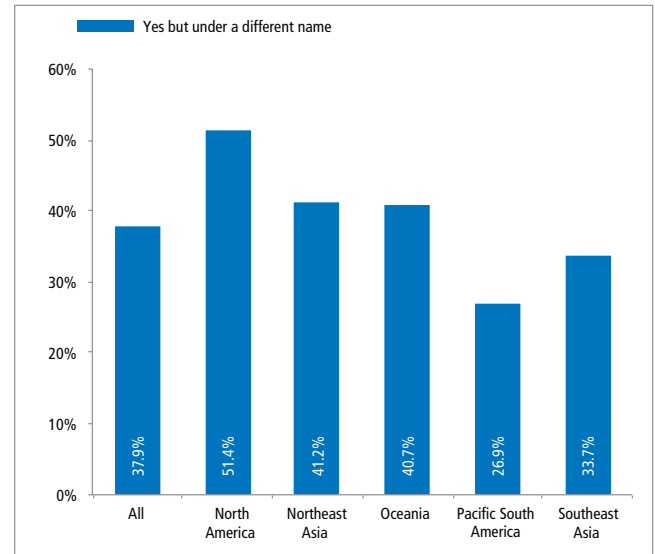
Source: PECC State of the Region Survey 2017
Question: Please state your view on the following statements by ticking the appropriate box:
The Trans-Pacific Partnership will go ahead without the US in:

Figure 1.19: Will the US Rejoin the TPP?



Source: PECC State of the Region Survey 2017
Question: Do you think the US will rejoin the Trans-Pacific Partnership?

Figure 1.20: Likelihood of US Rejoining the TPP under a Different Name



Source: PECC State of the Region Survey 2017
Question: Do you think the US will rejoin the Trans-Pacific Partnership?

PRIORITIES FOR THE APEC LEADERS' MEETING

As APEC Leaders gather for their meeting in Danang, it is most likely that the disconnect between the political environment for freer trade and the need for strategies to boost growth is likely to come to the fore. Since PECC started its annual survey of the policy community, the achievement of the Bogor Goals or the FTAAP have tended to be the number one priority for APEC Leaders' discussion. However, this year, the top-5 priorities were:

- Promoting sustainable, innovative and inclusive growth through the APEC growth strategy
- The emergence of anti-globalization & anti-trade sentiments
- Progress towards the Bogor Goals and the Free Trade Area of the Asia-Pacific (FTAAP)
- Improving economic, financial and social inclusion in the region
- Climate change cooperation

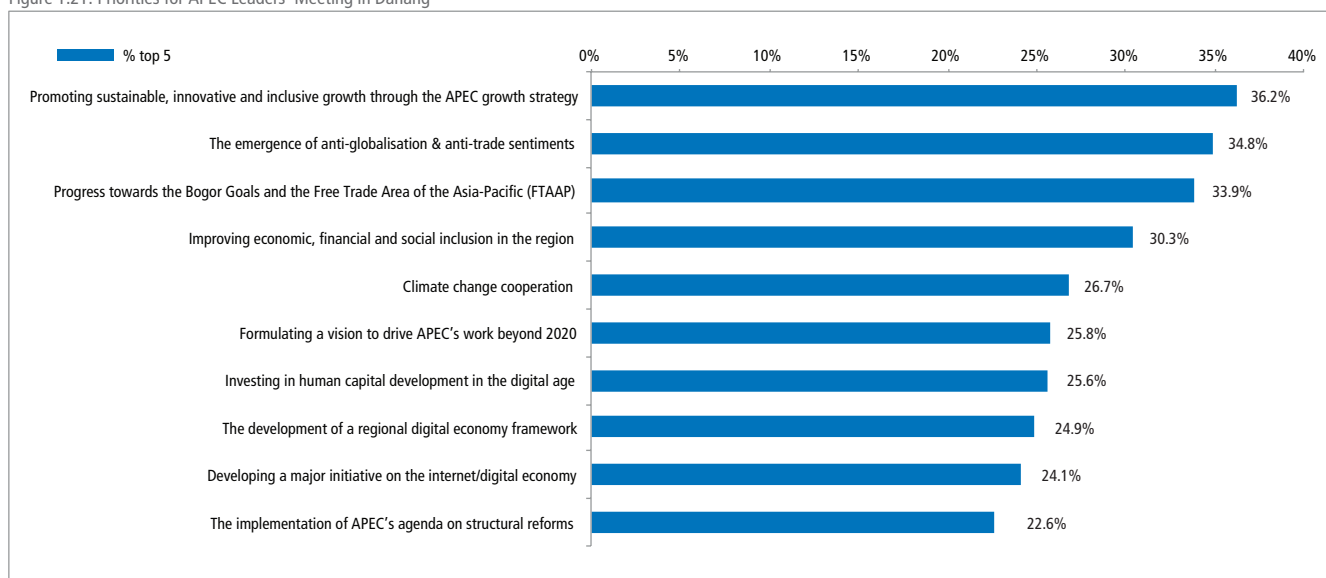
Although the Bogor Goals and the FTAAP were still considered a priority, they came somewhat lower than the need to discuss

promoting sustainable, innovative and inclusive growth in the region. Also notable was that the policy community also thought that APEC Leaders need to discuss the emergence of anti-globalization and anti-trade sentiments. This indicates a strong recognition of the need for APEC to have a balanced agenda that takes into account the concerns of all stakeholders in the regional economic integration process to ensure that growth is more inclusive.

The top four priorities are not mutually exclusive even if some perceive them to be. As discussed in Box 1.1, APEC's long term of vision of the Free Trade Area of the Asia-Pacific (FTAAP) would result in much stronger growth for all APEC economies but there are also adjustments that need to take place to ensure that the benefits of that growth are more inclusive.

APEC can address the emergence of doubts about the benefits of globalization by complementing its work on trade with an equally robust work on social policies such as education, social safety nets and labor market policies.

Figure 1.21: Priorities for APEC Leaders' Meeting in Danang



Source: PECC State of the Region Survey 2017

BOX 1.3 INCLUSIVE GROWTH AGENDA FOR THE ASIA-PACIFIC REGION

Contributed by CTPECC

The Asia-Pacific region is increasingly becoming the center of the global economy, driving world economic growth. However, structural changes in the economy and industry caused by the Global Financial Crisis have slowed regional economies efforts to resolve adverse issues hindering quality growth.

Economies in the region have been seeking feasible policy measures to promote inclusive growth. This means economic growth that promotes opportunities equally throughout society and distributes the benefits of increased prosperity in monetary and non-monetary terms more equitably.

Inclusive growth should develop in concert with overall economic growth so that the two can benefit from a synergistic effect. If the two diverge, there is a risk that only a select few end up enjoying the benefits of faster growth resulting in undesirable outcomes including increased social tensions undermining the consensus for solid growth strategies.

According to research carried out by the Asian Development Bank, promoting economic growth is a necessary condition for reducing poverty. Moreover, the extent of the success of poverty reduction strategies depends not only on the speed but also the form of growth. Inclusive growth places similar emphases on equal opportunities and economic growth. Economic growth should incorporate the following: 1) help mitigate possible distortions introduced by the market, competition and unexpected market failures, and provide more opportunities for the less well-off in society to grow; and 2) ensure a social safety net for those classified as the chronically poor, to provide for their specific needs.

To sum up, inclusive growth emphasizes equal opportunities for all thereby giving everyone a chance to develop. It promotes creating sufficient number of jobs through solid and continued economic growth, and offering comprehensive social inclusion.

Solid and continued economic growth is driven by the private sector, while the public sector is responsible for providing good infrastructure, human capital and economic stability, and policy measures such as taxation as incentives to cope with market imbalances, reduce the impacts of external factors, and maintain a healthy environment more conducive to investment and business.

Inclusive growth was listed as a core principle of the APEC Growth Strategy in the 2011 Leaders' Declaration. Other principles included balanced, innovative, secure and sustainable growth. The idea of principles is to ensure that all people, in the process of globalization and regional economic integration, have access to opportunities and successes. The strategy also included bolstering the development of micro, small and medium-sized enterprises (MSMEs), promoting the entrepreneurial spirit, boosting human capital development and encouraging employers to hire more manpower. Implementation is expected to improve social safety nets and support disadvantaged groups. The APEC Growth Strategy is therefore geared toward "complete social inclusion."

Furthermore, to sustain high levels of economic growth, innovative growth driven by the digital economy cannot be ignored. New and innovative digital products and services have brought transformed lifestyles and businesses, causing a digital revolution. The digital economy has rapidly entered the mass

market, improving the efficiency of individuals, enterprises and governments, each in their own ways. In view of various priorities and needs in the region, the inclusive growth agenda in the Asia-Pacific should address the following key elements: the digital economy, MSMEs, women's empowerment, and jobs and skills.

Digital Economy

There is currently a huge gap in economic development in the Asia-Pacific region. Several economies are still in the emerging and middle-income category. With appropriate investment, digital technologies and innovative business models could contribute to overcoming obstacles to economic development and financial inclusion.

Digital economy by definition refers to the economy supported and promoted by digital computing technologies. The traditional economic system is constrained by the law of diminishing returns. However, the digital economy will change the rule of the game to enjoy the "law of increasing returns", simply because all data can be processed and digitalized to be knowledgeable products. In addition, the digital economy will also help increase government efficiency, transparency and inclusiveness. The digital economy will certainly require an optimal budget allocation, but in the following decade it will be a core factor in promoting inclusive growth.

MSMEs

Most businesses in the Asia-Pacific region are characterized as MSMEs. They provide the highest percentage of jobs. Hence, they are important drivers of inclusive growth and increased competitiveness. During the digital transformation of the economic and business environments of small enterprises, policymakers should provide business information, training, and access to funds to increase the competitiveness of MSMEs at good times and enhance resilience at bad times. This will also enable these enterprises to integrate more smoothly into global value chains and allow them to take more independent and critical roles in the regional economy.

Women Empowerment

This will be a crucial factor driving economic prosperity and growth in the Asia-Pacific region. Women constitute half of the world's population, yet their participation in the global labor market is not proportionate. There remains considerable growth potential in this area. Increasing the labor participation of women will certainly bring added value, create socio-economic benefits and ultimately contribute to inclusive growth.

The public, business and labor should work together to bring about equality in work and life to encourage and empower women into the workplace. Promoting professional skills training to increase the areas in which women can develop further will also enhance the quality of family life.

Jobs and Skills

To increase the employment rate and competitiveness of the unemployed and young graduates, we need to make certain investments in human capital development. This entails making available relevant and specific professional skills training,

providing assistance for the physically and mentally disabled, as well as offering a diversity of choices in education and vocational training.

Establishing links between academic and technical competencies, providing practical and accessible training options, helping people gain new skills are all important objectives. Investments made now to better equip the human resources adapt to the fast-changing nature of jobs will go a long way toward addressing the potential gaps in the future labor market.

Only 12 percent of respondents selected 'Building political support on key issues for the WTO Ministerial' as a top-5 priority for APEC Leaders. This is even less than the 18 percent who selected the WTO as a priority the last time a WTO Ministerial was scheduled. Exactly 10 years ago, as many as 52.1 percent of respondents to PECC's survey selected the WTO for APEC Leaders' discussion. In the interim, fewer and fewer stakeholders have seen it as a priority for the region. This might put into question whether the WTO's negotiating function has become irrelevant but the breakthrough on the Trade Facilitation Agreement is a useful counter to this argument.

It is clear at least from this survey that high-level business support for negotiators to make concessions is going to be limited. The risk for the global system is that the WTO faces a crisis where damage to its reputation as the forum for trade negotiations also damages its role as a forum for dispute settlement. On a systemic level, this would leave further liberalization to preferential trade deals, which inevitably leave those not involved in the agreement facing reduced market access. This is a time when, in spite of limited support from the business community, government officials should be taking a leadership role to find a breakthrough in setting the rules of trade. It has been more than two decades since the last major round of multilateral trade negotiations were concluded leaving the rules of international commerce struck in the 20th century – highly problematic given the rapid pace of change and growth of e-commerce and the digital economy.

The region should be thinking about the relationship between bilateral and regional trade agreements and the multilateral trading system. APEC's initial modus operandi had been to rely on 'concerted unilateralism' to achieve its goals of free and open trade and investment. However, as the negotiation of bilateral and regional trade deals increased much liberalization has been within the context of bilateral or plurilateral trade deals. One of APEC's valuable roles has been to promote agreements that are consistent with WTO rules and serve as building blocks for the WTO. APEC could again reassert the need for such trade agreements to be

consistent with WTO rules and disciplines and APEC's goals and principles. In its earlier phase, APEC Leaders sought advice from the APEC Eminent Persons' Group on how to deal with regional and bilateral trade agreements in the context of APEC. The advice was that "further liberalization within the existing sub-regional trading (SRTAs), and any linkups between them, would be constructive and supportive of the overall APEC process only if they were within the principles of "open sub-regionalism." In practical terms that has been much harder to achieve.

APEC members could play a leading role in thinking through how various trading systems relate to the multilateral trading system which should come with a strong assertion of APEC's interests in seeing concrete outcomes at the forthcoming WTO Ministerial Conference to be held in Buenos Aires in December 2017. While the WTO Ministerial Meetings and outcomes tend to be esoteric in nature, trade, in recent years, has become a central issue in many domestic political debates. It would be useful for APEC Leaders to demonstrate (as they did in Lima) that they are cognizant of the concerns of those who feel that they have not benefited from the integration process and are willing to take concrete steps to address their concerns.

One area where experimentation at the sub-regional level could be of considerable value would be in dealing with e-commerce and the digital economy. The TPP offered one route for updating rules for e-commerce and internet-based trade. Even if it enters into force as the TPP-11, some of the fastest growing markets for internet and digital trade would not be covered. The WTO moratorium on e-commerce only applies to customs duties and not the application of value-added or sales taxes. However, as e-commerce continues to grow at an exponential rate, governments are beginning to address the application of domestic tax regimes on e-commerce and digital trade. Many of these policies apply 'national treatment' standards on foreign e-commerce such as a threshold for annual sales but they also tend to use 20th century solutions such as establishment of a commercial presence in markets. This creates considerable frictions especially for MSMEs trying to enter into the

global marketplace. This has led some of those frustrated with the lack of progress at the multilateral level to call for a WTO 2.0 or an e-WTO.¹¹

Addressing technological change is hardly a new issue for APEC. For example, in 2000, at their meeting in Brunei Darussalam, APEC Leaders adopted Action Agenda for New Economy that “outlined programs that will help our economies use advances in information technology to boost productivity and stimulate growth and extend services to the whole community” and in 2014 in Beijing, they endorsed the APEC Initiative of Cooperation to Promote the Internet Economy to name just two. One area of work that APEC could chose to focus on in the coming years is promoting more inclusive trade – by focusing on the barriers that disproportionately impact the region’s micro and small and medium enterprise. This was the same idea pushed for in the idea of a WTO 2.0 or e-WTO.

Today, around 45 percent of the population in the Asia-Pacific has access to the internet, up from 25 percent 5 years ago. However, that still leaves millions without access to the internet. The 9th Sustainable Development Goal to “Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation” includes a sub-target to “strive to provide universal and affordable access to the Internet in least developed countries by 2020. As discussed in Chapter 2 of this report, the region faces multifaceted challenges if it is to benefit from the digital and internet economy. The ability of the internet and digital economy to facilitate a more inclusive and progressive form of globalization and integration is significant but the region needs to take a proactive role in setting priorities and rules to achieve this.

¹¹ See for example: E-WTO necessary in era of e-commerce: http://news.xinhuanet.com/english/2015-11/18/c_134830593.htm

CHAPTER
02AN ASIA-PACIFIC AGENDA FOR THE
DIGITAL ECONOMY*Dr. Mari Pangestu and Dr. Peter Lovelock¹*

INTRODUCTION

Internet-based technologies are rapidly changing the way in which businesses, consumers and governments interact with each other. The extent to which this transformation is taking place is leading some to conclude that the digital economy is not only the future of our economy, it is the economy. Goods and services are being digitized, not only in how they are developed, but also in how they are delivered and consumed, transforming how the economy works, and how individual sectors, such as health, education, security, finance, and even governance, work.

Some refer to the process as ‘digital DNA’² - referring to how information and communication technologies have become the underlying, or fundamental building block, driver that is changing business models, the way in which the economy and government work, and the way people live. At one level it is about how billions of everyday online connections among people, businesses, devices, data, and processes are being connected, re-connected, and constantly interacting in a word, hyper-connectivity. It is about converting things in the physical world to a piece of information, a digital representation. But to convert the physical to the digital, requires having the basic infrastructure: affordable, open and safe hyper-connected access.

