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Advancing Free Trade
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Exploring Quantitative Indicators for Effective Monitoring of APEC-wide Progress on Structural Reform under RAASR 2016-2020

APEC Policy Support Unit

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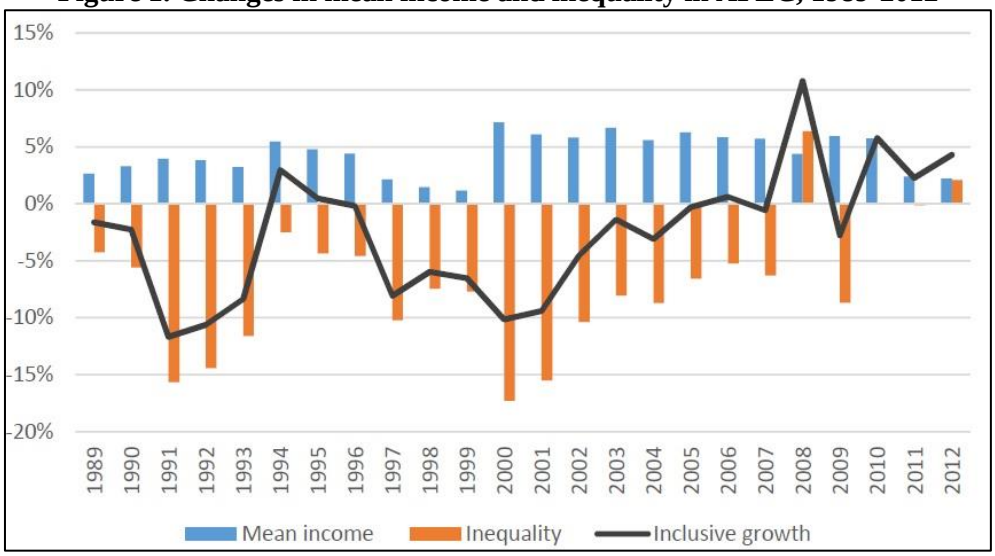
1. INTRODUCTION

Continued uncertainties surrounding the global economy have led to strong calls that governments of APEC member economies collectively undertake concrete actions to overcome these challenges. Adding to the gloomy environment is the observation that despite the fall in absolute poverty and increase in average income per capita in the region, benefits of economic growth have generally been shared unevenly, with widening disparities between the poor and the rich. Analysis of the change in mean income and inequality for the region since APEC's inception in 1989 to 2012 showed that although mean household incomes have been increasing throughout the period, inequality has also been growing in most cases (Figure 1). Concurrently, there are also new opportunities brought about by developments in areas such as services and digital trade, which can potentially lead to more inclusive growth by allowing the participation of wider segments of society.

Figure 1. Changes in mean income and inequality in APEC, 1989-2012



Note: A negative growth rate for inequality means an increase in inequality while a positive growth rate means a decrease in inequality. Aggregate growth rates are averages of economy-level growth rates weighted by population.
Source: San Andres and Wirjo (2015).

Against this backdrop has been the push for 'structural reform' but what exactly is structural reform? The European Commission defines structural reforms as a "wide range of measures that are aimed at tackling obstacles to the fundamental drivers of growth by liberalizing labour, product and service markets, thereby encouraging job creation and investment and improving productivity."[1] The International Monetary Fund (IMF)'s definition is fairly similar, indicating that "structural reforms are measures that aim to raise productivity by improving the technical efficiency of markets and institutional structures, or by reducing impediments to the efficient allocation of resources."[2] Recognizing differences in the levels of development of its member economies, APEC has a broader view of structural reform, defining it as "policy change related to institutional frameworks, regulation and design of government policy, so barriers to market-based incentives, competition, regional economic integration and improved economic performance are minimized" (PSU, 2011; APEC Secretariat, 2013).

Amidst the variations in definition is the fundamental idea that structural reforms, if implemented properly and correctly, can potentially boost economic efficiency and set the economy on a relatively higher growth path. In the context of APEC, a study conducted in 2011 showed that structural reforms

[1]http://ec.europa.eu/economy_finance/structural_reforms/index_en.htm
[2]http://www.imf.org/external/pubs/ft/survey/so/2015/POL110915A.htm

in several backbone services sectors including transport, energy and telecommunications could generate additional real income of US$ 175 billion a year (in 2004 dollars) after a 10-year adjustment period. Productivity improvements associated with these reforms fall in the range of between 2 and 14 percent, hence ensuring sustainable economic growth. In addition, it was indicated that potential gains from structural reforms could be almost twice than those possibly achieved through further liberalization of goods trade.

1.1. Evolution of Structural Reform Initiatives in APEC

APEC's structural reform activities began in 2004 with the adoption of the Leaders' Agenda to Implement Structural Reform (LAISR). To a certain extent, LAISR could be argued as one of APEC's attempts to tackle structural and regulatory obstacles which act as behind-the-border barriers to trade amidst diminishing tariffs and other trade barriers at the border. It identified five priorities for economies to focus on through to 2010; namely, regulatory reform, competition policy, corporate governance, public sector governance and economic and legal infrastructure. A stock-take undertaken in 2010 showed that economies have made progress across all five areas although regulatory reform appeared to be the one where progress was most significant[3].

Acknowledging that structural reform is a continuous process that has to adapt to an ever-changing economic landscape and to overcome new challenges, APEC Leaders adopted the APEC New Strategy for Structural Reform (ANSSR) in 2010. ANSSR expanded the scope of structural reform work beyond the five priorities identified in LAISR and categorized actions by individual members in terms of broader pillars aimed at promoting: 1) more open, well-functioning, transparent, and competitive markets; 2) labour market opportunities, training, and education; 3) sustained SME development and enhanced opportunities for women and vulnerable populations; 4) effective and fiscally sustainable social safety net programs; and 5) better functioning and effectively regulated financial markets. ANSSR, which ran to 2015, was also not prescriptive in terms of its approach to structural reform by leaving each economy to identify its own priorities.

The final review of ANSSR[4] indicated that member economies remain committed to structural reform efforts. They undertook hundreds of individual projects, including capacity-building activities with majority of them focusing on the competitive market and labour market pillars. Despite the efforts, the report mentioned that progress was more difficult to identify, pointing to the formats of reporting which mixed project descriptions and measures as one of the contributing factors. It made several recommendations to be considered for the next cycle of structural reform activities in APEC. Specifically on measurements, it was recommended that economies focus on policy indicators where possible and include a set of baseline measures against which to measure progress.

1.2. Renewed APEC Agenda for Structural Reform (RAASR)

In an effort to further consolidate and streamline APEC's structural reform work and drawing on progress as well as lessons learnt under LAISR and ANSSR, APEC's Structural Reform Ministers convened and set forth RAASR (2016-2020) in September 2015.[5] Both the opportunities and challenges presented by the current economic landscape have certainly added to the urgency that APEC's structural reform agenda continues and more importantly, remains responsive and economically relevant to 2020 and beyond. Specifically, RAASR identified three pillars that could act as guideposts for the nomination of concrete reform actions by individual economies, namely: 1) more open, well-functioning, transparent and competitive markets; 2) deeper participation in those markets by all segments of society, including micro, small and medium enterprises (MSMEs), women, youth, older workers, and people

[3]http://publications.apec.org/publication-detail.php?pub_id=1153
[4]http://publications.apec.org/publication-detail.php?pub_id=1668
[5]http://www.apec.org/Meeting-Papers/Sectoral-Ministerial-Meetings/Structural-Reform/2015_structural.aspx

with disabilities; and 3) sustainable social policies that promote the above-mentioned objectives, enhance economic resilience, and are well-targeted, effective, and non-discriminatory.

A mid-term and final review of RAASR will be conducted in 2018 and 2020, respectively. APEC Senior Officials have tasked the Economic Committee (EC) to work with the APEC Policy Support Unit (PSU) to develop a set of quantitative indicators to monitor RAASR. The objective of this report is to propose possible external baseline indicators to be used to monitor APEC-wide progress on structural reform under RAASR. The report is structured as follows: Chapter 2 provides general overview of how the review process of RAASR can possibly be conducted as well as the thought process behind the identification of the proposed external indicators. Chapter 3 lists these indicators and provide additional details for each, including the relevant RAASR pillars addressed by the indicator, possible actions at economy level that may impact the indicator, its strengths and limitations. Finally, Chapter 4 concludes the report.

2. TRACKING PROGRESS OF RAASR

Monitoring the progress and impact of structural reform is not an easy endeavour, particularly if a series of actions are required to achieve the desired outcome. While each action is necessary and a move in the right direction, it is not sufficient to achieve the intended objective. Sometimes, actions may also negate one another although each is undertaken with good intentions in mind. The challenge is often compounded by the tendency of not identifying the correct baseline measures in the beginning of structural reform efforts where future progress can be tracked. Without baseline measures, it is difficult to determine if situations have improved, remained the same or regressed following actions undertaken by economies.

To better track progress achieved by economies under RAASR, a two-part review process is proposed. This review process is proposed based on the need to balance two perspectives: 1) the range of concrete actions identified are likely to be along a very wide spectrum given the different level of development and priorities of individual economies and it is important to monitor their progress individually; 2) at the same time, APEC-wide progress on structural reform should be monitored and analysed to consider other aspects which are over and beyond concrete actions identified by economies.