The pace and extent of this change varies both among and within economies. This is a result of both the underlying infrastructure and of the integrated policies put in place to develop the digital economy. Some economies in the APEC region, for example, have very high internet penetration rates while others are still lagging. Moreover, within economies, rural and low-income groups are often less well served raising the risk of a growing digital divide. The recent UN Broadband Commission “State of Broadband” Report notes that while 48 percent of the global population (3.6 billion) is online, internet penetration in the developing world is projected to reach only 41.3 percent by the end of 2017. There is also a gender divide, with men still outnumbering women in

terms of internet usage, and the gender divide is becoming wider in many developing economies.³ Policy discussions tend to revolve around addressing ‘the backbone’, but in addition to ensuring that backbone access is there, it is now very apparent that at the heart of a digital economy is the absolute need for the backbone to be a platform that can interoperate with all other platforms both within an economy and between different economies.

The current pace of change offers enormous opportunities for more inclusive growth; potentially even providing the opportunity for economies to leapfrog stages of development by promoting more inclusive access along with economic and social participation. Previous development models required enormous capital expenditure. Digital technologies at reasonable cost – especially mobile-enabled interoperable platforms – open opportunities for previously underserved communities to engage in broad ranges of economic activities through the provision of access. For example, healthcare and banking services can now be provided without the need for building new physical infrastructure, or even having practitioners or service personnel on location.

The digital economy is also changing the nature of business. In the past the corporation was the center of the commercial system; now increasingly it is the individual. This throws into question how governments and societies are organized and the way in which value is created. There is a certain degree of ambiguity on the nature of service providers such as Uber, Didi, Grab, Airbnb: are they taxi and hotel firms, transportation and hospitality businesses, or are they software companies? Are they platforms? This is neither a banal or a semantic series of questions. Is the driver of an Uber car an Uber employee or self-employed? Such designations can have profound implications for the tax system, for labor protection and the social security system. As we look to progress the digital economy therefore, a further and perhaps fundamental challenge lies in how we deal with the consequences of the associated disruptions, and to create a trusted environment to cooperate globally.

¹ Dr. Mari Pangestu is the co-chair of the Indonesian National Committee for Pacific Economic Cooperation (INCEPC) and served as Indonesia’s Minister of Trade during 2004-2011 and Minister of Tourism and Creative Economy during 2011-2014. Dr. Peter Lovelock is the coordinator of PECC project, ‘An Asia-Pacific Agenda for the Internet/Digital Economy’ and director of the Technology Research Project Corporate (TRPC). This essay is based on the discussions at the 24th PECC General Meeting held in Hanoi, May 2017.

² Peter Cowhey and Jonathan Aronson, *Digital DNA: Disruption and the Challenges for Global Governance*, Oxford University Press, 2017.

³ UN Broadband Commission for Sustainable Development, *The State of Broadband: Broadband catalyzing sustainable development* (September 2017), https://www.itu.int/dms_pub/itu-s/opb/pol/S-POL-BROADBAND.18-2017-PDF-E.pdf

Three immediate questions for policy makers and trade officials are thus apparent:

- What is the digital economy and what are its implications?
- What are the opportunities and risks?
- What are the implications for local, domestic and international policy?

DIGITIZATION: REDUCING FRICTIONS, INCREASING TENSIONS?

Globalization is deeply intertwined with technological change. The first era of globalization began with the steam engine. Improvements in communications technology allowed regional production networks to evolve. Today, the digital economy is again reducing traditional market frictions. The time and the costs required to find information, to meet people, to access market data, to buy something, are all coming down. Moreover, while the previous era of globalization was about companies, today we are talking about individuals – micro and small enterprises benefitting from access to global markets.

Thus, individuals and small enterprises (often with outsized influence, or ‘power’), need to be collaborated with, if the platform economies are to be successful. But for this transition to be successful and sustainable, those being collaborated with, need to be empowered to benefit also. For the Uber platform to be successful, the consumers need to want to consume from the platform, and the drivers need to want to participate. And, not only now, but on an ongoing and sustainable basis. This is true too of the Khan Academy platform, the YouTube platform, and so on. If customers, consumers, participants, traders do not feel that they are benefitting and empowered, if they instead feel exploited, or increasingly insecure, then the welfare gains will prove to be short-lived and unsustainable.

This means that it is not enough to have physical connectivity. Looking at Indonesia as an example, it may appear to be one of the most highly connected economies in the region. As the fourth most populous Facebook community, and the “Twitter capital of the world,” Indonesians have adopted new technology usage at a rapid rate. However, not only is such connectivity highly and disproportionately concentrated on urban or wealthier environments, the connectivity itself is disproportionately focused on social media and social connectivity – some 80-90 percent of digital activity – with far less usage directed towards economic, trade or social development activity. And thus, Indonesia’s connectivity hasn’t been translated into significant economic value yet. Developing in parallel the human capacity to use connectivity to have and to generate economic value – that is, true digital literacy - is a requirement.⁴

This points to the issue of governance and the need to rethink both the approach and the coordination mechanisms required to create a successful digital economy framework. It also points to two further complicating challenges in the digital era: regulation and cross-border trade.

As has been repeated in many different contexts, the Internet knows no borders. This is a strength in providing access to a global market, in lowering costs, and in accelerating and democratizing innovation. But increasingly the challenges are becoming apparent: differences in the levels of market development when coupled with digital opportunity have rapidly challenged the ability of policy makers to effectively control policy and regulatory levers in everything from cybersecurity to privacy, piracy, tax regimes and even identity. The ability of domestic policymakers and regulators to stipulate and enforce decisions has been challenged and eroded. The recent release of the latest Apple iPhone has again brought into stark relief the opportunities that become apparent with a digital – and therefore global – footprint, and the practical enforcement requirements that emerge alongside the opportunities. Every new Apple product line announced on September 12 was given the same price in pounds sterling and dollars, from the cheapest Apple TV (£149 or \$149) to the most expensive iPhone X (\$1,149 or £1,149) – this despite a 25 percent foreign exchange difference between the dollar and the pound. Numerous articles pointed out that this made it potentially cheaper for a UK resident to fly to New York and buy an iPhone than at home. But to do so, even for personal use, is illegal.⁵

Similar issues are emerging in multiple domains accelerating the requirements for cross-border accountability. But does this also mean cross-border enforcement and cross-border regulation? And, if so, how? It is clear that we need to not only promote but to ensure cross-border data flows, and to make these as seamless as possible, but how to enforce such requirements? And, how to promote such benefits domestically and the necessary cooperation internationally?

What has become increasingly clear is that at the domestic level this requires a fundamental change in approach to regulation, and a change in the mindsets and the capacity of the regulating authorities. Beyond being a risk manager, and an enforcer of sectoral regulation, the regulating authority needs to become an advocate for, and an enabler of, digital inclusion and innovation. Thus, one of the first steps to promoting digital economy growth needs to be in understanding the disruptive challenges of the digital economy to sectoral regulation, and providing regulators with the tools to manage these disruptions rather than blocking them.

⁴ For more details, see Mari Pangestu and Grace Dewi, “Indonesia and the digital economy: creative destruction, opportunities and challenges” in Edwin Jurriens and Ross Tapsell (eds.), *Digital Indonesia: Connectivity and Convergence*, ISEAS, Singapore 2017.

⁵ See, for example, “New iPhones: why is Apple’s pricing the same in pounds and dollars?”, *The Guardian* Sept 13, 2017, <https://www.theguardian.com/technology/2017/sep/13/apple-iphone-x-launch-uk-prices-dollar-parity>.

CHANGING BUSINESS MODELS?

The accelerating pace of technological change in recent years compounds these challenges and the pressures upon policymakers and regulators: beginning with the internet, followed by the disruption of the Web and later the App economy, and most recently the development of cloud computing and platform economies. These waves of change progressively extended access at fractional cost, with greater flexibility to act and respond to consumer demand.

The digital economy is also changing economic systems⁶ to become increasingly peer-to-peer, i.e., crowd-centric rather than corporate-centric, as noted above. Airbnb, for example, has some 640,000 hosts and two million available spaces in 34,000 cities under active consideration, without the corporate body owning a single piece of property. This crowd-centric model challenges our existing notions of employee and employers, hence the emerging regulatory and legislative grey areas regarding whether Uber is or isn't a transport company: are Uber drivers working for a company or are they partners? Do they have worker rights? If not, then what kind of rights do they have? These are not one-off questions but are arising with increasing frequency across sectors as platform economies move more and more into mainstream commercial activity. To date, the income growth, or at least the income opportunities, for people working in this space have been quite tremendous. But is that always the case, and as more people move into the space and the platforms look to maximize profits, will income growth stay positive? Fundamentally: is this a case for the market or for regulators? And how should regional trade officials be looking at such developments?

An Asian example is Go-Jek, providing motorcycle taxi rides in Indonesia. Within just three years, the operation has grown to 300,000 drivers earning an average of four million rupiah per month – double the minimum wage. Moreover, having started out with ride sharing services, the company has used the same platform to provide an increasing multitude of other services that “share” under-used access to idle resources, including Go-Food, Go-Massage, Go-Glam, and most recently payment services through Go-Pay.

Together, these developments are transforming business models. In particular, the digital economy overturns our concepts of ‘the uneconomic citizen’: someone for whom the cost of connectivity, of being put onto the network, is simply not justifiable because of meagre economic and social returns. With the communications networks now a ‘horizontal’ enabler and not simply a ‘vertical’ sector, the benefits generated from providing someone with network access include the education, healthcare and broader participative (voting, welfare dissemination, tax, etc.) rights that accrue. This is because interoperability of networked platforms can enable all manner of service delivery: e-education, e-government, e-health, and so on, and in so doing transform almost all sectors, including agriculture, aquaculture, energy, logistics, and transportation.

INCLUSION

In the aftermath of the Global Financial Crisis the need for future growth to encompass both inclusiveness and innovation was emphasized by APEC leaders. Innovation inevitably entails change, but so too does inclusion, as the existing business models which see certain parts of the community as ‘uneconomic’ need to be challenged.

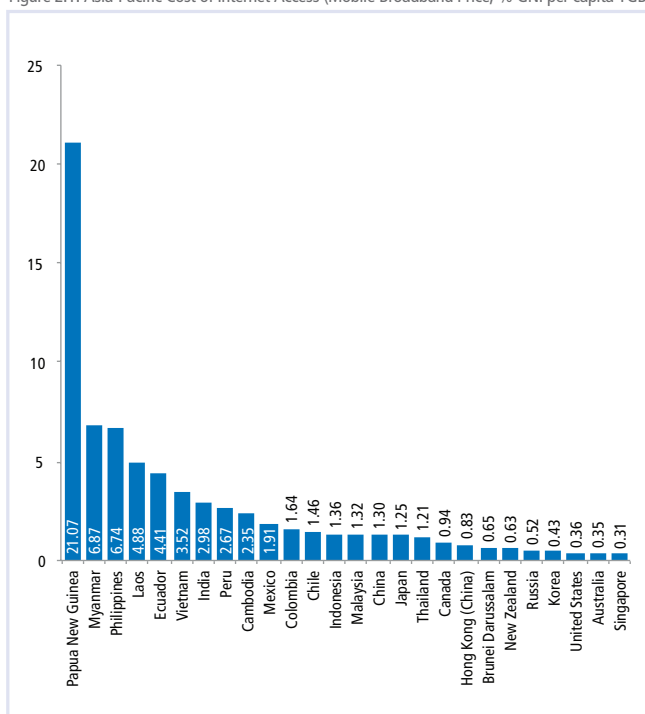
The impact of recent technology change, and particularly of cloud computing, has been to enable access to enterprise grade tools for micro and small and medium enterprises (MSMEs) at fractional cost. Thus, small businesses, like big enterprises, can now increase or decrease technology deployment as needed and without incurring sunk costs. When combined with mobile access, it has made business models supporting for example, remote healthcare and distance education (or MOOCs), not only feasible, but sustainable. No longer are such programs being driven solely by donor organizations or as corporate social responsibility programs. Hence fintech, healthtech, edutech, and so on, have emerged, targeting market gaps or failures.

Moreover, it is not just the private sector, but government too that has been enabled to take advantage of the outsourcing of technology cost while retaining the innovation benefits, extending government reach and enabling the timely delivery of all kinds of services.

⁶See Pangestu and Dewi (2017) for a full explanation of this framework (see footnote 4).

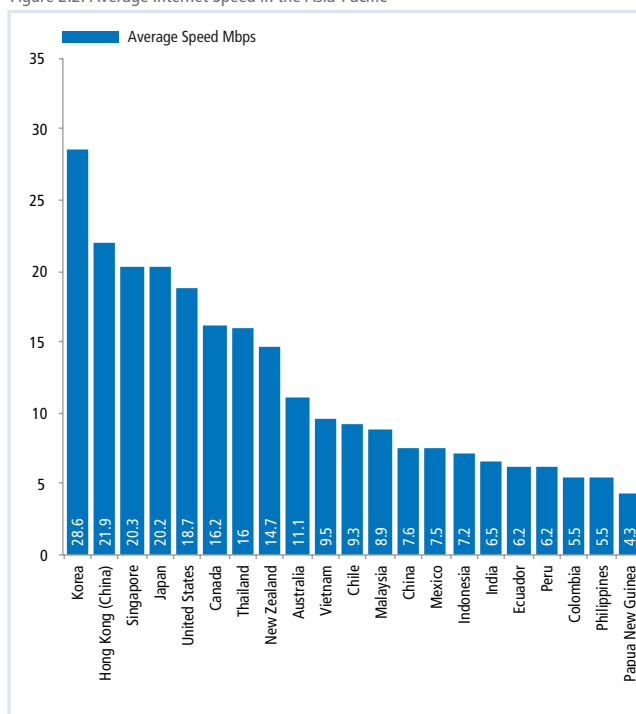
2. AN ASIA-PACIFIC AGENDA FOR THE DIGITAL ECONOMY

Figure 2.1: Asia-Pacific Cost of Internet Access (Mobile Broadband Price, % GNI per capita 1GB)



Source: ITU World Telecommunication / ICT Indicators Database 2017

Figure 2.2: Average Internet Speed in the Asia-Pacific

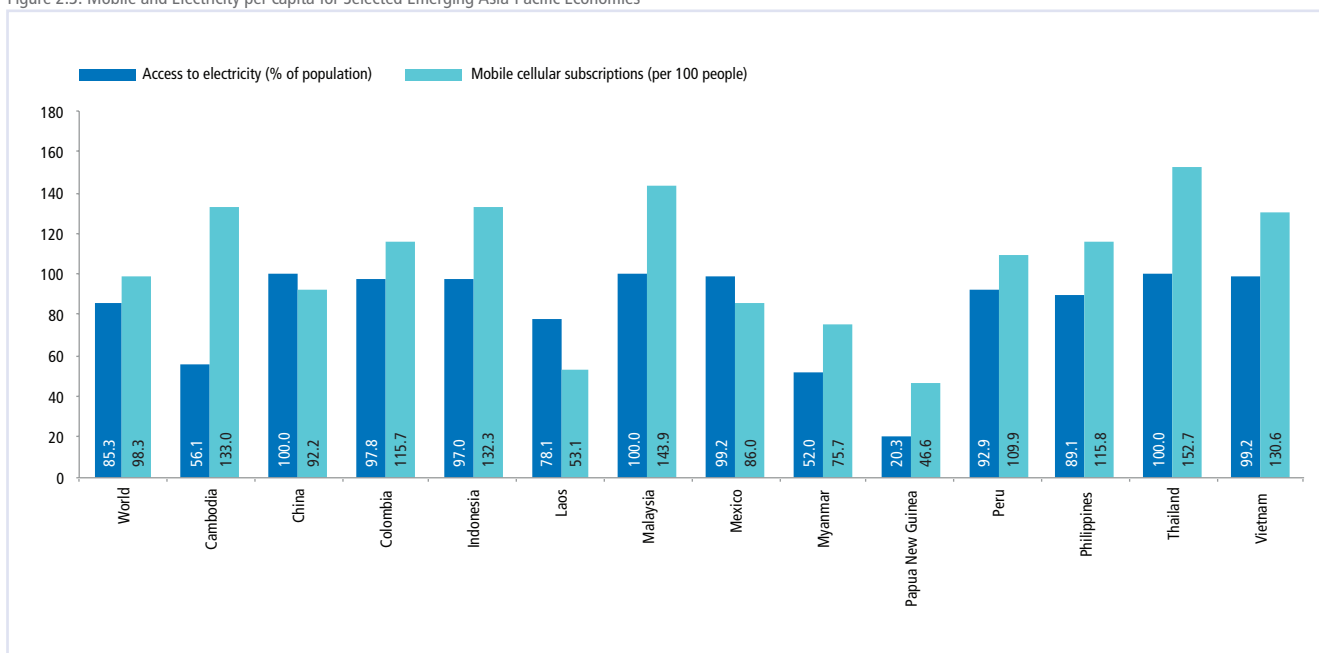


Source: Akamai State of the Internet Report 2017 and <http://www.dospeedtest.com/speedtest-result/country-statistics/Papua-New-Guinea/> for Papua New Guinea

Given the opportunities from the digital economy, access to the internet needs to be improved, especially for emerging economies and remote areas. However, as was already mentioned above, it is not simply about access. Accessibility has to be affordable, secure, reliable and fast. As shown in Figure 2.1, the cost of accessing the internet varies considerably in the region but the costs as a percentage of GNI per capita, are considerably higher in emerging economies which also tend to have lower average internet speeds.