A mix of specific and broad indicators would be useful for the review process as each group has its strengths and limitations and, therefore, serve to complement one another. Specific indicators will allow tracking of individual actions and can be as simple as whether a particular action has been undertaken or not. It can also measure the extent through which a particular action has been implemented. For example, if one of the actions proposed by an economy to facilitate deeper youth participation in the labour markets is the implementation of more technical vocational education training (TVET) programmes targeted towards the youth, a good starting indicator would perhaps be the number of institutions that are currently providing such programmes categorized by industry sector. Another related indicator would be the number of youths who attended and completed each TVET programme successfully. Tracking just these two indicators would already provide policymakers with several information such as: 1) the industry sectors that majority of the existing TVET programmes cater to; 2) the sectors that are underserved by existing TVET programmes; and 3) the uptake rate of TVET programmes.

Policymakers can then utilize them to formulate more targeted actions and hence start at a better position than the situation without indicators. In fact, these indicators would also provide the basis for tweaking structural reform efforts for optimum outcome as they progress. For instance, if the number of institutions providing TVET programmes has increased relative to that prior to RAASR and yet, the number of youths who attended and completed TVET programmes has remained the same, then perhaps more efforts should be allocated to providing youths with information on the existence of such opportunities. Another possibility can be financial barriers for attending the programmes, in which case economies may want to explore the possibility of providing scholarships to needy students to increase uptake.

However, specific indicators are not without their limitations and one would be their inability to provide broader implications at the economy level; i.e., if individual actions are making positive economy-wide impact. The two indicators given as examples above are certainly informative at the level of individual action but may not be very useful in determining whether implementing more TVET programmes for the youth has led to their deeper participation in the labour market. For the latter, monitoring broader indicators such as youth unemployment would be better and may provide additional information to complement specific indicators. For instance, high youth unemployment despite the availability of more TVET programmes could be an indication of mismatch between the skills taught by the programmes and those needed by the industry and, correspondingly, the need to involve industry in curriculum

formulation. It could also be due to the small scale of the TVET programmes, which points to the need to possibly upscale it once the concept has been proven.

Assessing only the broader indicators is not the way to go as well. Youth unemployment, for example, may have exacerbated by a lack of skills training programmes targeted towards the youth but may also have been due to other factors such as expectations of higher salary among youths and preference for more experienced workers among employers. Without specific indicators to complement broader ones, there may be attribution issues and it would be challenging to identify exactly what have been accomplished and therefore pinpoint what else needs to be done. In addition, some broader indicators take time to respond and adjust to ongoing reform efforts and, therefore, may have only changed marginally over the assessed period. Last but not least, these indicators may not be released in a timely manner.

2.1. Economy-level Individual Action Plans (IAPs)

To implement RAASR, economies will develop individual action plans (IAPs) which set forth its structural reform priorities and corresponding actions to be undertaken to advance these priorities. A crucial part of this development process is the identification of baseline indicators (i.e. quantitative and/or qualitative) to monitor progress and impact of specific action. Each economy is in the best position to identify them because, as its formulator, it will be able to determine indicators that have the highest level of linkage with these actions as well as their availability, frequency and source among others. One part of the review process will involve assessing these indicators and comparing them to the baseline situations/measures to determine the progress made by individual economy in terms of actions and related impact under RAASR, specifically at IAP level.

2.2. APEC-wide Indicators

The second part of the review process will be to analyse progress that can be compared across economies and consequently, aggregated at an APEC-wide level. The objective of this report is to propose possible external baseline indicators to be employed for this endeavour. An underlying assumption used in the identification of these indicators is: considering the various structural reform efforts undertaken by the economy (regardless of whether they are identified in the IAPs), what can potentially be tracked and compared across economies and at an APEC-wide level?

The level of analysis means that several criteria should be taken into consideration when proposing these indicators. Firstly, while the inclusion of more indicators generally leads to the availability of more information to assess progress, the collection of too many indicators may become overly burdensome and unwieldy. Therefore, there is a need to balance the number of proposed indicators and the intent to provide as much information as possible.

Secondly, there is also a need to balance the relevance of indicators and their coverage in terms of number of economies and years where data is available. An indicator may be very relevant but if it is only available for several economies, then monitoring APEC-wide progress using this indicator may not be very useful as it may not be reflective of the region as a whole. Conversely, there are indicators which have wider coverage in terms of economies but may be less relevant in giving a progress snapshot in areas with linkages to the RAASR.

Thirdly, there is a need to include different types of indicators as they serve different purposes and can complement one another. For example, hard data is based on quantitative measurements while soft data is based on perceptions and perhaps can point to implementation issues on the ground. There are also policy vis-à-vis outcome indicators whereby the former are generally within the control of policymakers, while the latter may be affected by factors beyond the control of policymakers.

Finally, priority is placed on identifying indicators for evaluating inclusiveness of structural reform policies, which to a certain extent is the intent of the second pillar of RAASR; i.e., ensuring deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities in the goods, services and labour markets.

There is no prescriptive hierarchy by which proposed indicators are selected and none of the above criteria are mutually exclusive. In proposing indicators listed in Chapter 3, all the above criteria have been considered.

It should also be noted that the proposed indicators are not exhaustive and hence will not be able to cover all possible impacts that may arise from structural reform efforts. However, they provide a good snapshot of progress in certain areas or topics with linkages to the RAASR pillars and, hopefully, encourage deeper policy discussions.

3. PROPOSED INDICATORS

The list of 17 proposed indicators and associated RAASR pillars are listed in Table 1 below. All indicators can be associated to the pillar on "deeper participation by all segments of society including MSMEs, women, youth, older workers, and people with disabilities", fulfilling the instructions from Ministers that priority be placed on identifying indicators for evaluating inclusiveness of structural reform policies. Ten of the indicators are associated with the pillar on "more open, well-functioning, transparent and competitive markets," while five are associated with the pillar on "sustainable social policies that promote the other pillars, enhance economic resilience, and are well-targeted, effective and non-discriminatory."

Majority of the indicators can be associated with more than one RAASR pillar. As an illustration, the World Bank Ease of Doing Business is both an indicator of market competitiveness and how easy various stakeholders can deepen their participation in the market. The UNESCO Tertiary Gross Enrolment Ratio can be used to infer about an economy's education policy as well as the general level of education of its population and, therefore, their ability to participate in the market.

Ten indicators can be considered as policy indicators. Of these, five indicators—namely, World Bank Ease of Doing Business, OECD Economy-wide Product Market Regulation, OECD FDI Regulatory Restrictiveness Index, OECD Services Trade Restrictiveness Index, and World Bank Indicators on Women, Business and the Law—are based partly or mostly on assessment of economies' policy framework, while the other five indicators—World Economic Forum Indicators for Business Sophistication and Innovation, for Labour Market Efficiency, for Financial Market Efficiency, for Basic Services and Infrastructure and for Fiscal Transfers—are mainly based on perceptions and hence can provide insights on how policies are perceived by relevant stakeholders. The remaining seven are outcome indicators, such as The Conference Board Labour Productivity per Person Employed, ILO Share of Youth Unemployment and UNESCO Tertiary Gross Enrolment Ratio, which are important to provide insights on how far an economy and APEC are achieving their objectives when implementing certain policies such as those with the intent to lower youth unemployment. In terms of coverage, data of all proposed indicators are available for at least half of APEC member economies since 2011.[6]

There are several general caveats on these proposed indicators. Firstly, assuming that actions at individual economy level can affect the indicator, it may take time for the outcome of these actions to be captured by the indicators. The effect of policies to lower youth unemployment, for example, is unlikely to be seen quickly considering the need to put in place TVET programmes, perhaps building training institutes, hiring trainers, training youth, etc. Furthermore, actions may be too surgical for their impact to be observed economy-wide. In addition, even if there is a change in the values of the indicator, there may be attribution issues in that the change may have been contributed by actions other than those identified by economies. Moreover, when a change in the values of the indicator is observed, it may not be reflective of APEC as a whole considering that some indicators are only available for certain member economies. Next, frequency and delay in the release of indicators may affect assessment of progress at certain stages of RAASR. Last but not least, there may be a change in methodology for determining the values of these indicators over time, making it problematic to compare values across years.

To provide more detailed information on the proposed indicators, this chapter has been structured such that for each indicator, the following information are provided: 1) source; 2) what does it tell us?; 3) linkage to specific RAASR pillars; 4) possible actions at the economy level that may impact the indicator; 5) strengths of the indicator; 6) limitations of the indicator; 7) coverage and additional information[7]; and 8) analysis.

[6] The only exception is for OECD Economy-wide Product Market Regulation where data availability is assessed from 2008 onwards since they are collected every 5 years and latest year is 2013.

[7]Specifically on coverage, there are economies whose data used to be available previously but not anymore in recent years. In this report, an economy is regarded as being covered by the indicator if it has at least one data point since 2011.

Table 1. Proposed indicators and associated RAASR pillars

No.	Proposed indicator	More open, well-functioning, transparent and competitive markets	Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	Sustainable social policies that promote the other pillars, enhance economic resilience, and are well-targeted, effective and non-discriminatory
1	World Bank Ease of Doing Business Distance to Frontier	✓	✓	
2	OECD Economy-wide Product Market Regulation	✓	✓	
3	OECD FDI Regulatory Restrictiveness Index	✓	✓	
4	OECD Services Trade Restrictiveness Index	✓	✓	
5	The Conference Board Labour Productivity per Person Employed	✓	✓	
6	WEF Global Competitiveness Indicators for Business Sophistication and Innovation	✓	✓	
7	ILO Employment to Population Ratio		✓	
8	ILO Share of Youth Unemployment		✓	
9	ILO Labour Force Participation Rate for Age Group 65+		✓	
10	World Bank Indicators on Women, Business and the Law		✓	
11	WEF Global Competitiveness Indicators for Labour Market Efficiency	✓	✓	
12	WEF Global Competitiveness Indicators for Financial Market Efficiency	✓	✓	
13	UNESCO Tertiary Gross Enrolment Ratio		✓	✓
14	WEF Inclusive Growth and Development Indicators for Basic	✓	✓	✓

	Services and Infrastructure			
15	WEF Inclusive Growth and Development Indicators for Fiscal Transfers	✓	✓	✓
16	UNESCO Pupil-Teacher Ratio		✓	✓
17	World Bank and OECD Physicians Per 1,000 People		✓	✓

Source: Compilations by APEC Policy Support Unit (PSU).

3.1. World Bank Ease of Doing Business Distance to Frontier

3.1.1. Source

http://www.doingbusiness.org/data

3.1.2. What does it tell us?

- Ease of Doing Business (EoDB) analyzes the regulations and regulatory processes involved in setting up and operating a business.
- Specifically, it focuses on regulations affecting small and medium-size enterprises (SMEs) that are operating in the largest business city of an economy[8].
- The distance to frontier score measures the gap between an economy's performance and a measure of best practice across the entire sample of indicators, where 100 is the frontier and 0 is furthest from the frontier.
- Ten areas included in the distance to frontier score are: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, and resolving insolvency.

3.1.3. Linkage to specific RAASR pillars

Pillars	Reasons
More open, well-functioning, transparent and competitive markets	• The regulations and regulatory processes monitored by EoDB often lead to improvement efforts by economies, resulting in more open, well-functioning and competitive markets over time. • Even in the absence of improvements, it makes regulations and hence markets more transparent.
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• Its focus on regulations affecting SMEs can inform policymakers on areas requiring improvements and may potentially facilitate their deeper participation in the markets.

3.1.4. Possible actions at the economy level that may impact indicator

- Issuing electronic approval letters for the purpose of establishing a business.
- Eliminating requirement to deposit charter capital prior to company registration.
- Establishing credit bureau to improve credit information system.
- Simplifying trading procedures.
- Introducing electronic litigation system to streamline litigation proceedings.

3.1.5. Strengths of the indicator

- One strong point of EoDB indicators is its comparability across economies because of the use of standardized case scenarios where assumptions are well-specified.
- Deeper analysis of data from sub-indicators can help economies to identify areas requiring improvements and consequently propose reform agendas. Indeed, APEC has its EoDB initiative which has recently been renewed until 2018.
- Related to the point above is that some of EoDB indicators are based on reading of the law and therefore can be acted upon since it is within the control of policymakers.

[8]Since DB2014, there are 6 APEC member economies where data from the second largest business city are also collected. These economies have a population of more than 100 million as of 2013.

3.1.6. Limitations of the indicator

- While ensuring comparability across economies, standardized case scenarios are not necessarily applicable to all economies since they may not reflect the reality on the ground.
- In the quest for global coverage, EoDB indicators need to be informative and yet, mindful of the constraints of data collection. Hence, there may be aspects of business environment worth collecting but not collected.
- Information pertains to largest business city of an economy (or first and second largest business cities for an economy with a population of more than 100 million as of 2013) and therefore may not be applicable throughout the economy.
- Since methodology is regularly revised and improved, comparability across years may be an issue.

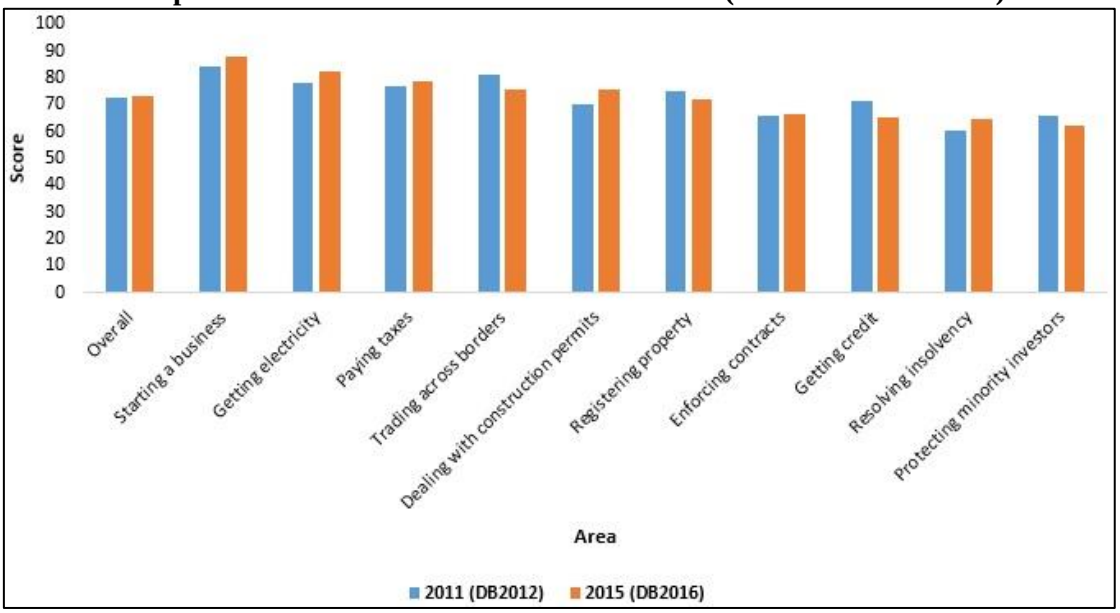
3.1.7. Coverage and additional information

Economies covered (since DB2012)	21 (AUS; BD; CDA; CHL; PRC; HKC; INA; JPN; ROK; MAS; MEX; NZ; PNG; PE; PHL; RUS; SGP; CT; THA; USA; and VN)
Latest available year	DB2016
Frequency	Annual

Note: DB refers to Doing Business Report.

3.1.8. Analysis

Comparison of APEC distance to frontier scores (DB2012 and DB2016)



Note: APEC score is the average score of 21 economies as indicated in section 7. Despite the use of only data from the largest business city, DB2012 and DB2016 are not exactly comparable due to change in methodology over time.
Source: APEC PSU computations based on data from World Bank (accessed 19 May 2016).

APEC overall distance to frontier score has improved from 72.8 in DB2012 to 73.1 in DB2016. There are improvements in all areas except trading across borders, registering property, getting credit and protecting minority investors. The three areas with most improvements over the assessed period are dealing with construction permits, getting electricity and resolving insolvency[9].

[9] Note that the change in values may have also been partially contributed by change in methodology.

3.2. OECD Economy-wide Product Market Regulation

3.2.1. Source

http://www.oecd.org/eco/growth/indicatorsofproductmarketregulationhomepage.htm#indicators

3.2.2. What does it tell us?

- Product Market Regulation (PMR) indicators provide the extent through which policies encourage or discourage competition in areas of product market for both goods and services sectors.
- Economy-wide PMR is created through a bottom-up approach and starts with information on regulatory structures and policies collected via questionnaire sent to economies. Responses are then coded and normalized on a zero to six scale, where lower value indicates regulatory stance that is more competition-friendly.
- Areas covered by PMR include: state control (comprising of public ownership, and involvement in business operations), barriers to entrepreneurship (comprising of complexity of regulatory procedures, administrative burdens on start-ups, and regulatory protection of incumbents), and barriers to trade and investment (comprising of explicit barriers to trade and investment, and other barriers to trade and investment).

3.2.3. Linkage to specific RAASR pillars

Pillars	Reasons
More open, well-functioning, transparent and competitive markets	• In capturing regulations that limit the activities of both domestic and foreign firms, PMR allows policymakers to identify areas of improvements and hence potentially lead to more open, well-functioning, transparent and competitive markets.
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• Improving existing regulations may potentially facilitate deeper participation by segments of society that previously were excluded from certain markets.

3.2.4. Possible actions at the economy level that may impact indicator

- Reducing government's involvement in some sectors through equity stakes, control of firms and special voting rights.
- Streamlining the procedures to start a business.
- Improving the transparency and accessibility of regulations.
- Engaging in Mutual Recognition Agreements (MRAs) in certain sectors with other economies.
- Improving the system of assigning exclusive or shared exclusive rights for the provision of specific tasks such as testing and certification to certain professions.

3.2.5. Strengths of the indicator

- OECD mentioned that indicators are consistent across time and economies.
- PMR indicators show 'de-jure' policy settings because they are based on laws and regulations rather than perceptions/opinions of market participants.
- The indicators are accompanied with underlying database containing responses to the OECD questionnaire by economy and therefore, provides economies with clear information of what needs to be done to improve their scores.

3.2.6. Limitations of the indicator

- Informal regulatory practices may not be captured or are only captured to a limited extent.