Moreover, while there has been an extremely successful ‘mobile first’ trend with many users first accessing the internet only through mobile, this also requires having electricity. Electrification rates are lower than mobile penetration. Emerging economies should therefore deal with three issues sequentially and if possible in parallel: electrification, telecom infrastructure, and the cost of access to smartphones.

Figure 2.3: Mobile and Electricity per capita for Selected Emerging Asia-Pacific Economies



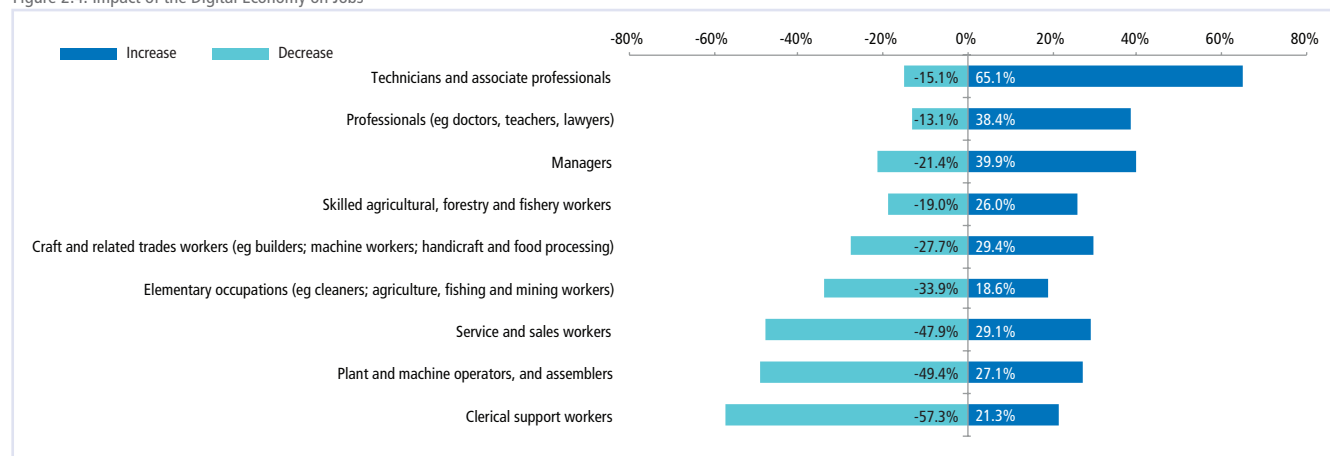
Source: World Bank, World Development Indicators (data from 2015 or latest available)

DIGITAL ECONOMY AND JOBS

The impact of the digital economy on labor markets will be large. Routine and more mechanical type of works are already being replaced by machines, by automation, by robots, and by systems. This means that workers need to be transitioned to jobs that are either of low productivity but with some complexity, or increasingly to higher productivity tasks. This is emerging as a significant political issue for many economies, and is only likely to increase dramatically in the near future unless policymakers begin to plan for and promote such transitions. For example, in the United States, estimates suggest that from 2000 to 2010, some 85 percent of jobs

lost were due to productivity gains and on average only 13 percent of job losses due to trade competition.⁷ The ILO, among others, is attempting to track the impact on jobs resulting from automation and the so-called 4th industrial revolution, but without proper, consistent, and comparable measurements of the digital economy it remains a fraught task. According to the results of PECC's 2017 State of the Region survey, while people expected some types of jobs to decrease, such as clerical and assembly line work, others were expected to increase such as technical and professionals. Those jobs expected to increase tend to be associated with higher levels of education but not necessarily those with university degrees.

Figure 2.4: Impact of the Digital Economy on Jobs



Source: PECC State of the Region Survey 2017

Question: How do you think the digital economy is likely to impact the number of the following types of jobs in your economy?

EDUCATION

Education has been seen by many to be the last information-based industry to undergo a technological revolution. Before the digital economy a single teacher was limited to teaching in a physically defined classroom. Today that same teacher can reach, hundreds or thousands online. In some cases, as with viral YouTube or TED lectures, the online audience can be in the millions. And online teaching is proving to be extremely effective.⁸

Udacity, for example, will refund their graduates 100 percent of tuition from certain streams of their courses if they don't secure a job at Facebook, Google, Oracle or similar firms. There are studies showing that 71 percent of chief academic officers in US institutions now view online teaching as being "equal to, or better than, 'offline' courses" at many institutions. Thus, the challenge is no longer one of results and recognition – top ranked universities are increasingly recognizing units taught online so that students can study via these channels and secure a full degree.

More importantly in many parts of the region is the use of technology to resolve accessibility issues for education. For example, Bridge Academies provides a good quality curriculum of

studies for \$6 per month, which includes the provision of tablets as the access device. This model is being scaled across India and Asia, as are a variety of others both similar and distinct. Facebook has been attempting something similar with its variously named 'zero package' initiative in several economies. Smart phones are provided for \$39 and connectivity is free within a certain 'selected garden' of content. While these initiatives have proved to be controversial from a competition and net neutrality perspective, with many questioning Facebook's motivations, the model aims to enable everybody to access online internet content – including education.

On the teachers' side of the equation, online education platforms are helping to address the lack of qualified teachers by extending the access and reach of qualified and talented teachers, and in so doing are creating online 'superstars' in the education profession – teachers making millions of dollars a year teaching. Platforms are now available that allow a teacher to log on during their spare time and teach for even just a few minutes. One initiative for example, brings in retired teachers to teach children English, leveraging underutilized capacity and creating a market. It also enables teachers to focus on just teaching, while grading, administration, class preparation and of course materials can be outsourced.

⁷ Douglas A. Irwin, The Truth About Trade: What Critics Get Wrong About the Global Economy, in Foreign Affairs, July/August 2016: <https://www.foreignaffairs.com/articles/2016-06-13/truth-about-trade>.

⁸ Tuan Pham, Human Resource Development in the Digital Age, presentation at the 24th PECC General Meeting, <https://www.pecc.org/resources/education-market/2456-hr-development-in-the-digital-age-education-40>; US Department of Education, Evaluation of Evidence-Based Practices in Online Learning A Meta-Analysis and Review of Online Learning Studies, https://bits.blogs.nytimes.com/2009/08/19/study-finds-that-online-education-beats-the-classroom/?_r=0; "Active learning increases student performance in science, engineering and mathematics", <http://www.pnas.org/content/111/23/8410>

THE POLICY AGENDA

Given the above trends and developments in digital economy in the Asia-Pacific region, we need to continue to prioritize capturing the potential of digital dividends and digital development as broadly as possible. The digital economy, if successful, can promote efficiency, innovation, and inclusion⁹. The lower cost of accessing and utilizing ICT makes economic activities more productive and innovative, for example enabling farmers to get information on the weather, their own field and crop conditions and watering requirements, and on market prices, while SMEs can get access to e-commerce platforms. Public services can be improved leading to better governance and, potentially, better democracy.

As in previous phases of globalization, there is a tendency to try to 'protect' the domestic development of the data economy or the digital economy. In the past this took the form of tariffs on goods or services trade, today these protectionist moves often focus on requiring data to be processed or stored locally, and creating other restrictions of data flows. Increasingly, the blocks to free trade are centered upon data flows.

But data has different characteristics from traditional goods and services. While the value of data can be difficult to define (and this is in itself a topic now attracting a lot of attention), there is little doubt that the value of data overall is increasing as data networks continues to grow.

This focus on data is, for example, changing the thinking around comparative advantage with the focus shifting, on the one hand, to the individual, as noted above, and on the other, to new forms of collaborative enterprise. Simply put, the people who need the data have to collaborate with those that have the data. Thus, telecom firms are taking on some banking functions, airlines are working with crowd-sourced accommodation providers, and so on.

Emerging from this are new and complex questions around the ownership of data, around data privacy, protection and access, and around data security. Three policy issues that have yet to be properly addressed at either the domestic or international levels are: cloud computing, data localization, and cyber security. But there are also questions around the changes in the nature of competition with "the winner takes all" business model, around market participation and tax issues. There are emerging and fraught questions on the accuracy of data and of information: with so much information available – some of it real, other information perhaps less so – is it now more difficult to ensure the reliability and authenticity of information?

So, some questions for thought in developing the necessary policy framework can be identified: How can we have systems that establish trust in cross-border transactions? How can we capture the gains from trade and investment in a data driven environment?

Avoiding the costs of data localization policies, particularly for local firms, is very much a trade argument, and yet this has not begun to be dealt with by trade policy officials. The stalled Trans-Pacific Partnership (TPP) agreement framed some of these issues, but even in as forward looking an agenda as that, it remained light on details. Then there are the security and privacy issues.

These challenges are very real, and as we have seen with developments such as the WannaCry malware, the Equifax data breach, and the Swift cybertheft of up to USD1 billion from a Bangladesh bank. All these events imply that immediate thought and, preferably, some increased degree of cooperation is much needed. However, given the potential for harm resulting from poor regulation or ununiformed regulatory application in such a dynamic and nascent period, should regulators actually regulate or should we be relying more on self-regulation, as with for example, trip advisories which provide information on service providers, and allow people to rate, rank or yelp without there being a regulator? Instead, what we are seeing now is the emergence of a lot of protectionism – because regulators faced with uncertainty often try first to regulate to protect.

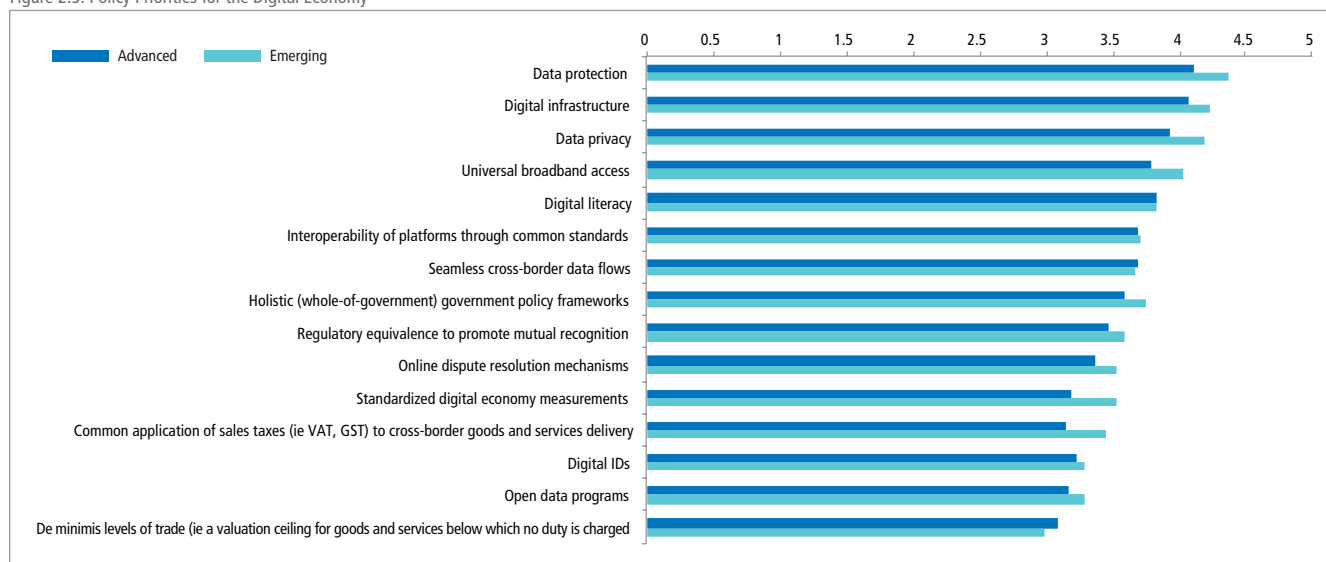
AN ASIA-PACIFIC AGENDA

APEC could play a significant role in addressing these issues, precisely because of its convening and coordinating role and its non-binding nature. To begin with, APEC could, and should, establish principles for the digital economy that individual economies could then review and implement. This would be much like the work APEC did to socialize investment and competition policy in the 1990s. As shown in Figure 2.5, there was little disagreement among respondents from emerging and advanced economies on the priority issues that need to be addressed for the growth of the digital economy.

One finding from the PECC survey is that respondents from emerging economies tended to give a slightly higher degree of importance to all issues compared to those from advanced economies. Indeed, the only issue on which respondents from advanced economies gave a higher degree of importance was on the minimis levels of trade. As discussed above, given the cyber attacks that have taken place in recent months, respondents from both emerging and advanced economies gave a high priority to data protection and privacy issues. This should spark a higher degree of interest in initiatives such as the APEC Cross Border Privacy Rules Framework.

A few issues jump straight to mind given the preceding discussion. First, a 'whole of government' approach is needed. Some economies now have a digital or an ICT ministry. At the very least those responsible for ICT policy need to be coordinated or represented at a high level of government. The digital economy cuts across all aspects of the economy and therefore, there needs

Figure 2.5: Policy Priorities for the Digital Economy



Source: PECC State of the Region Survey 2017

to have political understanding and political support at the highest level of government as well as technical expertise. This is critical to minimizing unintended consequences from policy decisions and regulatory application. The risks are large. Should governments formulate policies on the basis of the interests of one sector of the economy, the risk is missing out on the development of new growth sectors.

Given the rapid pace of change taking place, the temptation as we have seen is for regulators to immediately step in to set market place rules. The problem is that the regulations tend to favor established interests, reducing the potential for innovation. This is not to say that there should be a free for all, simply that because of potential, but rather that the impact of innovations in markets and on consumers' needs to be better understood. To this end, some economies are deploying 'regulatory sandboxes'. Sandboxes permit innovators to pursue their businesses, working with regulators to enable greater understanding of both the technology and the business model, providing safeguards (minimizing systemic risk) before establishing regulations and placing new products or services under regulation. A number of financial regulators around the world have adopted the sandbox approach to launch innovative financial products that have extended inclusion or driven greater opportunity. The purpose of the sandbox is to minimize legal uncertainty; improve access to investment; adapt to test and learn approaches; and create rules for new products and services. These measures involve relaxing specific legal and regulatory requirements for new innovative products and often for a period of time, that market players would otherwise be subjected to.

Another critical ingredient is 'trust': how do governments build trust into the adoption of the new systems. One critical ingredient that needs to be looked at proactively by APEC economies is to

have digital identification (ID) programs. Ideally, such a system would resolve to a single number or indicator that would be able to travel across both domains and jurisdictions. Without a digital representation, an individual can't be connected in this hyper-connected world. But equally, many connected individuals now have multiple online identities (passwords, numbers, accounts, passports, etc.) which are not interoperable and often not interconnected.

Cross border e-commerce is a trade facilitation issue requiring harmonization of customs regulation and logistics for last mile delivery. The APEC SME Working Group has an SME Online to Offline (O2O) initiative to help promote SME trade engagement. While the Asia-Pacific region has become the fastest growing market for the digital economy, only a relatively few SMEs in APEC are currently taking full advantage of new digital opportunities. Relatedly, another area for international cooperation in the digital economy is in cross-border payment systems. This again depends on the sharing of data across platforms and across jurisdictions, so a logical starting point could be in trade finance – where much of the data is already shared.

Talent, human capital, capacity, and the future of jobs also need to be addressed. We need to consider the training and recruitment of workers, identifying the future skills needs, developments required, and of course, the tech education programs. APEC meetings, especially the Human Resources Development Working Group, already have programs on digital literacy and education. But how connected are these to other digital development and digital economy work programs? How well suited are they for the future opportunities and, importantly, do they address the need for the movement of people – talented and otherwise – around our region?

INTERNATIONAL COOPERATION

International trade discussions and agreements are slowly beginning to address rules for the digital economy. The Trans-Pacific Partnership included rules on the free flow of data across borders. Not all APEC members were part of the TPP negotiations so one part of the cooperation agenda would be to understand what such rules mean for the other economies. Similarly, the WTO has a temporary moratorium on the imposition of customs duties on e-commerce. There are moves to make this a permanent feature of trade rules – the TPP text agreed to this but other economies need to consider what the impact would be if such an arrangement were to become permanent. The TPP also dealt with a commitment to not require source code of software, and data localization.

The future of these policies agreed to in the TPP remain in the balance. Should TPP-11 or another variation of TPP proceed, it would set some international baselines among a still significant group of economies. Another approach advocated is to consider the TPP as an “organ donor”, that is for the text to be imported into other agreements with modifications or adjustments in accordance to the needs of the members.