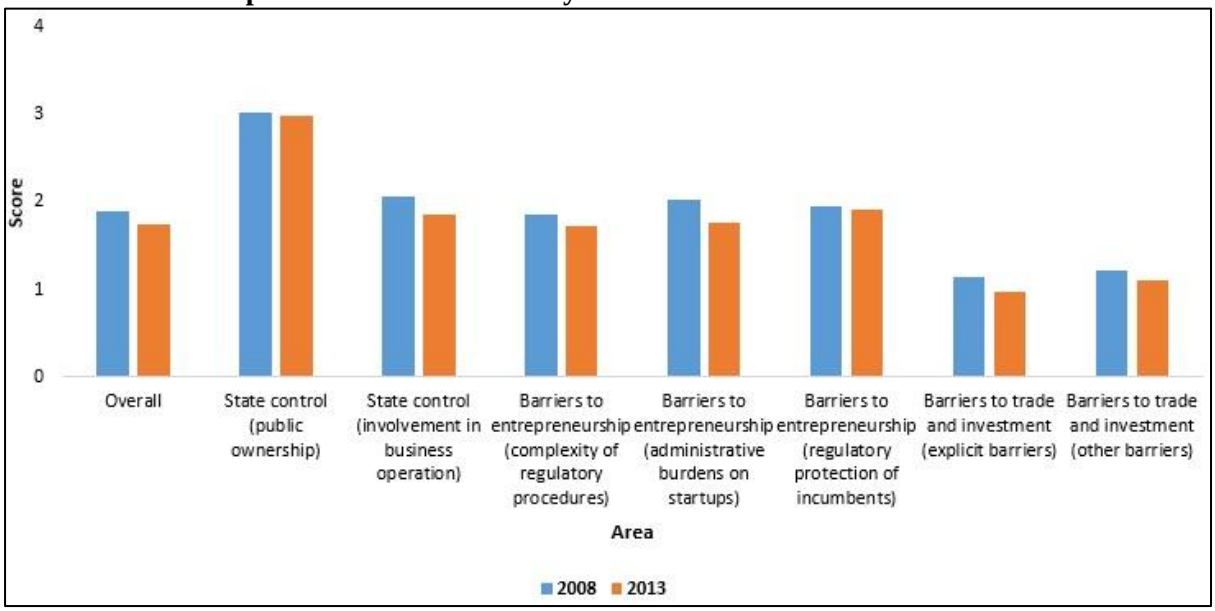
- While OECD had attempted to make the indicators consistent across years and economies despite methodological change, this may not be the case for future updates.
- Indicators appear to be only updated every 5 years and not for all economies covered.
- Indicators do not cover all APEC economies. Even for economies that are included, indicators may be missing in certain years due to questionnaire response rate falling below threshold value of two-thirds.

3.2.7. Coverage and additional information

Economies covered (since 2008)	11 (AUS; CDA; CHL; PRC; INA; JPN; ROK; MEX; NZ; RUS; and USA)
Latest available year	2013 (All except INA and USA: 2008)
Frequency	Every 5 years

3.2.8. Analysis

Comparison of APEC economy-wide PMR scores in 2008 and 2013



Note: APEC score is the average score of 11 economies as indicated in section 7. For 2013 average scores, 2008 scores are used for INA and USA.
Source: APEC PSU computations based on data from OECD (accessed 19 May 2016).

It can be seen that APEC scores have decreased between 2008 and 2013, indicating that the region is becoming more competition-friendly. Two areas with most improvements over the period are administrative burdens on startups and state's involvement in business operation, while two areas with least improvements are public ownership and regulatory protection of incumbents.

3.3. OECD FDI Regulatory Restrictiveness Index

3.3.1. Source

http://www.oecd.org/investment/fdiindex.htm

3.3.2. What does it tell us?

- FDI Regulatory Restrictiveness Index (FDI RRI) analyzes statutory restrictions on foreign direct investment (FDI) in various economies.
- It covers many sub-sectors within primary, manufacturing and services sectors.
- Although FDI RRI only measures one of the many elements determining the investment climate, it is among the most important element since more restrictive economies tend to receive less FDI when controlled for economy size.
- 4 types of restrictions on FDI are captured, namely: foreign equity limitations, screening or approval mechanisms, restrictions on the employment of foreigners as key personnel, and operational restrictions.
- Score for each sub-sector is obtained by adding the scores for the 4 types of restrictions and is capped at a value of 1, which is the most restrictive.
- While the main criterion in assigning score to each measure is whether or not it is discriminatory, measures considered non-discriminatory are covered too if they burden foreign investors.

3.3.3. Linkage to specific RAASR pillars

Pillars	Reasons
More open, well-functioning, transparent and competitive markets	• FDI RRI enables policymakers to potentially improve regulations pertaining to FDI because it provides the linkage between qualitative information gleaned from the regulations and the score. Consequently, this may eventually lead to more open, well-functioning, transparent and competitive markets.
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• Improvements in regulations are likely to attract more FDI and facilitate deeper participation in the markets by various segments of the society.

3.3.4. Possible actions at the economy level that may impact indicator

- Raising foreign equity limits and allowing foreign participation in various sectors.
- Amending regulations to facilitate the purchase of land.
- Increasing the threshold amount of investment below which automatic approval will be granted.
- Doing away with requirements for economic needs test prior to employing foreign personnel in certain sectors.
- Removing restrictions on profit/capital repatriation.

3.3.5. Strengths of the indicator

- Indicator attempts to give scores depending on the scope of measures, theoretically providing greater details on the exact areas needing improvements.
- The large number of sub-sectors enable more targeted response by policymakers and consequently, finer tracking of progress over time.
- Consistency of sources of information.

3.3.6. Limitations of the indicator

- Actual enforcement/implementation issues are not reviewed.

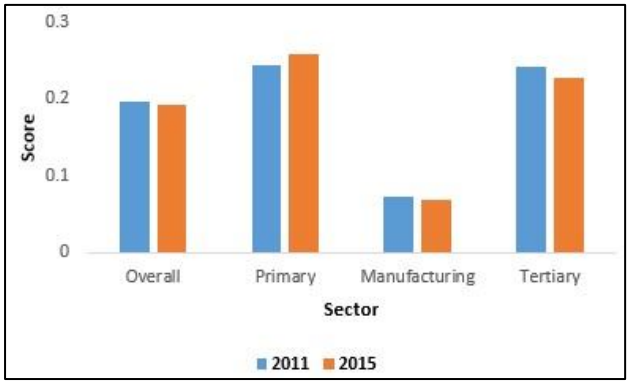
- Measures which may be discriminatory but taken for reasons such as public order and security interests are not scored.
- There are other determinants of investment climate which are not reflected by the indicator such as market size, geography and integration with other markets.
- While OECD had attempted to make the indicators consistent across years and economies despite methodological change, this may not be the case for future updates.
- Indicator does not cover all APEC economies.

3.3.7. Coverage and additional information

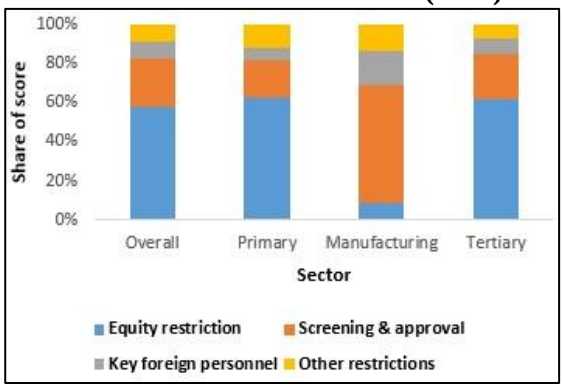
Economies covered (since 2011)	14 (AUS; CDA; CHL; PRC; INA; JPN; ROK; MAS; MEX; NZ; PE; PHL; RUS; and USA)
Latest available year	2015
Frequency	Annual since 2010

3.3.8. Analysis

Comparison of APEC FDI RRI in 2011 and 2015



Share of 4 types of restrictions in FDI RRI for different sectors in APEC (2015)



Note: APEC score is the average score of 14 economies as indicated in section 7.
Source: PSU computations based on data from OECD (accessed 19 May 2016).

It can be seen that overall APEC score has fallen from 2011 to 2015, indicating that the regulatory stance has become less restrictive. This can be observed in both manufacturing and tertiary sectors although the opposite is observed for the primary sector. Dissecting the contribution of different restrictions to the APEC scores in 2015 shows that equity restrictions is the main contributor for both primary and tertiary sectors while screening and approval is the main contributor for manufacturing sector.

3.4. OECD Services Trade Restrictiveness Index

3.4.1. Source

http://stats.oecd.org/index.aspx?dataSetCode=STRI

3.4.2. What does it tell us?

- Services Trade Restrictiveness Index (STRI) analyzes and identifies regulatory policies that are currently in force and may restrict trade in services.
- It provides information pertaining to 19 services sub-sectors including accounting, engineering, legal, telecommunications, transport, and commercial banking among others.
- It captures a mix of general and sector-specific policy measures which are grouped into 5 areas, namely: restrictions on foreign entry, restrictions on movement of people, other discriminatory measures, barriers to competition, and regulatory transparency.
- It takes a value between 0 and 1, where 0 means that the sub-sector is completely open while 1 means that it is completely closed.

3.4.3. Linkage to specific RAASR pillars

Pillars	Reasons
More open, well-functioning, transparent and competitive markets	• STRI enables policymakers to potentially improve policies pertaining to services trade because it identifies regulations that are currently in force and therefore, may lead to markets that are more well-functioning and competitive. • STRI also provides greater transparency to services regulations which hitherto are challenging to identify because they straddle different government agencies and often implemented with other policy objectives in mind. • The close linkage between services and manufacturing essentially means that there will be spillover effects of more competitive services sectors on to the manufacturing sectors.
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• Improvements in regulations, as indicated by the STRI, may potentially facilitate deeper participation by various segments of society in more sectors.

3.4.4. Possible actions at the economy level that may impact indicator

- Expanding the legal forms that foreign firms can take in the economy where services are provided.
- Eliminating requirements that directors or managers must be its own nationals or residents.
- Removing the capital requirements for establishment of firms.
- Establishing laws or regulations to allow for recognition of qualifications earned abroad.
- Improving procedures and time to process business visa.

3.4.5. Strengths of the indicator

- STRI methodology captures complementarity and hierarchy of measures where restrictions observed at higher level would render those at lower level irrelevant, essentially allowing policymakers to focus on regulations that matter most.
- STRI is based on factual information with clear reference to sources, hence identifying the exact laws and regulations to improve.

- Presence of policy simulator enables policymakers to directly observe how improvements in laws and regulations can lead to lower scores.

3.4.6. Limitations of the indicator

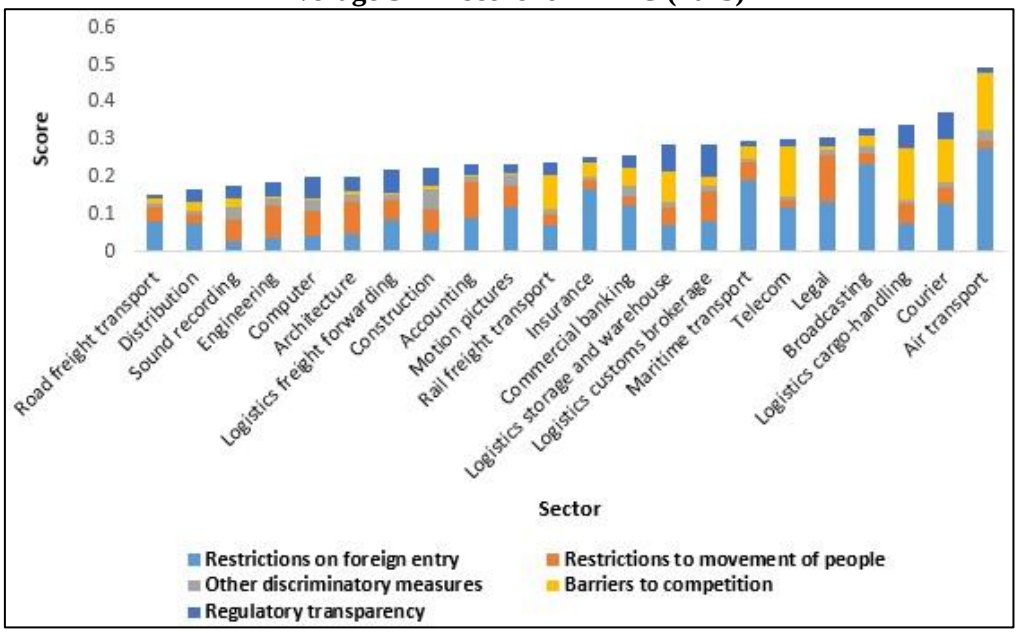
- STRI captures most favored nation (MFN) restrictions and does not take into account concessions made by economies in certain agreements such as preferential trade agreements (PTAs) and mutual recognition agreements (MRAs).
- Actual implementations of laws and regulations are not analyzed.
- While OECD had attempted to make the indicators consistent across years and economies despite methodological change, this may not be the case for future updates.
- Indicator does not cover all APEC economies.

3.4.7. Coverage and additional information

Economies covered (since 2014)	11 (AUS; CDA; CHL; PRC; INA; JPN; ROK; MEX; NZ; RUS; and USA)
Latest available year	2015
Frequency	Annual since 2014

3.4.8. Analysis

Average STRI score for APEC (2015)



Note: APEC score is the average score of 11 economies as indicated in section 7.
Source: PSU computations based on data from OECD (accessed 25 April 2016).

It can be observed that cargo handling, courier and air transport services are among the most restrictive services sub-sectors in APEC. Deeper analysis indicated that restrictions on foreign entry and barriers to competition are the main contributors to the high scores of these sectors.

3.5. The Conference Board Labour Productivity Per Person Employed

3.5.1. Source

https://www.conference-board.org/data/economydatabase/index.cfm?id=27762

3.5.2. What does it tell us?

- Labour productivity per person employed is measured as total real GDP of the economy divided by number of people employed in the economy. It tells us the average contribution of each working individual to the real GDP of the economy.
- Real GDP is used instead of nominal GDP to ensure that the increase or decrease in labour productivity is not simply due to factors such as the increase in the price of the goods or services.
- Higher labour productivity over time indicates that each working individual is becoming more productive while lower labour productivity over time indicates that each working individual is becoming less productive.

3.5.3. Linkage to specific RAASR pillars

Pillars	Reasons
More open, well-functioning, transparent and competitive markets	• Labour productivity per person employed is indicative of the competitiveness of the market. • Labour productivity can usually be enhanced through mechanisms such as automation as well as skills upgrading of employees.
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• Firms including MSMEs with more productive labour force are likely to be able to participate more in the markets.

3.5.4. Possible actions at the economy level that may impact indicator

- Introducing skills-upgrading fund to facilitate firms in sending their employees to attend training courses.
- Providing grants to automate certain processes across different sectors.
- Encouraging businesses to attend technology seminars.
- Organizing public-private dialogues to understand what businesses need to improve productivity.
- Promoting the use of big data and internet of things to monitor and improve existing processes.

3.5.5. Strengths of the indicator

- Estimates have been harmonized to take into consideration differences in different economies, thus allowing for comparability across economies and years.

3.5.6. Limitations of the indicator

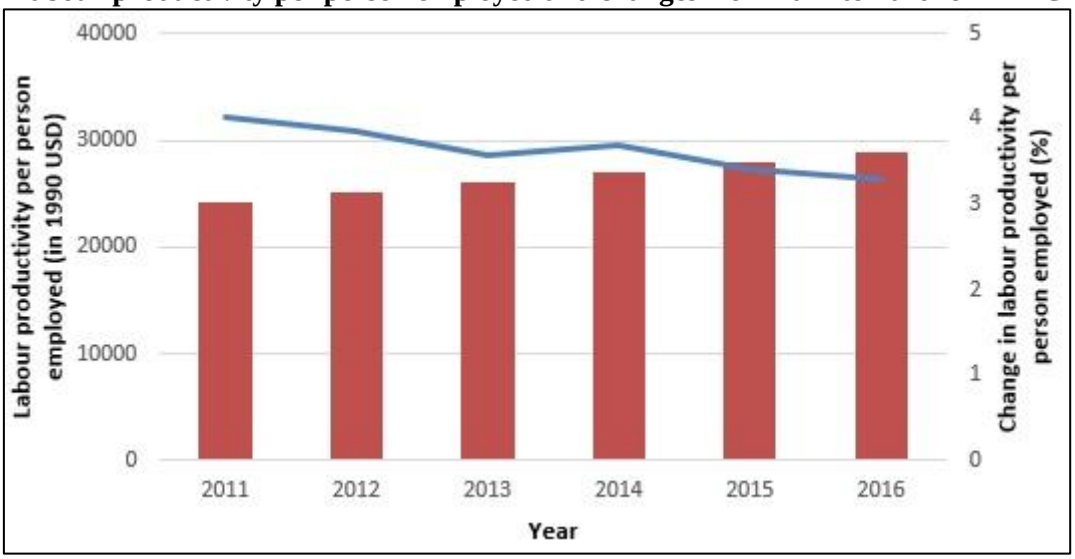
- It is an outcome indicator and hence may be affected by factors other than policies such as the state of the global economy and demographics.
- It does not identify policies that policymakers should focus on in order to raise labour productivity.
- Assuming that specific policies can affect the indicator, it takes time for the impact of policies to be captured by the indicator. For example, although skills upgrading are beneficial in the long run, employees take time to implement and incorporate new skills into the existing processes.
- Indicator does not cover all APEC economies.

3.5.7. Coverage and additional information

Economies covered (since 2011)	19 (AUS; CDA; CHL; PRC; HKC; INA; JPN; ROK; MAS; MEX; NZ; PE; PHL; RUS; SGP; CT; THA; USA and VN)
Latest available year	2016
Frequency	Annual

3.5.8. Analysis

Labour productivity per person employed and changes from 2011 to 2016 for APEC



Note: APEC score is the weighted average score of 19 economies as indicated in section 7. Values are converted to 1990 USD at Geary Khamis PPPs.

Source: PSU computations based on data from The Conference Board Total Economy database (accessed 5 June 2016).

It can be observed that while labour productivity per person employed has increased from around USD 24,000 in 2011 to USD 29,000 in 2016, the increase in productivity has slowed down over the same period (4.0% in 2011 vs. 3.3% in 2016).

3.6. WEF Global Competitiveness Indicators for Business Sophistication and Innovation

3.6.1. Source

http://www3.weforum.org/docs/gcr/2015-2016/GCI_Dataset_2006-2015.xlsx and
https://www.weforum.org/reports/the-global-competitiveness-report-2016-2017-1/

3.6.2. What does it tell us?

- The set of indicators captures the various aspects within the economy that contribute to business sophistication and innovation.
- For the purpose of RAASR, business sophistication refers to the quality of an economy's business networks as well as the quality of individual firms' operations and strategies, while innovation refers to the availability of environment that is conducive to innovative activity.
- Only existing indicators derived from the Executive Opinion Survey of the World Economic Forum are monitored because they are fully perception-based and will complement proposed indicators which are not based on perceptions.
- The list of indicators and how they are asked in the survey are as follows[10]:

Indicators	Questions as asked in survey
Business sophistication	
State of cluster development	In your economy, how widespread are well-developed and deep clusters (geographic concentration of firms, suppliers, producers of related products and services, and specialized institutions in a particular field)? (1= non-existent; 7= widespread in many fields)
Willingness to delegate authority	In your economy, how do you assess the willingness to delegate authority to subordinates? (1= not willing at all – senior management takes all important decisions; 7= very willing – authority is mostly delegated to business unit heads and other lower-level managers)
Innovation	
Company spending on R&D	In your economy, to what extent do companies invest in research and development (R&D)? (1= do not invest at all in R&D; 7= invest heavily in R&D)
University-industry collaboration in R&D	In your economy, to what extent do business and universities collaborate on research and development (R&D)? (1= do not collaborate at all; 7= collaborate extensively)

3.6.3. Linkage to specific RAASR pillars

Pillars	Reasons
More open, well-functioning, transparent and competitive markets	• These indicators provide the perspectives of business executives on the state of some factors that can be used to infer about the competitiveness of a market. • As business executives generally run firms' operations on a daily basis, their perspectives would play a significant role in influencing firms' decisions on whether to site certain business operations in the economies, including those that are innovation-intensive and hence of higher value-added.