CONCLUSION

Much of the ground we have covered has been addressed in previous policy papers such as the telecoms reference paper. Many of the elements of the international policy regime needed

to facilitate the growth of the digital economy already exist. The first imperative should be to build on and from those regimes, without becoming hidebound to them. Some progress has been made among groups of economies such as the TPP negotiating economies. But given the potential of the digital economy to promote inclusive and innovative growth, policy makers need to move much faster. The stakes are large – the sector is estimated to already be at around US\$4 trillion.

A key principle is the need for flexibility and ongoing dialogue – but not at the expense of action-oriented steps. Technology is changing rapidly, and policies, frameworks, rules and regulations need to not just to have the room to adapt, but also to be agile. Agile implies that one has to be anticipatory, and be quick to respond and adapt in a continuous way since the changes are happening so much more rapidly.

The one final point worth making in this context is that for these developments to be successful requires trust. The process of building norms for the internet and digital economy will require bringing together regulators, politicians, businesses, negotiators and civil society to shape common understanding on these issues in a concerted fashion. APEC did this in the early 1990s on what were then difficult issues such as investment and competition policy; it needs to do so now for the internet/digital economy. In today's terminology, we would call it “crowd wisdom.”

CHAPTER 03

INDEX OF ECONOMIC INTEGRATION IN THE ASIA-PACIFIC *

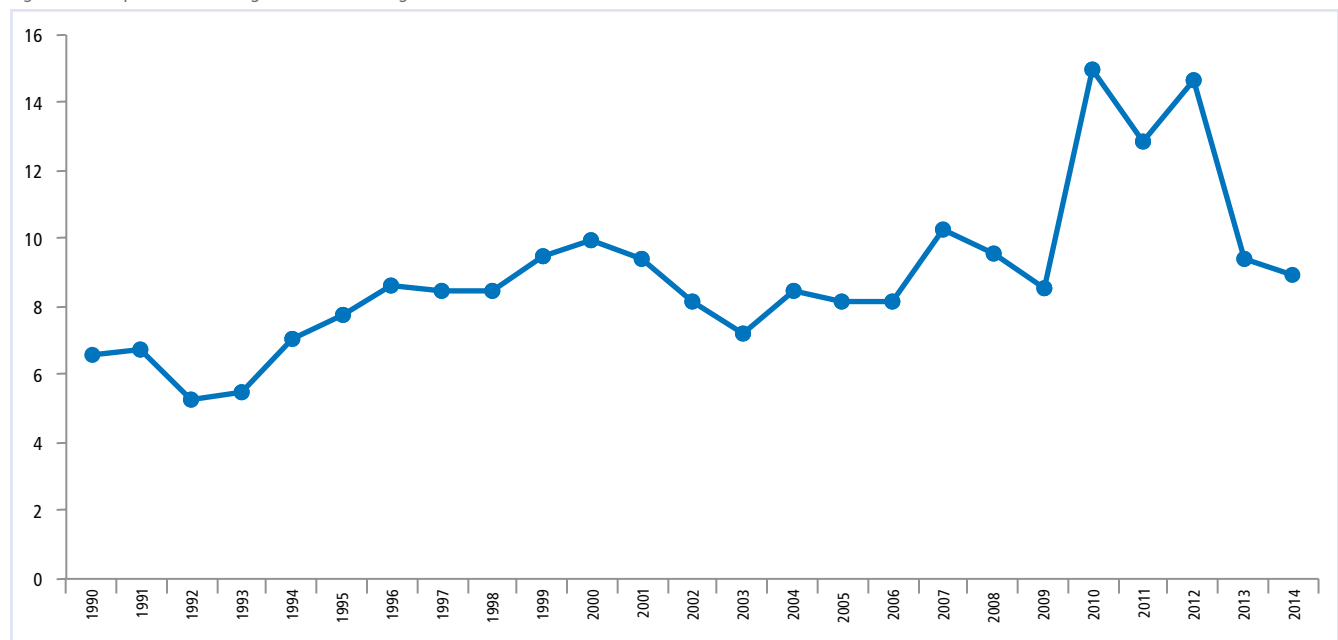
CONTRIBUTED BY DR. BO CHEN*

The latest update to PECC's index of economic integration in the Asia-Pacific region has fallen below its 2009 level. This fall follows the zigzag recovery as well as the influence of anti-globalization in the Asia-Pacific region after the Global Economic Crisis.

The index measures the degree of integration taking place in the Asia-Pacific region based on intraregional flows of: goods; investment; tourists; and five measures of convergence: gross domestic product (GDP) per capita; share of non-agriculture to GDP; the urban resident ratio; life expectancy; and share of education expenditure in gross national income (GNI). The index was developed in 2008 as a tool to measure the degree of integration taking place in the Asia-Pacific. Regional economic integration has become a core objective of the Asia-Pacific Economic Cooperation (APEC) forum. The process of economic integration is commonly defined as freer intraregional movement of goods, services, labor, and capital across borders.

The degree of economic integration can be analyzed at bilateral, regional, and global levels. Even though the Asia-Pacific region is not covered by a single trading agreement, there is much anecdotal evidence to suggest that it is becoming more integrated. As defined by the APEC membership, the region consists of not only developed economies such as the US, Japan, Canada, and Australia, but also emerging markets such as the ASEAN economies. It is well known that parts of the region are already highly integrated through production networks that facilitate trade of intermediate and finished goods across borders. Since 1998, many economies in the region have negotiated bilateral and sub-regional free trade agreements with partners in the region as well as outside the region. APEC Leaders have also endorsed a proposal to investigate the idea of a Free Trade Area of the Asia-Pacific (FTAAP), which, if successful, would constitute the largest regional trading bloc in the world.

Figure 3.1: Composite Index of Regional Economic Integration



* For approach details, data sources and treatment, please refer to Bo Chen and Yuen Pau Woo (2010), "Measuring Economic Integration in the Asia-Pacific Region: A Principal Components Approach," Asian Economic Papers, Vol.9(2), pp. 121-143.

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3. INDEX OF ECONOMIC INTEGRATION IN THE ASIA-PACIFIC

An important feature of the index is that it excludes trade and investment flows among geographically contiguous sub-regional trading partners, namely NAFTA, the ASEAN Free Trade Area, and Australia-New Zealand Closer Economic Relations. It also excludes flows among China, Hong Kong (China), and Chinese Taipei. This is to control for the effect that sub-regional flows may have on the index, whereby a very high degree of integration among, for example, NAFTA economies could result in a falsely high measure of integration with the Asia-Pacific region as a whole.

Furthermore, since trade, investment, and tourism measures are calculated relative to global transactions, the index will rise for a given economy only if that economy's share of intraregional trade/investment is growing relative to total trade and investment.

The weights given to each dimension are determined using principal component analysis.¹

Table 3.1: Weights Used

Composite Index

Category	Weight (%)
Convergence*	25.89
Trade	32.04
Foreign Direct Investment (FDI)	2.89
Tourism	39.18

* Convergence Sub-Index

Category	Weight (%)
GDP per capita	13.22
Non-agriculture share of GDP	8.63
Urban ratio	13.48
Life expectancy	14.67
Education expenditure share of GNI	50.00

The convergence measures are premised on the notion that integration will lead to greater uniformity among the economies. Accordingly, more trade and investment among regional partners may not translate into a higher score on the integration index if at the same time the partners are diverging in terms of income, education, life expectancy, urbanization, and economic structure.

Caution should be exercised in the interpretation of these findings. The measures chosen for inclusion in the composite index are imperfect indicators of "convergence" and trade/investment integration. The rankings in turn should not be read normatively as "league tables" in the sense that a higher ranking is superior to a lower ranking. A low ranking may simply indicate that an economy is oriented more globally than regionally, as is likely the case for China and the United States.

Nevertheless, the change in index value for a given economy over time can be read as a measure of its changing economic orientation. The index value for the region as a whole can also be seen as a measure of closer economic ties among Asia-Pacific economies and as one indicator of APEC's success.

The 2017 update to the index is based on the latest data available for the selected dimensions from 2014. Missing data were approximated using standard interpolation and extrapolation techniques.

The most recent figures showed a sharp decline to the index, not seen since 2008-2009. Since the Global Financial Crisis, economic integration in the Asia-Pacific has been volatile. The most recent decline mainly reflects the fact that China's economy has been slowing down significantly since 2012. However, the convergence indices resume its rebound after 2013. The 2014 update by economy shows that the overall convergence process continued to rebound, albeit slightly. As a result, 8 out of the 17 Asia-Pacific economies included in this study became more converged against the average mean level of the Asia-Pacific region in 2014.

¹See Bo Chen and Yuen Pau Woo (2010), "Measuring Economic Integration in the Asia-Pacific Region: A Principal Components Approach," *Asian Economic Papers*, Vol.9 (2), pp. 121-143.

Table 3.2: Comparison of 2013 and 2014 Indices

Index	Convergence Index		Composite Index		Ranking*
	2014	2013	2014	2013	
Economy					
Australia	-5.28	-9.11	36.55	32.21	6 (7)
Canada	21.83	18.04	16.73	14.69	14 (14)
Chile	49.22	58.96	35.54	38.48	7 (6)
China	-50.20	-54.93	-12.28	-14.53	17 (17)
Hong Kong (China)	-25.34	-21.60	229.19	213.44	2 (2)
Indonesia	-45.73	-35.48	-1.91	-3.56	16 (15)
Japan	2.66	-3.70	25.60	18.48	9 (13)
Korea	61.26	67.08	79.04	71.77	3 (3)
Malaysia	5.78	9.29	48.35	52.57	5 (5)
Mexico	41.65	41.37	20.60	20.60	12(11)
New Zealand	-56.16	-56.29	23.38	22.48	10 (10)
Philippines	-98.22	-76.24	2.95	-12.61	15 (16)
Singapore	-43.46	-42.51	245.76	267.37	1 (1)
Chinese Taipei	-34.59	-38.37	21.10	19.45	11 (12)
Thailand	29.48	5.34	76.31	57.71	4 (4)
United States	19.31	41.41	19.15	24.92	13 (9)
Vietnam	-24.70	-23.33	32.25	28.77	8 (8)
Asia-Pacific Region	-7.37	-7.73	8.91	9.38	--

Source: Authors' calculations and Chen and Woo (2010).
* Rankings shown in parentheses indicate those from previous year (2012).

Noticeably, Singapore and Hong Kong (China) are still the most integrated economies with the AP markets. As the freest business harbors, Hong Kong and Singapore benefit the most from economic integration in trade, investment, and tourism. The Philippines is falling further behind the regional average, its convergence ranking remains the lowest amongst all 17 economies in both 2013 and 2014. Given the fact that most of the economies were recovering in 2014, the fall in the convergence indices for some economies indicate that these economies are interacting more with

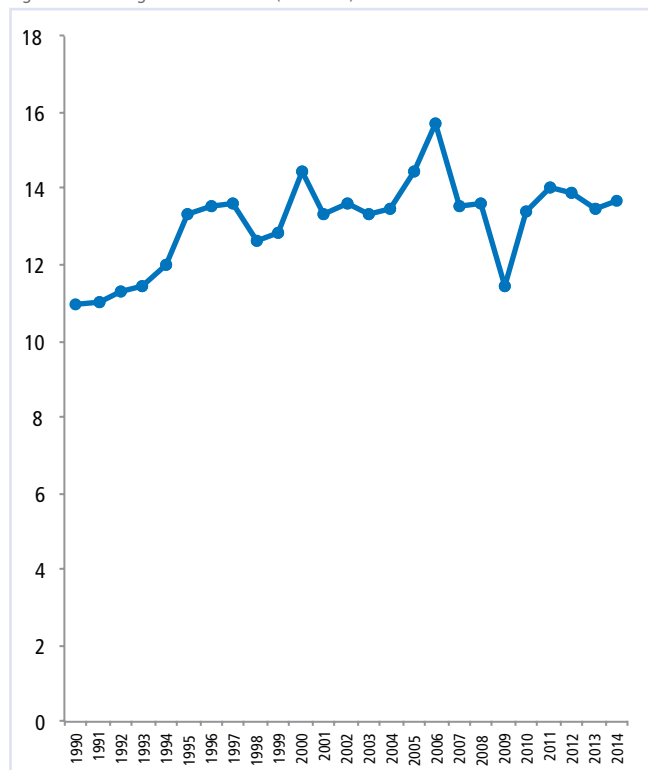
those outside the Asia-Pacific region than before. For instance, the United States has its integration index decreased to 19.31 in 2014 from 41.41 in 2012. Meanwhile, another key economy, China, still remains as one of the least integrated economies in this region even though the index shows a small improvement from 2013 to 2014. As a result, the whole convergence index in 2014 improved only slightly compared to its 2013 level, yet the negative sign means the overall convergence level in the Asia-Pacific region is still below its initial level in 1990.

ASIA-PACIFIC TRADE FLOWS

Figure 3.2 shows the share of Asia-Pacific intraregional imports and exports to regional GDP. After various economic stimulus plans, regional economies showed some recovery in terms of intraregional trade flows. Over the twenty-year period, intraregional flows of exports and imports (over GDP) have increased from 14 percent to 15 percent. It should be re-emphasized here that this index discounts flows among sub-regions: the economies of Southeast Asia, North America and those among China, Chinese Taipei and Hong Kong (China).

The share of Asia-Pacific intraregional merchandise trade recovered from the big hit in 2009. However, the recovery was not robust and the recovery trend has been zigzag. Such result is not surprising given China, the world's largest trading economy and a key player in global supply chain, has been suffering from the pains of economic slowdown and structural change. For instance, there are seven economies that had smaller shares of intra-regional trade (relative to their GDP): China, Hong Kong (China), Chinese Taipei, Singapore, Malaysia, Indonesia, and Korea. An apparent feature is that apart from China itself, these six other economies have close relations with China in terms of supply chain.

Figure 3.2: Intraregional Trade Flows (% of GDP)



FOREIGN DIRECT INVESTMENT

Compared to flows of goods, intraregional flows of investment show a much more erratic pattern. It had a striking volatility during 2008-2011 due to the global financial crisis. After that, the instability of global and regional economic recovery kept the investors sensitive and conservative. Hence, the rebound during 2011-12 ceased during 2012-13 but eventually resumed strongly during 2013-14. The two largest economies, namely the United States and China, played the key roles. On the one hand, the fact that the United States had a better than expected recovery for consecutive years strengthened the investors' confidence in investing there; on the other hand, although China's inward FDI had been slowing down after 2012, an unusual feature is that its outbound FDI surged due to the economic structural changes and many of traditional businesses started to look for reallocation opportunities in other economies with abundant resource and/or labor supply. Hence, the intraregional investment, unlike the pattern of merchandise goods, substantially increased in 2014.