[10]WEF is in the midst of reviewing and modernizing the Global Competitiveness Index (GCI) and have identified a mix of existing and new indicators that will be used in the updated GCI methodology. This section has only listed existing indicators (i.e. in Pillars 11 and 12 of current CGI methodology) to be used in the updated methodology because they are likely to be included in subsequent versions of the survey and data for new indicators have not been made available publicly. Having said that, identified indicators may not be necessarily implemented in the final, updated methodology.

Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• Some of the indicators such as state of cluster development and company spending on R&D provide perspectives of business executives and consequently determine whether wider segments of the society can participate in the markets. For example, higher level of company spending on R&D means that it is more likely that the MSMEs would have the capability to participate in the continuously-evolving global value chains of the multinationals.

3.6.4. Possible actions at the economy level that may impact indicator

- Providing grants to support firms in improving their operations and strategies.
- Encouraging skills upgrading by employees.
- Facilitating joint research activities between institutions and industries.
- Establishing agency to identify basic research with industry applications.
- Providing incentives to encourage firms to undertake R&D activities.

3.6.5. Strengths of the indicator

- Indicators provide executives' perspectives and hence complements indicators which are not perception-based.
- It allows for monitoring of implementation of regulations and real situations on the ground as opposed to analysing the regulations themselves.

3.6.6. Limitations of indicator

- Perception-based indicators may be biased.
- It takes time to change perceptions even in the presence of actual improvements.
- When there is a change in methodology, it may be the case that some of the indicators may no longer be included in the survey.
- Perceptions may not change in the same direction as policies.
- Indicators do not cover all APEC economies.

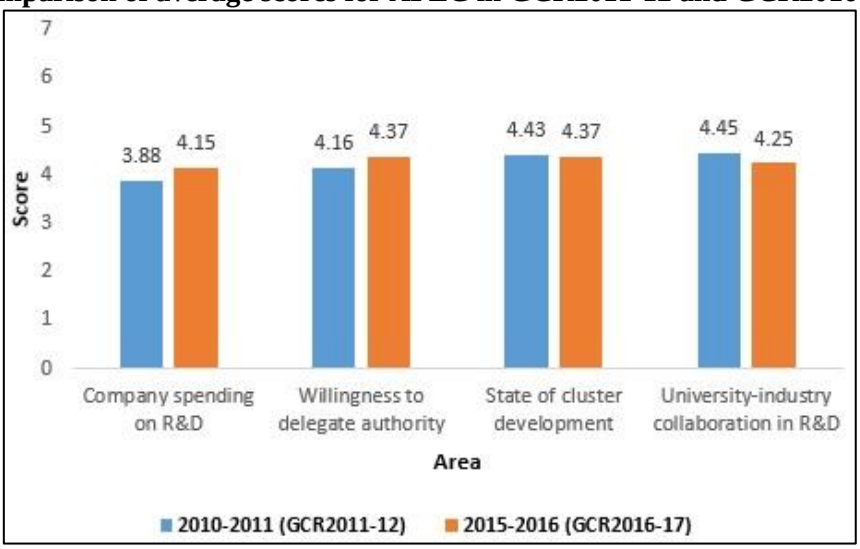
3.6.7. Coverage and additional information

Economies covered (since GCR2011-2012)	20 (AUS; BD; CDA; CHL; PRC; HKC; INA; JPN; ROK; MAS; MEX; NZ; PE; PHL; RUS; SGP; CT; THA; USA; and VN)
Latest available year	GCR2016-2017 (All except BD data for willingness to delegate authority: GCR2013-2014)
Frequency	Annual

Note: GCR refers to Global Competitiveness Report.

3.6.8. Analysis

Comparison of average scores for APEC in GCR2011-12 and GCR2016-17



Note: APEC score is a simple average of the scores of 20 economies indicated in section 7. For BD, GCR2013-14 data for willingness to delegate authority is used for GCR2016-17 average score calculation.
Source: PSU computations based on data from World Economic Forum (accessed 30 September 2016).

APEC average scores in GCR2016-17 are higher than that in GCR2011-12 for two areas (company spending on R&D and willingness to delegate authority) but lower for state of cluster development and university-industry collaboration in R&D. Scores in GCR2016-17 range from 4.2 (for company spending on R&D) to 4.4 (for willingness to delegate authority and state of cluster development).

3.7. ILO Employment to Population Ratio

3.7.1. Source

http://www.ilo.org/global/statistics-and-databases/WCMS_424979/lang--en/index.htm

3.7.2. What does it tell us?

- Employment to population ratio provides the share of population that is employed in the economy.
- Only people whose ages are 15 and above are counted as these are generally considered as working-age population.
- High ratio indicates that a large share of an economy's population is employed, while low ratio indicates that a large share of the population is not involved directly in market-related activities due to either unemployment or being out of the labour force.
- Theoretically, the ratio can range from anywhere between 0 and 100 percent but it is unlikely that an economy will have value close to both extremes because 0 would mean that there is no employment while 100 means that every working-age individual is employed.

3.7.3. Linkage to specific RAASR pillars

Pillars	Reasons
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• Employment to population ratio enables policymakers to monitor the state of employment in the economy. • It is one of the indicators of outcome that may inform policymakers if existing policies need to be tweaked and/or new ones need to be implemented to improve the employment situation.

3.7.4. Possible actions at the economy level that may impact indicator

- Assisting the unemployed in finding formal employment.
- Providing tax credits to employers that hire specific group of workers.
- Instituting flexible working hours to encourage specific group of workers to join or re-join the workforce.
- Introducing or enhancing vocational education and training.
- Reducing skills mismatch between what employers need and what employees have to offer.

3.7.5. Strengths of the indicator

- ILO estimates have been harmonized to take into consideration differences in data collection and tabulation methodologies in different economies, thus allowing for comparability across economies and years.

3.7.6. Limitations of the indicator

- It is an outcome indicator and hence may be affected by factors other than policies such as the state of the global economy and demographics.
- It does not identify policies that policymakers should focus on in order to raise the share of employment.
- Assuming that specific policies can affect the indicator, it takes time for the impact of policies to be captured by the indicator and therefore, only marginal change may be observed over time. For example, changes in education policies to better match industry's requirements may not be seen until several years later when these students have entered the workforce.

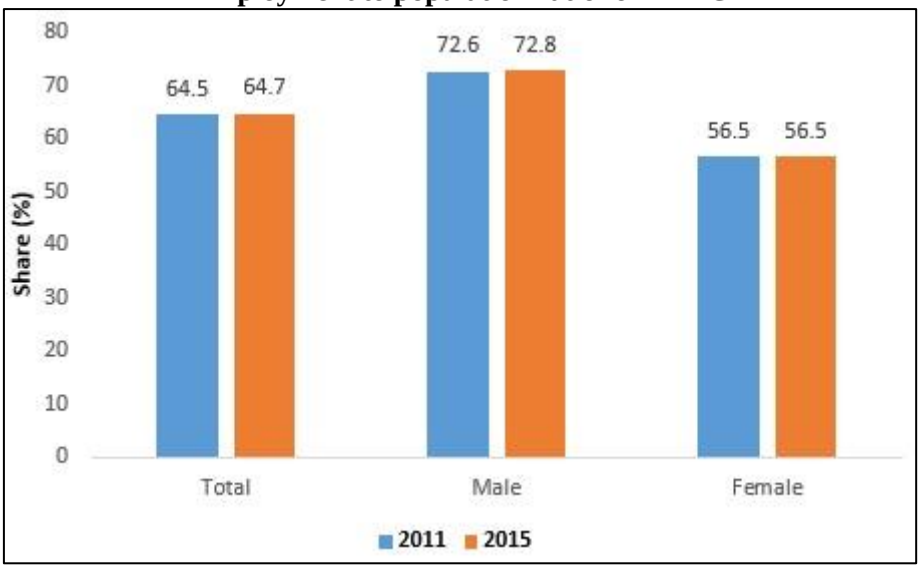
3.7.7. Coverage and additional information

Economies covered (since 2011)	21 (AUS; BD; CDA; CHL; PRC; HKC; INA; JPN; ROK; MAS; MEX; NZ; PNG; PE; PHL; RUS; SGP; CT; THA; USA; and VN)
Latest available year	2015
Frequency	Annual

Note: ILO has projections until 2020.

3.7.8. Analysis

Employment to population ratio for APEC



Note: The employment to population ratio is based on modeled ILO estimate. APEC employment to population ratio is a weighted calculation based on the total no. of employment and population of all the 21 economies indicated in section 7.
Source: PSU computations based on data from ILO (accessed 19 May 2016).

Employment to population ratio for APEC has increased from 64.5 percent in 2011 to 64.7 percent in 2015. The increase is contributed by both the increasing share of female and male working-age individuals entering employment over the period. It can also be observed that male employment to population ratio is generally higher than that of female.

3.8. ILO Share of Youth Unemployment

3.8.1. Source

http://www.ilo.org/global/statistics-and-databases/WCMS_424979/lang--en/index.htm

3.8.2. What does it tell us?

- Share of youth unemployment provides the share of labour force between ages 15-24 without work but available for and are seeking employment.
- Theoretically, the share can range from anywhere between 0 and 100 percent but it is unlikely that an economy will have value close to both extremes because 0 would mean that every youth is employed while 100 means that every youth is unemployed.

3.8.3. Linkage to specific RAASR pillars

Pillars	Reasons
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• Share of youth unemployment is another indicator of outcome that allows policymakers to monitor the employment situation. • One differentiating factor compared to employment to population ratio is its focus on the youth, theoretically enabling better assessment of the impact of policies targeted towards this specific segment of the society.

3.8.4. Possible actions at the economy level that may impact indicator

- Introducing youth apprenticeship scheme where youths can gain work experience and have the opportunity to gain employment.
- Reviewing and improving education syllabus to take into account changing economic structure.
- Promoting the establishment of career services centres at educational institutions.
- Encouraging youths to take part in career talks and job fairs.
- Giving tax incentives to employers that hire youths.

3.8.5. Strengths of the indicator

- ILO estimates have been harmonized to take into consideration differences in data collection and tabulation methodologies in different economies, thus allowing for comparability across economies and years.
- It can potentially allow for better monitoring of policy impact on youths.

3.8.6. Limitations of the indicator

- It is an outcome indicator and hence may be affected by factors other than policies such as the state of the global economy and demographics.
- Despite being specific to the youth, it does not identify policies that policymakers should focus on in order to reduce the share of unemployment.
- Assuming that specific policies can affect the indicator, it takes time for the impact of policies to be captured by the indicator and therefore, only marginal change may be observed over time.

3.8.7. Coverage and additional information

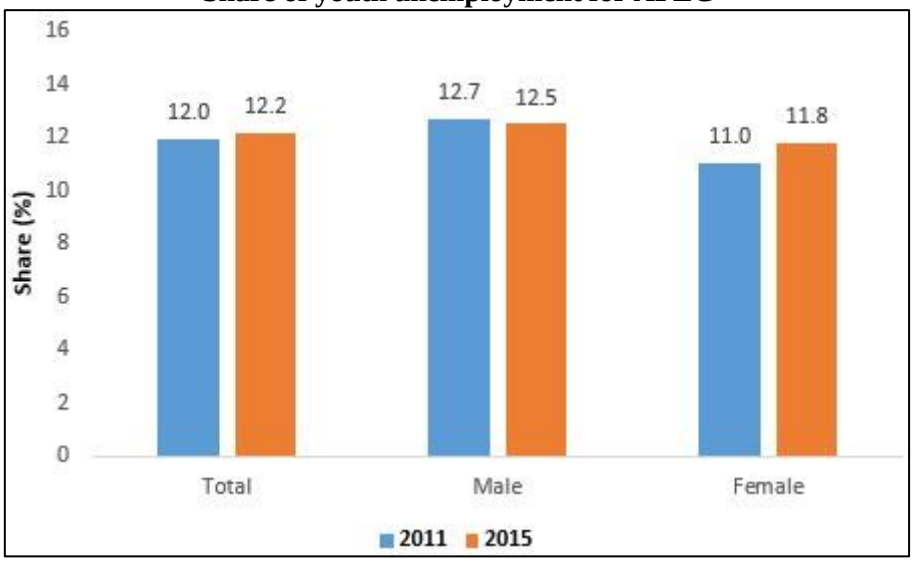
Economies covered (since 2011)	21 (AUS; BD; CDA; CHL; PRC; HKC; INA; JPN; ROK; MAS; MEX; NZ; PNG; PE; PHL; RUS; SGP; CT; THA; USA; and VN)
Latest available year	2015

Frequency	Annual

Note: ILO has projections until 2020.

3.8.8. Analysis

Share of youth unemployment for APEC



Note: APEC share of youth unemployment is a weighted calculation based on the total number of unemployed youth and youth labour force of all the 21 economies indicated in section 7.
Source: PSU computations based on data from ILO (accessed 19 May 2016).

Share of total youth unemployment increased from 12.0 percent in 2011 to 12.2 percent in 2015. Classifying youth by gender showed that the rise is contributed by share of female youth unemployment which increased from 11.0 percent in 2011 to 11.8 percent in 2015. On the other hand, share of male youth unemployment fell from 12.7 percent in 2011 to 12.5 percent in 2015.

3.9. ILO Labour Force Participation Rate for Age Group 65+

3.9.1. Source

http://www.ilo.org/global/statistics-and-databases/WCMS_424979/lang--en/index.htm

3.9.2. What does it tell us?

- Labour force participation rate for age group 65+ provides proportion of the population ages 65 and older that is economically active. It includes working individuals as well as unemployed individuals who are actively looking for job.
- Therefore, it indicates the relative size of the labour supply that is available to engage in the production of goods and services.
- Data on economically active population generally does not include students, persons occupied solely in domestic duties in their own households, members of collective households, inmates of institutions, retired persons, persons living entirely on their own means, and persons wholly dependent upon others.
- Theoretically, the share can range from anywhere between 0 and 100 percent but it is unlikely that an economy will have value close to both extremes because 0 would mean that there is no economically active individual while 100 means that every individual ages 65 and older is economically active.

3.9.3. Linkage to specific RAASR pillars

Pillars	Reasons
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• Labour force participation rate for age group 65+ is one indicator of outcome that enables policymakers to monitor the level of participation of population aged 65 and older in the labour market.

3.9.4. Possible actions at the economy level that may impact indicator

- Organizing job placement clinics for older workers.
- Introducing upgrading and re-tooling opportunities for older workers.
- Introducing elderly-friendly policies such as flexible working hours.
- Encouraging employers to consider hiring older workers and/or people with disabilities for less demanding tasks.
- Sharing successful cases of firms employing older workers.

3.9.5. Strengths of the indicator

- ILO estimates have been harmonized to take into consideration differences in data collection and tabulation methodologies in different economies, thus allowing for comparability across economies and years.
- When used in combination with other indicators such as employment to population ratio for the same group (if available), it can potentially point to underlying issues that need to be tackled by policymakers.

3.9.6. Limitations of the indicator

- The implications of high labour force participation rate is not clear cut. On one hand, it may indicate structural issues within the economy particularly when employment to population ratio is low because it points to the high share of economically active population being unable to gain employment despite wanting to do so. On the other hand, it may also indicate the changing mindset of individuals in response to government policies implemented to get older population to be more economically active.

- It is an outcome indicator and hence may be affected by factors other than policies such as the state of the global economy and demographics.
- It does not identify policies that policymakers should focus on in order to raise the share of employment.
- Assuming that specific policies can affect the indicator, it takes time for the impact of policies to be captured by the indicator.

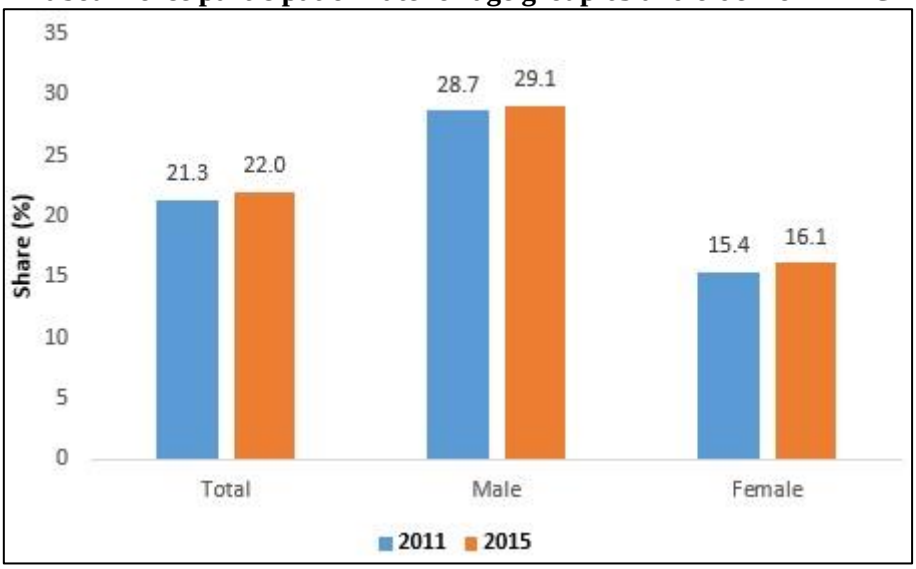
3.9.7. Coverage and additional information

Economies covered (since 2011)	21 (AUS; BD; CDA; CHL; PRC; HKC; INA; JPN; ROK; MAS; MEX; NZ; PNG; PE; PHL; RUS; SGP; CT; THA; USA; and VN)
Latest available year	2015
Frequency	Annual

Note: ILO has projections until 2019.

3.9.8. Analysis

Labour force participation rate for age group 65 and older for APEC



Note: The labour force participation rate is based on modeled ILO estimate. APEC labour force participation rate is a weighted calculation based on the total number of labour force and population of all the 21 economies indicated in section 7.
Source: PSU computations based on data from ILO (accessed 19 May 2016).