Figure 3.3: Intraregional Flows of Foreign Direct Investment (%)

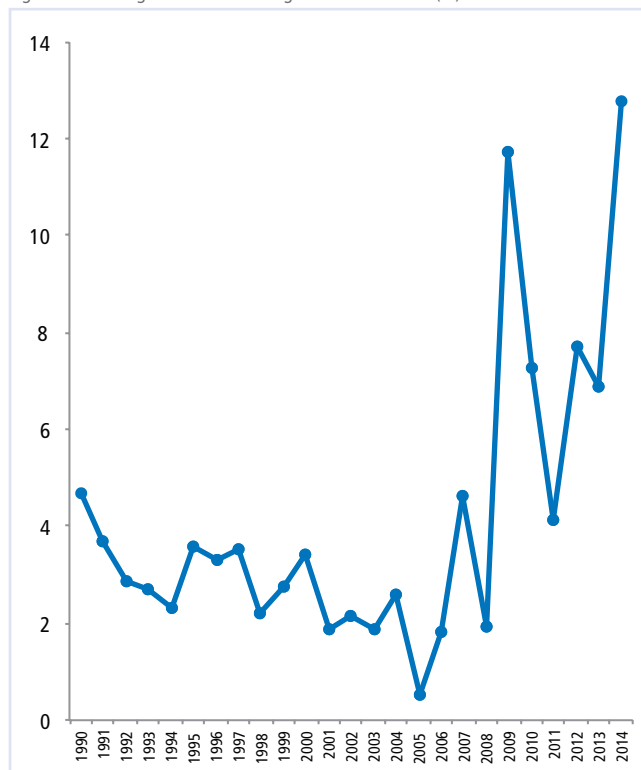
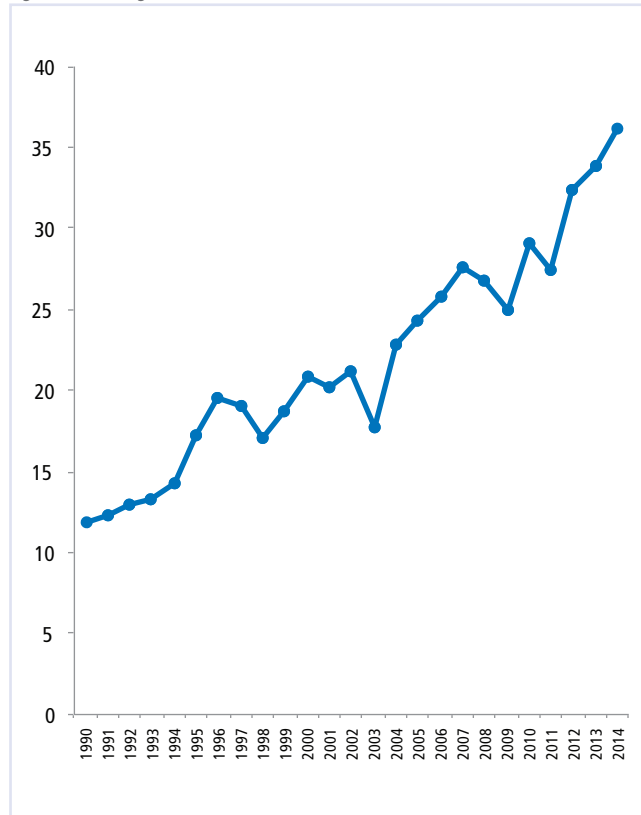


Figure 3.4: Intra-regional Tourist Inflows (% of total)



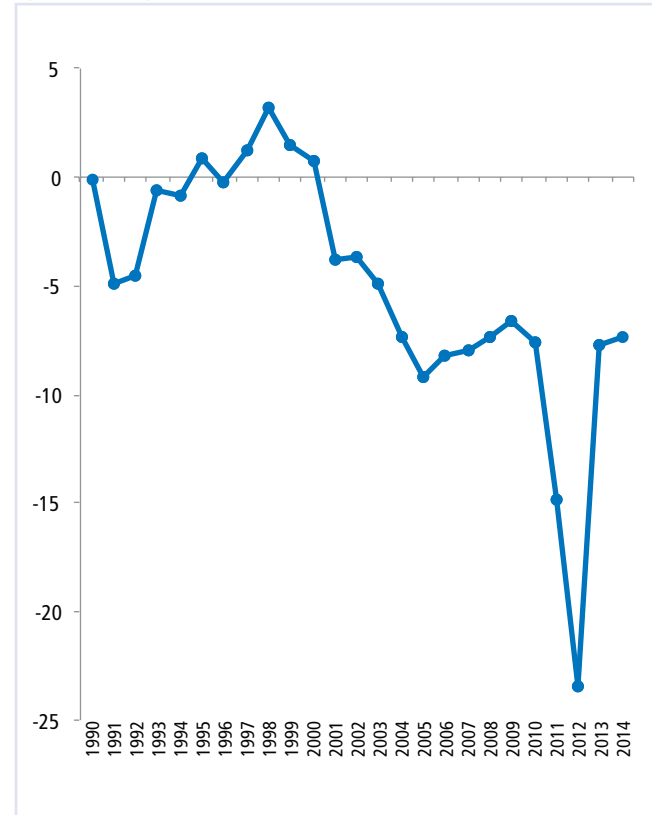
TOURISM FLOWS

Figure 3.4 shows the recovery trend of the intra-regional tourism. It indicates that the intra-regional tourist share (to every 1,000 citizens in hosting economy of the sample) increased further to reach new heights in 2014.

Except for the declines seen in 2007-2009 and 2010-2011, intra-regional tourist flows have grown substantially from 18 percent in 2003 to more than 36 percent in 2014, the highest level recorded in our index.

According to the data, China remains the largest recipients of inbound regional tourists (excluding those from Hong Kong (China) and Chinese Taipei), which recorded more than 14.7 million tourists. Besides China, there are three more economies that received more than 10 million tourists, namely, the United States, Korea and Japan. Thailand, however, recorded a disappointing tourist figure: the inbound regional tourists (excluding those from other ASEAN economies) decreased by more than 7.3 percent in 2014 compared to its 2013 figure. The declining tourist figures in Thailand may be attributed to its domestic political tensions.

Figure 3.5: Convergence Index



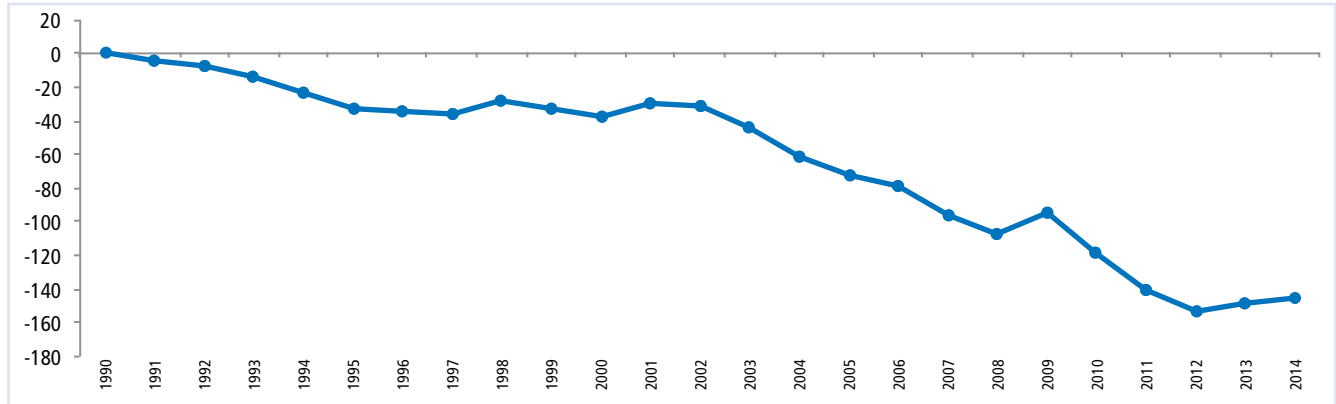
CONVERGENCE INDEX

The sub-index of convergence shows that economies in the region have resumed the rebound in 2013, though slightly.

GDP per capita levels in the region had been converging somewhat during the crisis years. However, in 2009, divergence in incomes began once again and continued into 2012. It should be noted here that GDP per capita accounts for just 13 percent of the weight of this sub-index while education expenditure accounts for 50 percent of the weight. Shifts towards convergence in education, even minor ones, could outweigh much larger shifts in income.

3. INDEX OF ECONOMIC INTEGRATION IN THE ASIA-PACIFIC

Figure 3.6: Deviation of GDP Per Capita

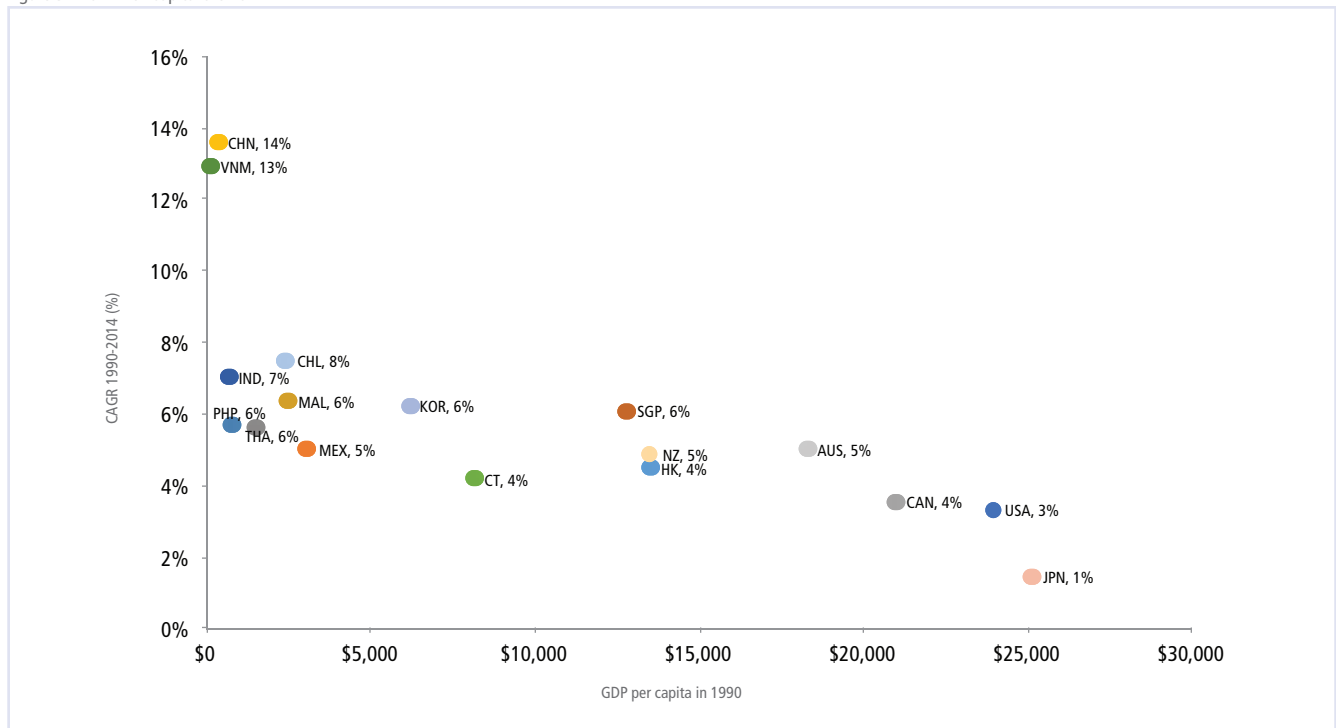


LESS DIVERGING INCOMES

Figure 3.6 shows that the convergence indicator of GDP per capita (measured in international current dollar) decreased in 2009, continuing its sharp decline into 2012. Yet the decreasing trend stopped in 2013 since some of the developed economies such as

Japan, Canada, and Australia had smaller GDP per capita measures by US dollars (which was mainly attributed to their currency depreciation).

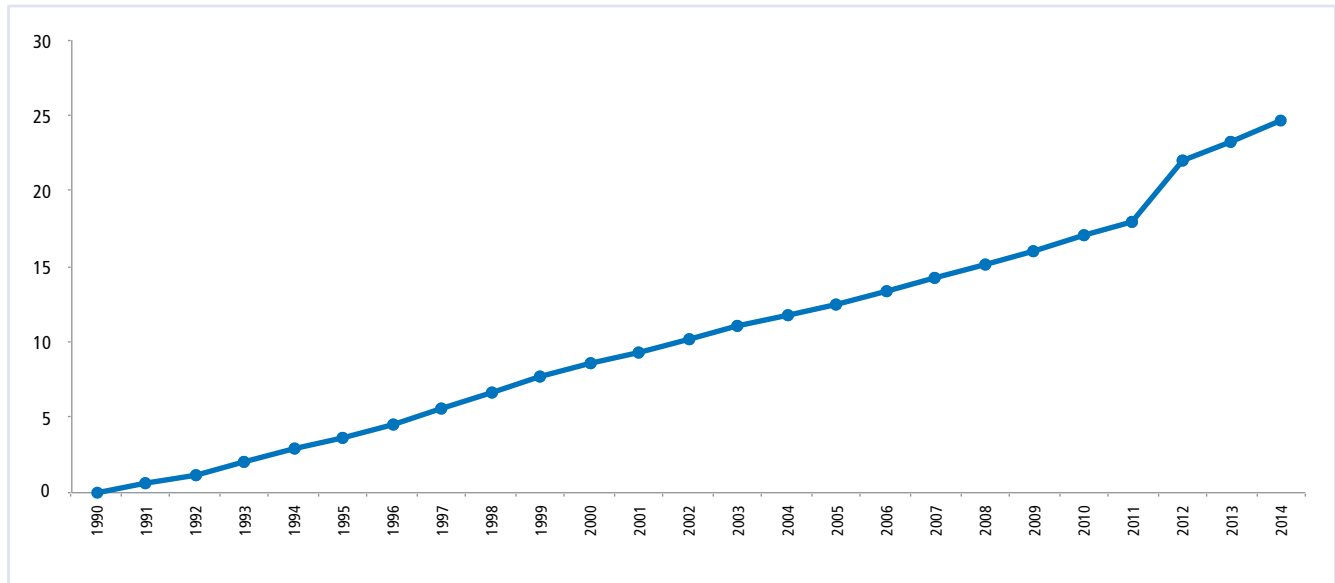
Figure 3.7: GDP Per Capita Growth



Over the entire index period, the divergence in incomes has been driven by differences in growth rates. Over the 25 years between 1990 and 2014, GDP per capita in the region grew threefold, from US\$ 5,500 to US\$ 16,000, or at a compound annual growth rate (CAGR) of about 4.36 percent. However, income levels in some economies have grown at a much higher rate than the average in the region while others under the average. For incomes to converge,

economies with lower starting GDP per capita levels would need to grow at a much faster rate than those with higher starting levels. Figure 3.7 shows the GDP per capita levels of regional economies in 1990 and the average growth rate over the past 25 years. For incomes to converge, those economies in the bottom left need to move up towards where China and Vietnam are positioned to move to the right at higher pace.

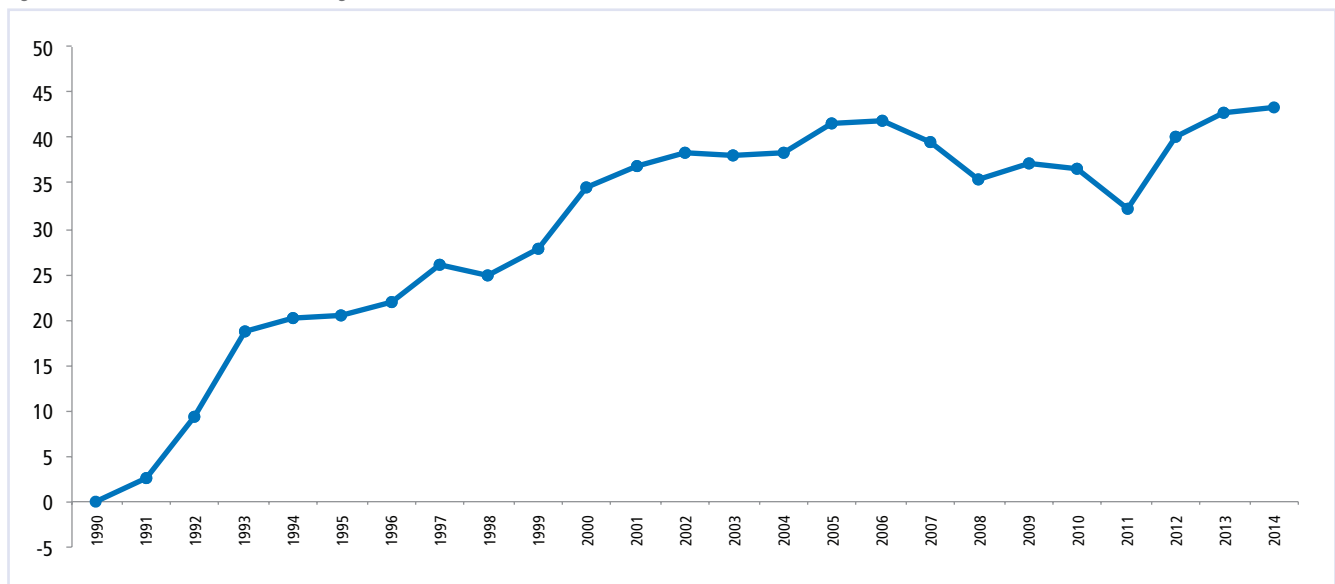
Figure 3.8: Deviation Indicator: Urban Resident Ratio



The pace of urbanization in the region has been steady throughout the period as represented by the percentage of population living in urban areas shown in Figure 3.8. In 1990, the urban resident ratio was 65.2 percent with a standard deviation of 21.9. By 2014, the urban resident ratio had increased to 74.7 percent with a

standard deviation of 16.5, where all economies showed increase in urbanization and the figures have been converging at a similar rate. As seen in Figure 3.8, this has been a very linear and consistent trend in the region.

Figure 3.9: Deviation Indicator: Share of Non-agriculture in GDP

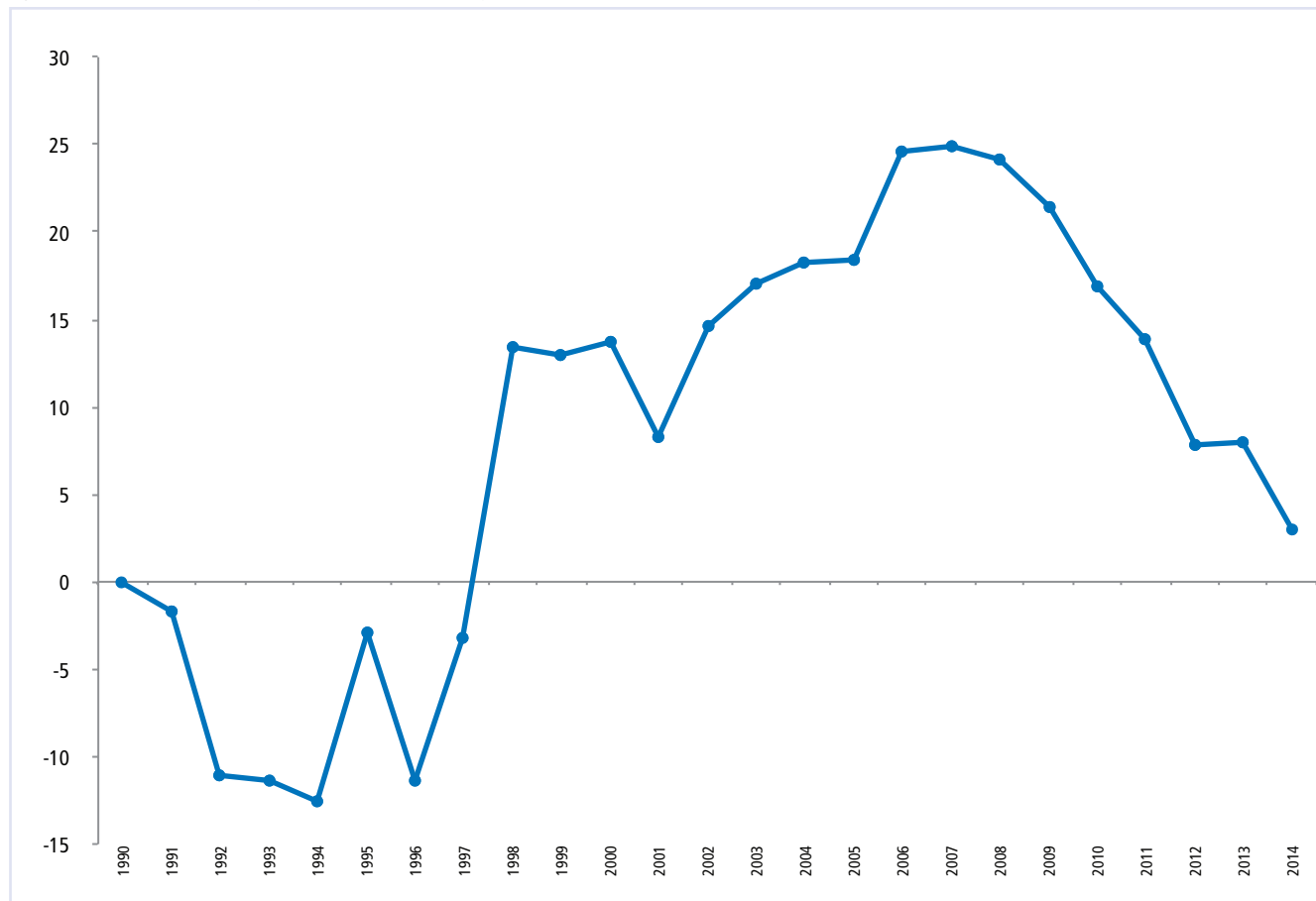


Unlike the convergence shown in the pace of urbanization, the share of non-agriculture in GDP has been much more volatile, with some significant dips taking place in 2007 and again in 2010. However, a strong rebound occurred in 2011 and the convergence level has been back on the rise since. As shown in Figure 3.9, the

indicator exceeded the previous peak in 2006. According to the data, the average share of non-agriculture in GDP increased from the previous peak of 94.03 in 2006 to 94.26 in 2014 while the standard deviation across the economies shrunk from 4.78 to 4.66.

3. INDEX OF ECONOMIC INTEGRATION IN THE ASIA-PACIFIC

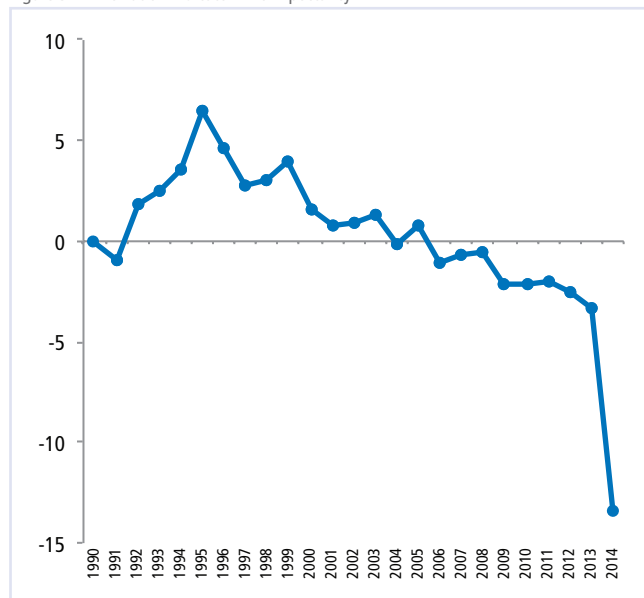
Figure 3.10: Deviation Indicator: Expenditure on Education as a Proportion of GNI



While the proportion of expenditure on education in the region has significantly risen from 3.42 in 1990 to 4.41 percent in 2014, Figure 3.10 shows that its level of convergence has been on decline since

2007. In 2014, 9 out of the 17 Asia-Pacific economies reduced the share of GNI on education. However, the cut was more pronounced in developing economies such as the Philippines.

Figure 3.11: Deviation Indicator: Life Expectancy



In 1990, the average life expectancy in the region was 73.67 years. By 2014, it had increased by 4.74 years to 78.34, with a standard deviation of 4.0. As seen in Figure 3.11, between 1991 and 1995, life expectancy figures had been converging. However, the level of convergence began to decrease thereafter, signaling that life expectancy is increasing faster in certain economies than others. The level of convergence in life expectancy in the region is persistently below that of 1990 since 2006. The latest update to the index shows a very sharp drop not seen before.

When APEC Leaders set out the Bogor Goals in 1994, they set out a vision through which the region would not only maintain high growth rates but also narrow development gaps. While the region has done well in integrating and overall incomes have increased at a dramatic pace, the index shows that there is a long way to go in terms of closing development gaps. Integration is not an end in itself but a means to ensuring that all citizens can achieve their potentials. A broader and deeper economic cooperation in Asia-Pacific region such as the FTAAP is desired to maintain and accelerate to integration process.

ANNEX

A

Table 1: GDP Growth

	2015	2016	2017	2018	2019	2020	2021	2022
Australia	2.4	2.5	3.1	3.0	2.9	2.8	2.8	2.7
Brunei Darussalam	-0.4	-3.2	-1.3	0.7	9.2	9.3	11.3	5.3
Cambodia	7.0	7.0	6.9	6.8	6.8	6.5	6.3	6.3
Canada	0.9	1.4	1.9	2.0	1.8	1.8	1.8	1.8
Chile	2.3	1.6	1.7	2.3	2.7	2.9	3.1	3.3
China	6.9	6.7	6.6	6.2	6.0	5.9	5.8	5.7
Colombia	3.1	2.0	2.3	3.0	3.6	3.6	3.6	3.6
Ecuador	0.2	-2.2	-1.6	-0.3	0.7	1.2	1.5	1.6
Hong Kong, China	2.4	1.9	2.4	2.5	2.7	2.9	3.1	3.2
India	7.9	6.8	7.2	7.7	7.8	7.9	8.1	8.2
Indonesia	4.9	5.0	5.1	5.3	5.4	5.5	5.5	5.5
Japan	1.2	1.0	1.2	0.6	0.8	0.2	0.7	0.6
Korea	2.8	2.8	2.7	2.8	3.0	3.0	3.1	3.1
Laos	7.5	6.9	6.8	6.7	7.0	6.9	7.0	6.7
Malaysia	5.0	4.2	4.5	4.7	4.9	4.9	4.8	4.8
Mexico	2.6	2.3	1.7	2.0	2.7	2.7	2.7	2.7
Myanmar	7.3	6.3	7.5	7.6	7.5	7.5	7.5	7.5
New Zealand	3.1	4.0	3.1	2.9	2.6	2.6	2.6	2.5
Papua New Guinea	6.6	2.5	3.0	3.2	3.4	3.4	3.4	3.4
Peru	3.3	3.9	3.5	3.7	3.8	3.7	3.5	3.5
Philippines	5.9	6.8	6.8	6.9	7.0	7.0	7.0	7.0
Russia	-2.8	-0.2	1.4	1.4	1.5	1.5	1.5	1.5
Singapore	1.9	2.0	2.2	2.6	2.6	2.6	2.6	2.6
Chinese Taipei	0.7	1.4	1.7	1.9	2.0	2.3	2.5	2.5
Thailand	2.9	3.2	3.0	3.3	3.2	3.1	3.0	3.0
United States	2.6	1.6	2.3	2.5	2.1	1.8	1.7	1.7
Vietnam	6.7	6.2	6.5	6.3	6.2	6.2	6.2	6.2

	2015	2016	2017	2018	2019	2020	2021	2022
Asia-Pacific	3.6	3.2	3.6	3.6	3.5	3.4	3.4	3.4
Emerging	5.6	5.6	5.6	5.5	5.6	5.5	5.5	5.5
Advanced	2.2	1.6	2.2	2.2	2.0	1.7	1.7	1.7

Table 2: CPI Inflation

	2015	2016	2017	2018	2019	2020	2021	2022
Australia	2.5	1.5	2.1	2.4	2.5	2.5	2.5	2.5
Brunei Darussalam	-0.2	-0.4	0.2	0.1	0.0	0.1	0.1	0.0
Cambodia	3.9	1.2	2.1	2.8	3.0	2.9	3.2	0.2
Canada	1.9	1.1	1.3	1.9	2.0	2.0	2.0	2.0
Chile	4.4	4.3	4.1	3.0	3.0	3.0	3.0	3.0
China	2.0	1.4	1.8	2.0	2.2	2.6	3.0	3.0
Colombia	2.9	5.0	7.3	3.4	3.0	3.0	3.0	3.0
Ecuador	3.6	4.0	1.6	0.2	0.4	0.8	0.2	0.4
Hong Kong, China	4.4	3.0	2.5	2.6	2.7	2.8	2.9	3.0
India	5.9	4.9	5.3	5.3	5.5	5.3	5.0	4.9
Indonesia	6.4	6.4	4.3	4.5	4.4	4.3	4.1	4.0
Japan	2.7	0.8	-0.2	1.2	1.0	0.9	1.0	1.2
Korea	1.3	0.7	1.3	2.2	2.1	2.0	2.0	2.0
Laos	5.5	5.3	1.5	2.3	2.7	3.1	3.3	3.1
Malaysia	3.1	2.1	3.1	2.9	3.0	3.0	3.0	3.0
Mexico	4.0	2.7	2.9	3.0	3.0	3.0	3.0	3.0
Myanmar	12.9	5.9	1.9	4.3	6.4	6.4	6.5	6.4
New Zealand	5.9	11.5	9.6	8.2	7.5	7.0	6.6	6.4
Papua New Guinea	1.2	0.3	1.5	1.9	2.0	2.0	2.0	2.0
Peru	5.3	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Philippines	3.2	3.5	3.1	2.5	2.5	2.5	2.5	2.5
Russia	4.2	1.4	2.0	3.4	3.5	3.5	3.5	3.5
Singapore	7.8	15.5	8.4	6.5	5.0	4.0	4.0	4.0
Chinese Taipei	1.0	-0.5	0.2	1.3	1.9	1.9	1.9	1.9
Thailand	1.2	-0.3	0.7	1.1	1.3	1.5	1.8	2.2
United States	1.9	-0.9	0.2	2.0	1.8	2.1	2.3	2.5
Vietnam	1.6	0.1	0.8	1.5	2.4	2.5	2.3	2.2

	2015	2016	2017	2018	2019	2020	2021	2022
Asia-Pacific	1.5	1.8	2.6	2.4	2.7	2.7	2.6	2.7
Emerging	3.3	2.9	3.2	3.0	3.2	3.4	3.4	3.4
Advanced	0.4	1.0	2.2	2.0	2.3	2.2	2.0	2.2

Table 3: Growth of Exports of Goods and Services

	2015	2016	2017	2018	2019	2020	2021	2022
Australia	6.0	7.6	4.2	3.9	4.1	4.0	4.0	4.0
Brunei Darussalam	-13.8	-3.2	-2.9	1.5	22.4	19.0	16.6	6.6
Cambodia	12.5	10.5	10.5	9.8	8.5	10.7	9.9	10.8
Canada	3.4	1.1	1.8	3.3	3.5	3.3	3.3	3.2
Chile	-1.9	-0.1	0.8	2.6	3.6	4.0	4.3	4.4
China	-2.2	1.1	2.9	2.9	2.7	2.8	2.6	2.6
Colombia	-3.2	-5.2	2.7	5.8	5.7	6.2	5.2	5.5
Ecuador	2.2	-2.2	2.0	2.5	1.3	1.5	1.3	1.4
Hong Kong, China	-1.4	0.9	4.4	2.7	3.0	3.2	3.4	3.5
India	-4.4	5.7	6.9	7.5	7.9	7.9	7.9	7.9
Indonesia	0.4	-1.0	1.5	5.7	5.3	4.8	5.5	5.5
Japan	3.0	1.2	4.1	2.3	2.1	2.9	1.8	1.6
Korea	-0.1	2.1	3.2	3.3	3.4	3.4	3.4	3.4
Laos	6.7	10.5	4.7	8.0	6.5	0.6	5.9	7.6
Malaysia	4.4	2.5	3.5	3.3	3.5	3.1	2.7	3.0
Mexico	10.3	1.2	7.1	8.1	7.5	6.2	6.4	6.2
Myanmar	-2.5	5.0	8.6	15.8	15.7	15.9	14.5	12.0
New Zealand	6.9	1.6	3.3	3.3	3.4	3.6	3.6	3.6
Papua New Guinea	14.2	4.8	4.9	1.6	1.2	0.3	0.7	1.1
Peru	1.8	11.8	2.2	3.9	2.7	3.1	2.7	2.5
Philippines	0.7	6.4	6.9	6.5	6.4	6.3	6.2	6.4
Russia	-0.4	-0.7	4.6	2.9	2.9	3.4	3.5	3.7
Singapore	2.6	1.6	2.3	3.1	3.5	3.8	4.0	4.1
Chinese Taipei	-0.3	2.1	3.8	4.2	4.6	4.8	5.0	5.0
Thailand	1.8	1.1	3.1	1.8	2.2	2.3	2.4	2.7
United States	0.1	0.4	3.0	2.9	4.5	4.2	3.2	3.4
Vietnam	9.8	10.0	4.9	7.7	8.2	8.3	8.3	9.0

	2015	2016	2017	2018	2019	2020	2021	2022
Asia-Pacific	0.6	1.6	3.5	3.5	3.9	3.9	3.6	3.7
Emerging	0.0	2.0	3.9	4.2	4.1	4.1	4.0	4.1
Advanced	1.1	1.3	3.3	3.0	3.7	3.7	3.3	3.3

Table 4: Growth of Imports of Goods and Services

	2015	2016	2017	2018	2019	2020	2021	2022
Australia	2.0	0.4	4.8	3.9	3.8	3.6	3.9	4.0
Brunei Darussalam	-24.1	7.7	-2.4	-2.1	11.7	8.7	10.9	5.7
Cambodia	12.5	10.2	11.2	8.7	8.4	8.2	7.3	8.1
Canada	0.3	-1.0	0.9	2.5	2.9	3.0	3.0	2.8
Chile	-2.8	-1.6	1.5	2.9	3.5	4.2	4.5	4.6
China	-0.5	4.9	4.6	4.0	3.9	3.8	3.6	3.5
Colombia	-6.3	-11.2	1.0	2.2	3.4	4.5	4.6	4.3
Ecuador	-7.8	-16.5	7.5	4.1	-1.3	0.3	1.7	1.8
Hong Kong, China	-1.8	1.2	4.8	2.9	3.2	3.3	3.6	3.7
India	2.0	5.0	6.3	8.4	9.1	8.8	8.7	8.8
Indonesia	-6.2	3.2	-1.4	3.7	6.0	6.2	6.2	5.9
Japan	0.1	-1.7	2.4	2.8	3.1	1.9	1.7	1.4
Korea	2.1	4.5	3.7	3.8	3.9	4.0	4.2	4.2
Laos	-1.0	1.7	8.0	7.3	3.7	2.8	-0.5	4.2
Malaysia	2.1	0.6	3.0	3.1	3.3	2.8	2.4	2.6
Mexico	8.6	1.1	3.1	5.3	6.2	6.6	6.8	6.7
Myanmar	5.0	12.0	9.3	13.5	13.5	13.8	12.2	10.9
New Zealand	3.7	4.0	6.3	4.2	4.1	4.0	4.0	4.1
Papua New Guinea	-31.2	-0.5	1.9	3.1	3.5	3.7	1.0	1.0
Peru	0.3	-3.2	1.6	3.8	4.9	4.6	4.7	3.7
Philippines	13.5	20.0	3.7	6.9	7.1	7.0	6.6	6.6
Russia	-25.0	-4.0	7.1	2.9	1.8	2.1	3.8	5.0
Singapore	8.8	1.6	-1.4	3.8	4.1	4.2	4.3	4.7
Chinese Taipei	2.0	0.7	4.3	4.6	4.9	5.0	5.2	5.3
Thailand	0.9	-2.5	2.7	4.3	4.7	4.4	4.2	3.8
United States	4.6	1.1	6.2	6.1	5.6	4.2	2.6	3.2
Vietnam	15.6	11.1	5.3	8.9	9.5	9.1	9.5	9.8

	2015	2016	2017	2018	2019	2020	2021	2022
Asia-Pacific	1.6	2.0	4.3	4.7	4.7	4.2	3.8	4.0
Emerging	-0.1	3.6	4.3	4.9	5.1	5.0	5.0	5.0
Advanced	2.9	0.9	4.2	4.5	4.4	3.7	3.0	3.3

Table 5: Current Account Balance (US\$ billions)

	2015	2016	2017	2018	2019	2020	2021	2022
Australia	-58.2	-33.2	-37.9	-41.0	-44.8	-47.9	-54.9	-59.7
Brunei Darussalam	2.1	1.1	1.0	0.5	1.9	2.6	2.7	3.1
Cambodia	-1.9	-1.7	-1.8	-1.9	-2.1	-2.3	-2.4	-2.5
Canada	-52.8	-51.1	-46.8	-45.3	-43.3	-40.8	-36.3	-34.6
Chile	-4.7	-3.6	-3.4	-4.4	-5.2	-5.9	-6.5	-7.3
China	304.2	196.4	149.3	158.6	170.0	171.7	173.2	168.4
Colombia	-18.8	-12.5	-11.1	-10.7	-10.7	-10.5	-11.0	-11.0
Ecuador	-2.2	1.1	0.8	-0.1	-0.5	-0.5	-0.8	-1.2
Hong Kong, China	10.3	16.3	9.8	10.7	11.3	12.6	13.5	14.0
India	-22.1	-20.9	-36.5	-41.5	-46.5	-53.4	-63.3	-80.9
Indonesia	-17.5	-16.3	-19.4	-22.3	-23.6	-27.4	-30.6	-34.6
Japan	135.6	191.0	202.5	210.7	213.5	227.4	235.7	230.3
Korea	105.9	98.7	93.4	95.1	98.3	99.5	102.0	104.3
Laos	-2.1	-2.4	-2.8	-3.1	-3.5	-3.7	-3.5	-3.3
Malaysia	8.9	6.1	5.5	6.2	6.9	7.5	8.2	8.9
Mexico	-33.3	-27.9	-24.5	-27.5	-29.2	-28.6	-28.5	-29.8
Myanmar	-3.1	-4.3	-4.8	-5.3	-5.9	-6.4	-7.0	-7.7
New Zealand	-5.8	-5.0	-5.0	-6.5	-7.2	-7.8	-8.4	-8.7
Papua New Guinea	4.1	3.1	3.4	3.2	3.2	3.0	3.0	3.1
Peru	-9.4	-5.5	-3.8	-4.3	-5.0	-6.0	-7.1	-7.4
Philippines	7.3	0.6	-0.3	-1.1	-2.1	-3.2	-4.4	-5.6
Russia	69.0	22.2	51.5	55.8	62.6	70.1	74.4	79.3
Singapore	53.8	56.5	58.7	57.7	58.2	58.7	59.2	58.3
Chinese Taipei	76.2	75.3	83.8	86.9	89.7	94.4	99.4	103.3
Thailand	32.1	46.4	42.0	35.8	29.4	23.6	18.8	15.3
United States	-463.0	-481.2	-522.8	-672.5	-745.0	-804.2	-767.2	-766.5
Vietnam	0.9	9.4	8.8	8.0	6.6	5.7	3.8	1.9

Table 6: GDP & CPI Weights (%)

	2015	2016	2017	2018	2019	2020	2021	2022
Australia	2.63	2.63	2.71	2.69	2.67	2.65	2.62	2.60
Brunei Darussalam	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Cambodia	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05
Canada	3.32	3.19	3.19	3.12	3.07	3.02	2.96	2.91
Chile	0.52	0.52	0.50	0.49	0.49	0.49	0.48	0.49
China	24.03	23.40	23.49	24.11	24.73	25.48	26.18	26.90
Colombia	0.62	0.59	0.61	0.61	0.61	0.61	0.61	0.61
Ecuador	0.21	0.20	0.19	0.18	0.18	0.17	0.16	0.16
Hong Kong, China	0.66	0.67	0.66	0.64	0.63	0.62	0.62	0.61
India	4.47	4.71	4.89	5.06	5.28	5.50	5.73	5.98
Indonesia	1.84	1.95	2.03	2.10	2.15	2.23	2.35	2.45
Japan	9.38	10.30	9.64	9.33	9.07	8.73	8.43	8.15
Korea	2.96	2.94	2.98	2.93	2.89	2.85	2.81	2.78
Laos	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04
Malaysia	0.63	0.62	0.62	0.64	0.67	0.69	0.72	0.74
Mexico	2.46	2.18	1.97	1.95	1.95	1.95	1.95	1.95
Myanmar	0.13	0.14	0.14	0.15	0.16	0.17	0.17	0.18
New Zealand	0.37	0.38	0.39	0.39	0.39	0.38	0.38	0.38
Papua New Guinea	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Peru	0.41	0.41	0.41	0.41	0.41	0.42	0.42	0.42
Philippines	0.63	0.64	0.66	0.70	0.75	0.80	0.84	0.88
Russia	2.92	2.67	3.11	3.04	2.95	2.89	2.85	2.80
Singapore	0.64	0.62	0.58	0.57	0.55	0.54	0.53	0.52
Chinese Taipei	1.12	1.10	1.13	1.09	1.06	1.04	1.02	1.00
Thailand	0.85	0.85	0.86	0.86	0.87	0.87	0.86	0.79
United States	38.61	38.74	38.67	38.35	37.89	37.31	36.67	36.09
Vietnam	0.41	0.42	0.43	0.44	0.45	0.46	0.47	0.48

Table 7: Export Weights (%)

	2015	2016	2017	2018	2019	2020	2021	2022
Australia	2.20	2.33	2.33	2.33	2.33	2.33	2.33	2.33
Brunei Darussalam	0.07	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Cambodia	0.15	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Canada	4.51	4.57	4.57	4.57	4.57	4.57	4.57	4.57
Chile	0.68	0.66	0.66	0.66	0.66	0.66	0.66	0.66
China	23.81	22.04	22.04	22.04	22.04	22.04	22.04	22.04
Colombia	0.40	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Ecuador	0.19	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Hong Kong, China	5.72	5.88	5.88	5.88	5.88	5.88	5.88	5.88
India	3.93	4.03	4.03	4.03	4.03	4.03	4.03	4.03
Indonesia	1.60	1.61	1.61	1.61	1.61	1.61	1.61	1.61
Japan	7.28	7.82	7.82	7.82	7.82	7.82	7.82	7.82
Korea	5.80	5.62	5.62	5.62	5.62	5.62	5.62	5.62
Laos	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Malaysia	2.18	2.13	2.13	2.13	2.13	2.13	2.13	2.13
Mexico	3.75	3.80	3.80	3.80	3.80	3.80	3.80	3.80
Myanmar	0.09	0.15	0.15	0.15	0.15	0.15	0.15	0.15
New Zealand	0.45	0.47	0.47	0.47	0.47	0.47	0.47	0.47
Papua New Guinea	0.05	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Peru	0.37	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Philippines	0.81	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Russia	3.64	3.21	3.21	3.21	3.21	3.21	3.21	3.21
Singapore	4.55	4.58	4.58	4.58	4.58	4.58	4.58	4.58
Chinese Taipei	3.18	3.08	3.08	3.08	3.08	3.08	3.08	3.08
Thailand	2.55	2.68	2.68	2.68	2.68	2.68	2.68	2.68
United States	20.41	21.07	21.07	21.07	21.07	21.07	21.07	21.07
Vietnam	1.61	2.17	2.17	2.17	2.17	2.17	2.17	2.17

Table 7: Import Weights ()

	2015	2016	2017	2018	2019	2020	2021	2022
Australia	2.40	2.33	2.33	2.33	2.33	2.33	2.33	2.33
Brunei Darussalam	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Cambodia	0.15	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Canada	4.88	4.74	4.74	4.74	4.74	4.74	4.74	4.74
Chile	0.70	0.68	0.68	0.68	0.68	0.68	0.68	0.68
China	19.71	19.35	19.35	19.35	19.35	19.35	19.35	19.35
Colombia	0.60	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Ecuador	0.23	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Hong Kong, China	5.81	5.89	5.89	5.89	5.89	5.89	5.89	5.89
India	4.72	4.65	4.65	4.65	4.65	4.65	4.65	4.65
Indonesia	1.59	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Japan	7.54	7.51	7.51	7.51	7.51	7.51	7.51	7.51
Korea	5.04	4.90	4.90	4.90	4.90	4.90	4.90	4.90
Laos	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Malaysia	1.98	1.97	1.97	1.97	1.97	1.97	1.97	1.97
Mexico	3.99	3.97	3.97	3.97	3.97	3.97	3.97	3.97
Myanmar	0.15	0.17	0.17	0.17	0.17	0.17	0.17	0.17
New Zealand	0.44	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Papua New Guinea	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Peru	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Philippines	0.86	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Russia	2.58	2.43	2.43	2.43	2.43	2.43	2.43	2.43
Singapore	4.04	4.16	4.16	4.16	4.16	4.16	4.16	4.16
Chinese Taipei	2.61	2.69	2.69	2.69	2.69	2.69	2.69	2.69
Thailand	2.32	1.91	1.91	1.91	1.91	1.91	1.91	1.91
United States	25.48	26.10	26.10	26.10	26.10	26.10	26.10	26.10
Vietnam	1.66	2.07	2.07	2.07	2.07	2.07	2.07	2.07

ANNEX RESULTS OF ASIA-PACIFIC POLICY COMMUNITY SURVEY

This annex presents the findings of a survey of the Asia-Pacific policy community conducted by the Pacific Economic Cooperation Council from 10 August to 14 September 2017. The survey was disseminated through PECC member committees, the APEC Policy Support Unit, the United Nations Network of Experts for Paperless Trade and Transport in Asia and the Pacific (UNNExT), the Asia-Pacific Research and Training Network on Trade (ARTNET); the US APEC Business Coalition; the US National Center for APEC; Groupe Spéciale Mobile Association (GSMA) Asia Pacific; Asia Cloud Computing Association (ACCA); the Internet Society (ISOC) Regional Leadership Group; Consumer Unity & Trust Society (CUTS International); and the Papua New Guinea Committee on APEC Policy Issues (CAPI).

This is not a survey of public opinion but rather, a survey of those whose views influence policymaking, especially at the regional level. As some of the questions tend to be technical, they require a relatively deep knowledge of developments at regional level. However, we do believe that those surveyed include those who are responsible for influencing and often making decisions on various aspects of their economy's positions within different regional groups.

The guidance for identifying panelists is as follows:

GOVERNMENT

Panelists should be either decision-makers or senior advisors to decision-makers. As a guide, the government respondents in previous years included a number of former and current Ministers, Deputy and Vice-Ministers, Central Bank Governors and their advisors for Asia-Pacific issues, current APEC Senior Officials, and a number of former APEC Senior Officials.

BUSINESS

Panelists should be from companies who have operations in a number of Asia-Pacific economies or conduct business with a number of partners from the region. This might include each economy's current ABAC members as well as past ABAC members. In last year's survey, these included CEOs, vice presidents for Asia-Pacific operations, and directors of chambers of commerce.

NON-GOVERNMENT: RESEARCH COMMUNITY/CIVIL SOCIETY/MEDIA

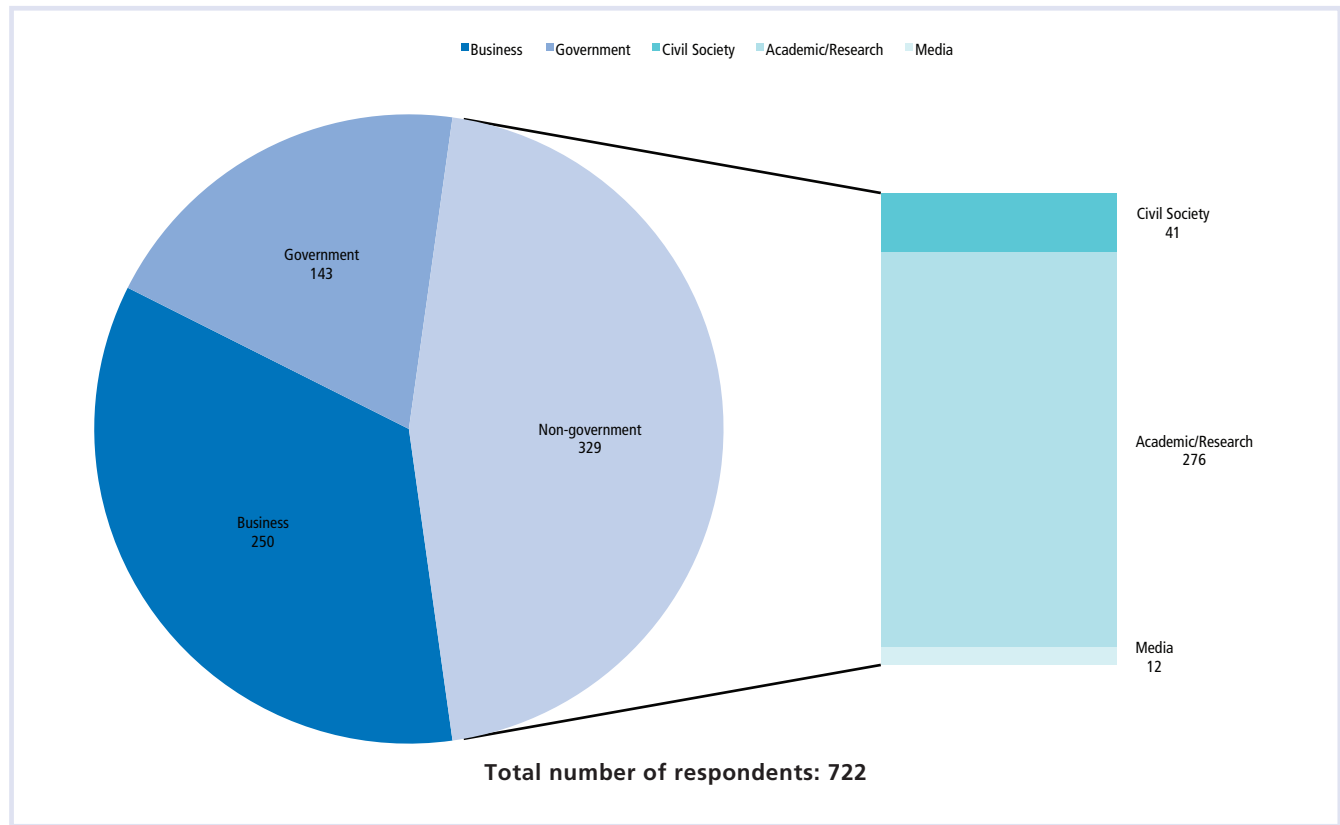
Panelists should be well-versed in Asia-Pacific affairs, being the type of people governments, businesses, and the media would tap into to provide input on issues related to Asia-Pacific cooperation. These included presidents of institutes concerned with Asia-Pacific issues, heads of departments, senior professors, and correspondents covering international affairs.

RESPONDENT BREAKDOWN

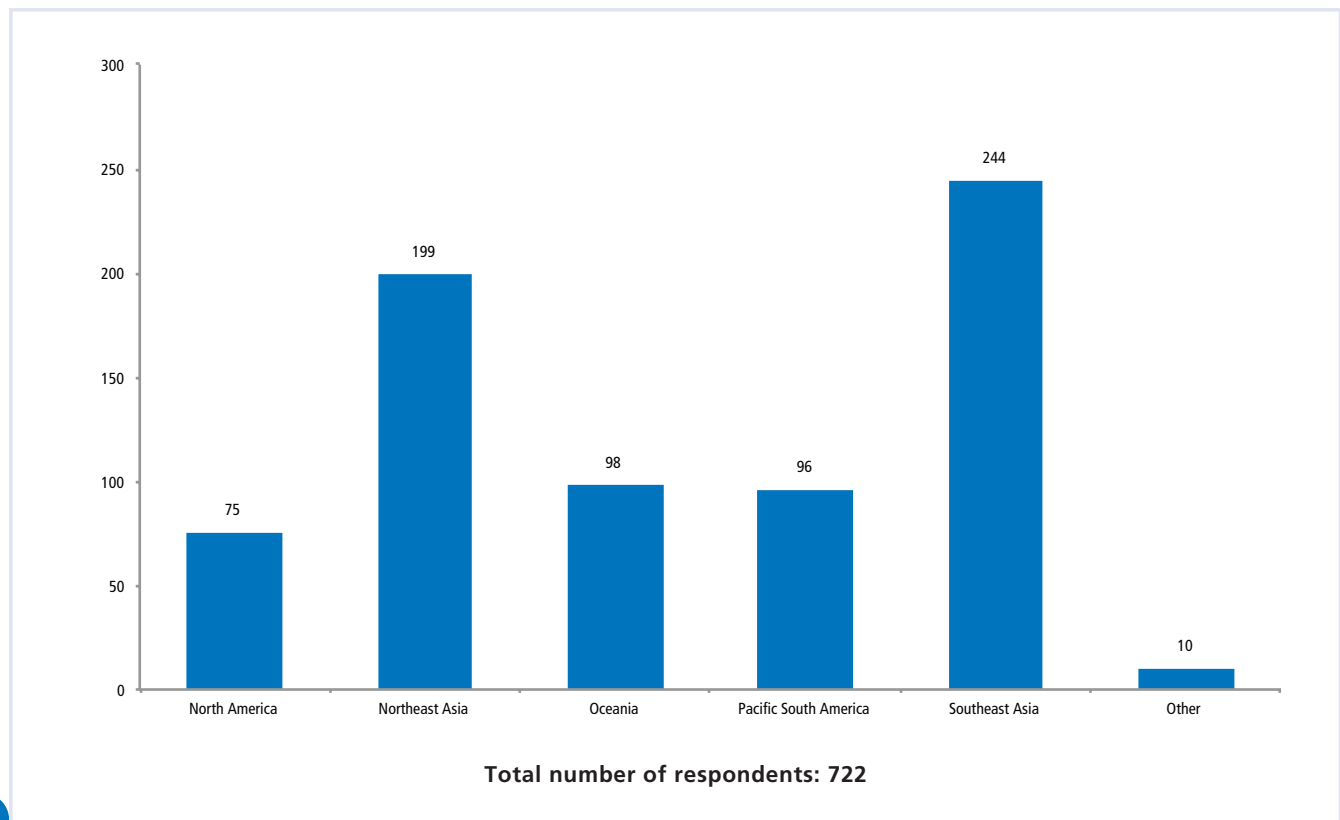
We do not disaggregate results for each economy but rather by sub-regions – Northeast Asia, North America, Oceania, Pacific South America, and Southeast Asia.

- North America: Canada, Mexico, and the United States
- Northeast Asia: China, Hong Kong (China), Japan, Korea, Mongolia, Russia, and Chinese Taipei
- Oceania: Australia, New Zealand, and Papua New Guinea
- Pacific South America: Chile, Colombia, Ecuador, and Peru
- Southeast Asia: Brunei Darussalam, India, Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam

BREAKDOWN OF RESPONDENTS BY SECTOR



BREAKDOWN OF RESPONDENTS BY SUB-REGION



1. What are your expectations for economic growth over the next 12 months compared to the last year for the following economies/regions? Please select/tick the appropriate box.

	Much weaker	Somewhat weaker	About the same	Somewhat stronger	Much stronger	Don't know
China	1.8%	19.5%	38.2%	29.6%	10.0%	0.8%
India	1.0%	9.1%	31.1%	44.8%	9.7%	4.3%
Japan	0.8%	15.9%	51.0%	26.5%	3.7%	2.1%
Russia	2.8%	23.1%	42.1%	21.0%	3.5%	7.6%
Southeast Asia	0.6%	5.3%	28.2%	48.3%	14.9%	2.8%
Oceania	0.8%	9.1%	57.6%	17.9%	2.8%	11.7%
United States	2.2%	22.3%	35.8%	33.8%	3.9%	1.9%
European Union	2.6%	19.1%	41.1%	31.7%	3.2%	2.2%
World economy	1.0%	12.6%	44.2%	38.1%	2.8%	1.4%

2. Please select the top five risks to growth for your economy over the next 2-3 years. Please select ONLY five (5) risks, using a scale of 1-5. Please write 5 for the most serious risk, 4 for the next most serious risk, 3 for the next third highest risk, 2 for the fourth highest risk and 1 for the least serious risk.

	1	2	3	4	5	Total
Increased protectionism	6.6%	7.9%	7.1%	9.5%	13.0%	44.2%
Lack of political leadership	6.9%	7.2%	6.8%	7.5%	13.6%	42.0%
A slowdown in the Chinese economy	7.4%	9.2%	9.7%	10.1%	7.4%	43.7%
Possible slowdown in world trade growth	8.7%	8.8%	10.1%	9.5%	6.9%	44.0%
Failure to implement structural reforms	6.8%	6.8%	8.7%	8.4%	9.8%	40.4%
A slowdown in the US economy	5.2%	7.4%	7.2%	6.9%	4.3%	31.0%
Corruption	5.8%	3.9%	5.1%	4.6%	8.7%	28.0%
Unsustainable debt	5.3%	4.6%	5.2%	4.9%	4.8%	24.8%
Lack of adequate infrastructure	6.3%	4.8%	5.3%	4.9%	4.3%	25.7%
Shortage of available talent/skills	5.6%	6.8%	5.8%	5.3%	3.0%	26.6%
Climate change	4.2%	4.0%	4.0%	4.9%	5.1%	22.2%
Sharp fall in asset prices	3.3%	4.2%	3.8%	4.3%	3.3%	18.9%
Disappearing jobs	5.1%	3.9%	4.0%	4.6%	2.2%	19.8%
Natural disasters	4.6%	4.0%	3.6%	3.5%	3.3%	19.0%
Cyber attacks	6.3%	3.9%	3.8%	2.5%	3.2%	19.6%
Energy security	2.7%	3.9%	3.2%	2.6%	3.5%	15.9%
Unfavorable currency realignments	3.5%	2.9%	3.3%	2.3%	1.4%	13.4%
Food security	2.5%	2.2%	1.6%	1.6%	0.7%	8.5%
A health pandemic	1.9%	2.2%	1.0%	1.3%	1.0%	7.4%
A slowdown in the Japanese economy	1.3%	1.4%	0.9%	0.7%	0.6%	4.9%

3. What level of impact do you think each of the following technologies will bring to your economy in the upcoming 5 years?

	None	Minor	Moderate	Serious	Very serious	Don't Know/	Weighted score
Big Data and predictive analytics	1.4%	6.0%	19.5%	32.0%	36.9%	4.3%	3.8
Mobile-based payment systems	0.9%	10.7%	27.7%	32.5%	25.5%	2.8%	3.6
Cloud-based computing	1.1%	12.5%	34.7%	27.2%	18.3%	6.2%	3.3
Artificial Intelligence	4.4%	15.8%	26.6%	28.6%	19.0%	5.5%	3.3
Advanced robotics	5.6%	18.0%	28.8%	28.1%	15.5%	4.0%	3.2
Automation (e.g. automated cars)	5.6%	17.8%	32.8%	27.1%	12.8%	3.9%	3.1
3D printing and manufacturing	3.7%	22.0%	34.1%	24.5%	11.8%	4.0%	3.1
Human-machine interface	5.8%	17.3%	32.9%	24.6%	12.0%	7.5%	3.0
Augmented reality (AR) and virtual reality (VR)	8.1%	25.3%	30.2%	20.7%	7.1%	8.7%	2.7
Blockchain	1.7%	17.5%	30.7%	20.9%	8.7%	20.6%	2.6

4. How important do you think the following areas are as concerns about the growth of the digital economy?

	1-Not at all important	2-Slightly important	3-Moderately important	4-Very important	5-Extremely important	Don't Know/ Unsure	Weighted score
Growth of cyber security problems	0.2%	2.6%	12.1%	33.7%	49.6%	1.8%	4.2
Data privacy	0.6%	6.2%	15.7%	32.6%	42.8%	2.1%	4.0
Insufficient regulations	2.5%	10.3%	22.2%	34.6%	28.8%	1.7%	3.7
Consumer fraud	1.7%	13.5%	22.7%	32.1%	28.1%	2.0%	3.7
Will create job losses and adjustment problems	3.8%	15.7%	26.9%	28.3%	22.9%	2.3%	3.4
Tax avoidance and leakage	4.8%	17.2%	30.7%	27.4%	16.9%	2.9%	3.3
May accelerate income gaps	6.8%	13.9%	31.4%	27.7%	16.9%	3.3%	3.2

5. How important do you think the following areas are as benefits of the digital economy?

	Not at all important	Slightly important	Moderately important	Important	Very important	Don't know	Weighted Score
Growth in productivity	1.7%	3.5%	15.0%	36.8%	42.1%	0.9%	4.1
Access to larger markets – especially for micro and small and medium enterprises	0.8%	4.9%	15.5%	35.9%	41.4%	1.5%	4.1
Increased consumer choices	0.9%	6.9%	20.2%	42.4%	28.5%	1.1%	3.9

	Not at all important	Slightly important	Moderately important	Important	Very important	Don't know	Weighted Score
More customized products and services	0.8%	7.1%	23.3%	40.9%	26.1%	1.8%	3.8
New job opportunities in my economy	1.8%	7.0%	23.5%	40.9%	25.6%	1.1%	3.8
Cheaper products and services	1.4%	10.0%	28.2%	34.8%	23.9%	1.7%	3.6

6. How important do you think the following areas are for the growth of the digital economy?

	Not at all important	Slightly important	Moderately important	Important	Very important	Don't know	Weighted Score
Data protection	0.5%	2.1%	24.5%	8.2%	62.6%	2.1%	4.2
Digital infrastructure	0.3%	1.5%	31.1%	8.6%	56.9%	1.7%	4.2
Data privacy	0.3%	4.0%	30.5%	10.7%	52.7%	1.8%	4.1
Universal broadband access	0.0%	3.2%	34.5%	17.3%	42.3%	2.6%	3.9
Digital literacy	0.9%	4.3%	31.3%	20.1%	39.9%	3.5%	3.8
Interoperability of platforms through common standards	0.3%	2.4%	40.9%	15.4%	36.3%	4.7%	3.7
Seamless cross-border data flows	0.6%	4.0%	36.8%	25.3%	29.5%	3.8%	3.7
Holistic (whole-of-government) government policy frameworks	0.9%	4.7%	37.6%	22.6%	30.8%	3.4%	3.7
Regulatory equivalence to promote mutual recognition	1.7%	4.6%	40.4%	25.0%	24.2%	4.1%	3.5
Online dispute resolution mechanisms	2.3%	9.1%	35.8%	26.5%	22.2%	4.0%	3.4
Standardized digital economy measurements	1.9%	8.0%	39.0%	24.9%	20.4%	5.7%	3.4
Common application of sales taxes (ie VAT, GST) to cross-border goods and services delivery	2.6%	15.0%	34.0%	25.8%	18.4%	4.2%	3.3
Digital IDs	1.5%	9.4%	35.8%	25.7%	19.1%	8.5%	3.3
Open data programs	1.2%	8.3%	36.2%	27.7%	17.3%	9.3%	3.2
De minimis levels of trade (i.e. a valuation ceiling for goods and services below which no duty is charged)	2.8%	11.6%	32.8%	30.9%	11.1%	10.8%	3.0

7. How do you think the digital economy is likely to impact the number of the following types of jobs in your economy?

	Decrease greatly	Decrease slightly	Stay the same	Increase slightly	Increase greatly	Don't know	Total
Managers	3.3%	18.2%	36.2%	29.2%	10.7%	2.5%	100.0%
Professionals (e.g. doctors, teachers, lawyers)	1.7%	11.4%	46.5%	26.8%	11.6%	2.0%	100.0%
Technicians and associate professionals	1.2%	13.8%	18.2%	40.2%	24.8%	1.7%	100.0%
Clerical support workers	21.6%	35.7%	18.3%	13.3%	8.0%	3.1%	100.0%
Service and sales workers	13.1%	34.8%	21.9%	17.3%	11.7%	1.1%	100.0%
Skilled agricultural, forestry and fishery workers	3.2%	15.8%	51.5%	20.4%	5.6%	3.6%	100.0%
Craft and related trades workers (e.g. builders; machine workers; handcraft and food processing)	5.4%	22.3%	40.5%	23.5%	5.9%	2.5%	
Plant and machine operators, and assemblers	14.9%	34.5%	21.4%	17.7%	9.4%	2.2%	
Elementary occupations (e.g. cleaners; agriculture, fishing and mining workers)	8.0%	25.9%	44.2%	13.7%	4.9%	3.2%	

8. Please indicate your agreement or disagreement with the following statements:

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	Don't know	Weighted score
APEC is as important or more important today compared to 1989 when it was created	1.5%	10.3%	19.6%	39.9%	27.0%	1.7%	4.3
APEC should focus its work on trade policy to achieving a Free Trade Area of the Asia-Pacific (FTAAP)	0.9%	4.6%	14.4%	44.6%	33.5%	2.0%	4.1
APEC should expand its membership	2.9%	12.5%	30.3%	30.1%	19.9%	4.3%	4.2

9. How do you assess the political environment for freer trade and investment today? Please tick the box that best fits your assessment.

	1-Very negative	2-Negative	3-Neither positive nor negative	4-Positive	5-Very positive	Don't know	Weighted score
Response	4.6%	47.0%	21.7%	21.5%	4.2%	0.9%	4.0

10. Please state your view on the following statements by ticking the appropriate box:

	1 year	2-5 years	Never	Don't know	Total
The Regional Comprehensive Economic Partnership negotiations will be completed in:	5.6%	65.0%	7.9%	21.5%	100.0%
The Trans-Pacific Partnership will go ahead without the US in:	9.9%	48.7%	20.6%	20.8%	100.0%

11. Do you think the US will rejoin the Trans-Pacific Partnership?

	No	Yes	Yes, but under a different name	Don't know	Total
Response	26.0%	20.2%	37.9%	15.8%	100.0%

12. What do you think should be the top 5 priorities for APEC Leaders to address at their upcoming meeting in Danang? Please select ONLY five (5) issues, using a scale of 1-5, please write 1 for the issue you think is most important, 2 for the next most important issue, 3 for the third most important, 4 for the fourth most important and 5 for the fifth most important.

	5	4	3	2	1	Score
Promoting sustainable, innovative and inclusive growth through the APEC growth strategy	7.5%	6.0%	7.5%	8.0%	8.4%	1.2
The emergence of anti-globalization & anti-trade sentiments	8.6%	6.1%	3.8%	7.8%	10.3%	1.2
Progress towards the Bogor Goals and the Free Trade Area of the Asia-Pacific (FTAAP)	5.5%	6.0%	7.1%	4.9%	9.7%	1.1
Improving economic, financial and social inclusion in the region	7.2%	6.3%	6.3%	5.7%	6.0%	0.9
Formulating a vision to drive APEC's work beyond 2020	6.1%	4.3%	4.9%	5.4%	5.8%	0.8
The development of a regional digital economy framework	2.6%	5.7%	5.2%	5.5%	5.1%	0.8
Investing in human capital development in the digital age	5.2%	5.1%	4.3%	5.2%	4.6%	0.7
Climate change cooperation	5.5%	3.4%	5.5%	5.4%	4.3%	0.7
The implementation of APEC's agenda on structural reforms	5.8%	5.7%	4.1%	4.1%	4.1%	0.7
Strengthening MSMEs' competitiveness and innovation in the digital age	3.7%	5.4%	5.2%	5.1%	2.3%	0.6
Developing a major initiative on the internet/digital economy	3.7%	5.7%	6.4%	3.4%	2.5%	0.6
Reducing corruption	4.9%	4.0%	4.1%	3.8%	3.5%	0.6
Combatting terrorism	3.5%	5.5%	3.1%	3.5%	3.1%	0.5
Tackling youth unemployment	3.2%	3.8%	3.1%	3.5%	2.6%	0.5
Combatting cybersecurity	2.0%	2.9%	3.8%	3.2%	2.9%	0.5

ANNEX B: RESULTS OF ASIA-PACIFIC POLICY COMMUNITY SURVEY

	5	4	3	2	1	Score
Enhancing food security and sustainable agriculture in response to climate change	4.0%	2.6%	3.7%	3.4%	2.0%	0.4
Improving women's full participation in the economy	2.5%	2.8%	3.1%	2.8%	2.9%	0.4
Progress on the APEC Connectivity Blueprint	2.0%	2.6%	3.5%	3.4%	2.3%	0.4
Implementation of the APEC Roadmap on Services Competitiveness	2.6%	4.3%	3.4%	2.0%	2.5%	0.4
The development of regional financial systems	2.3%	2.5%	2.5%	3.1%	2.8%	0.4
Expanding of APEC membership	3.8%	2.0%	2.3%	1.4%	3.2%	0.4
Building political support on key issues for the WTO Ministerial	2.5%	2.6%	1.8%	3.1%	2.1%	0.4
The reform of regional institutional architecture	2.1%	1.7%	1.5%	2.3%	2.9%	0.3
Enhancing energy security	1.8%	1.7%	2.1%	2.5%	2.5%	0.3

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ISBN: 978-981-11-5436-2