Total labour force participation rate for age group 65 and older for APEC increased slightly from 21.3 percent in 2011 to 22.0 percent in 2015. This can be attributed to the increase of both female and male labour force participation rate over the period. Male labour force participation rate is generally higher than that of female.

3.10. World Bank Indicators on Women, Business and the Law

3.10.1. Source

http://wbl.worldbank.org/

3.10.2. What does it tell us?

- Women, Business and the Law monitors the presence of laws and regulations that prohibit discrimination against women's participation in entrepreneurship and employment.
- For the purpose of RAASR, the set of indicators of interest can generally be divided into women's access to credit and job.
- Specifically on access to credit, it is to monitor whether there is a presence of law prohibiting discrimination by creditors on the basis of gender when providing credit.
- On access to job, among the indicators monitored are presence of the following laws: 1) mandating equal remuneration for work of equal value; 2) mandating non-discrimination based on gender in hiring; 3) prohibiting prospective employers to ask about family status; 4) prohibiting the dismissal of pregnant workers; 5) guaranteeing mothers of equivalent position after maternity leave; 6) requiring employers to provide break time for nursing mothers; 7) entitling parents to flexible/part-time schedules; 8) allowing non-pregnant and non-nursing women to work the same night hours as men; and 9) allowing non-pregnant and non-nursing women to do the same jobs as men.

3.10.3. Linkage to specific RAASR pillars

Pillars	Reasons
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• The set of indicators may influence women's decision to increase their participation in entrepreneurship and employment.

3.10.4. Possible actions at the economy level that may impact indicator

- Introducing new as well as improving existing laws/regulations to facilitate women's participation in entrepreneurship and employment.
- Implementing whole-of-government approach so as to ensure consistency of laws/regulations.
- Organizing dialogues to understand the laws/regulations that are inhibiting women to increase their participation.

3.10.5. Strengths of the indicator

- Set of indicators are based on reading of the laws/regulations and therefore can be acted upon since it is within the control of policymakers. Specifically, they are constructed using responses from expert practitioners in family, labour and criminal law who are working on gender issues. These practitioners have to provide references to the relevant laws/regulations.
- It is possible to compare findings across economies due to the use of standard assumptions during data collection.

3.10.6. Limitations of the indicator

- Actual implementation of laws and regulations are not analyzed.
- To ensure comparability across economies, there are some underlying assumptions which may not be reflective of the reality on the ground.
- The identified indicators are not exhaustive of all the constraints faced by women. Indeed, the APEC Women and the Economy dashboard has a longer list of indicators.

- Since methodology is occasionally revised and improved, some proposed indicators may no longer be comparable across time.

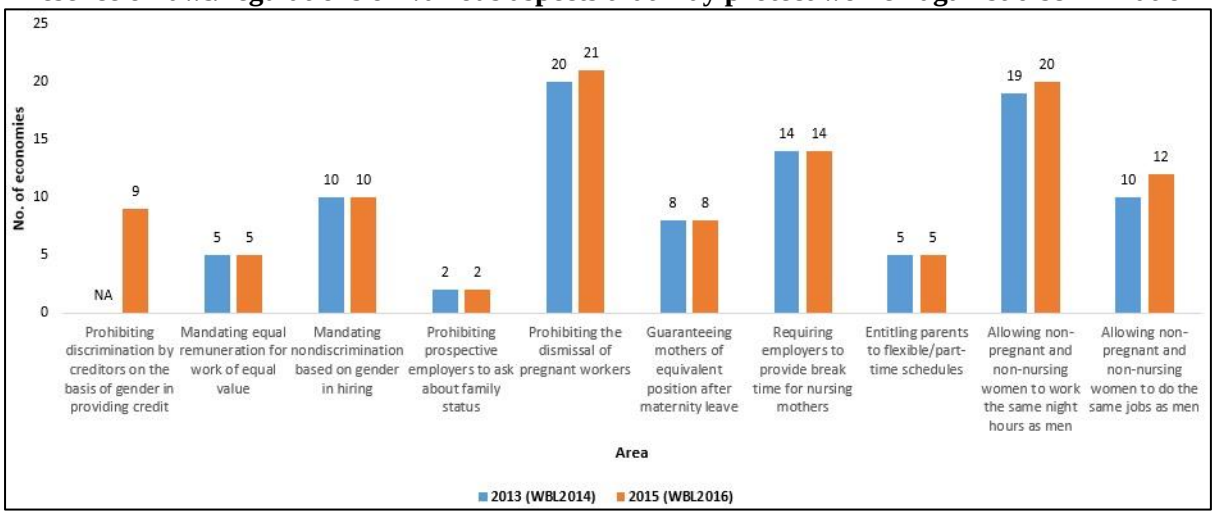
3.10.7. Coverage and additional information

Economies covered (since WBL2012)	21 (AUS; BD; CDA; CHL; PRC; HKC; INA; JPN; ROK; MAS; MEX; NZ; PNG; PE; PHL; RUS; SGP; CT; THA; USA; and VN)
Latest available year	WBL2016
Frequency	Every two years

Note: WBL refers to Women, Business and the Law Database.

3.10.8. Analysis

Presence of laws/regulations on various aspects that may protect women against discrimination



Note: Data for WBL2014 excludes BD. Collection of information on availability of laws/regulations prohibiting discrimination by creditors on the basis of gender in providing credit started in WBL2016, hence there was no data for WBL2014.

Source: PSU compilations based on data from World Bank (accessed 11 July 2016).

APEC economies are at varying levels of development in terms of having laws/regulations in different areas that may protect women against discrimination. While at least two-thirds of economies have laws/regulations prohibiting the dismissal of pregnant workers, allowing non-pregnant and non-nursing women to work the same night hours as men and requiring employers to provide break time for nursing mothers in WBL2016, fewer economies have laws/regulations in other aspects such as those mandating equal remuneration for work of equal value and prohibiting prospective employers to ask about family status. In addition, comparing information in WBL2014 and WBL2016 showed that progress has been relatively slow[11] since there are many areas where there is no change in the number of APEC economies having the specific laws/regulations.

[11] In fact, change in the values for 3 indicators (prohibiting the dismissal of pregnant workers; allowing non-pregnant and non-nursing women to work the same night hours as men; and allowing non-pregnant and non-nursing women to do the same jobs as men) are solely or partially due to the addition of BD in WBL2016.

3.11. WEF Global Competitiveness Indicators for Labour Market Efficiency

3.11.1. Source

http://www3.weforum.org/docs/gcr/2015-2016/GCI_Dataset_2006-2015.xlsx and
https://www.weforum.org/reports/the-global-competitiveness-report-2016-2017-1/

3.11.2. What does it tell us?

- The set of indicators captures the perspectives of business executives on various aspects within the economy that contribute to labour market efficiency.
- Labour market efficiency indicators are classified into two groups, namely those pertaining to flexibility and matching, and those pertaining to use of talent and reward.
- For the purpose of RAASR, only existing indicators derived from the Executive Opinion Survey of the World Economic Forum are monitored because they are fully perception-based and will complement proposed indicators which are not based on perceptions.
- The list of indicators and how they are asked in the survey are as follows[12]:

Indicators	Questions as asked in survey
Flexibility and matching	
Hiring and firing practices	In your economy, to what extent do regulations allow flexible hiring and firing of workers? (1= not at all; 7= to a great extent)
Cooperation in labour-employer relations	In your economy, how do you characterize labour-employer relations? (1= generally confrontational; 7= generally cooperative)
Flexibility of wage determination	In your economy, how are wages generally set? (1= by a centralized bargaining process; 7= by each individual company)
Use of talent and reward	
Pay and productivity	In your economy, to what extent is pay related to employee productivity? (1= not at all; 7= to a great extent)
Reliance on professional management	In your economy, who holds senior management positions in companies? (1= usually relatives or friends without regard to merit; 7= mostly professional managers chosen for merit and qualifications)

3.11.3. Linkage to specific RAASR pillars

Pillars	Reasons
More open, well-functioning, transparent and competitive markets	• These indicators provide business executives' perspectives about how well workers are allocated in the economy and correspondingly, how efficient the economy is in using its workers. • Ultimately, inferences can be made from the indicators on whether a market is relatively more open, well-functioning, transparent and competitive when compared to another.
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• Business executives generally run firms' operations on a daily basis and make decisions on employment matters among others. Therefore, their perspectives on employment issues will reflect their actions such as whether or not to hire more people. • This will inadvertently determine whether wider segments of the society can participate in the markets.

[12]WEF is in the midst of reviewing and modernizing the Global Competitiveness Index (GCI) and have identified a mix of existing and new indicators that will be used in the updated GCI methodology. This section has only listed existing indicators (in Pillar 7 of current CGI methodology) to be used in the updated methodology because they are likely to be included in subsequent versions of the survey and data for new indicators have not been made available publicly. Having said that, identified indicators may not be necessarily implemented in the final, updated methodology.

3.11.4. Possible actions at the economy level that may impact indicator

- Making labour regulations more transparent and easily accessible.
- Enhancing the partnerships between government, employers and employees.
- Relooking existing mechanisms on wage setting.
- Organizing public-private dialogues to tackle operational issues pertaining to employment.
- Promoting meritocracy.

3.11.5. Strengths of the indicator

- The set of indicators provides executives' perspectives and hence complements indicators which are not perception-based.
- It allows for monitoring of implementation of regulations and real situations on the ground as opposed to analysing the regulations themselves.

3.11.6. Limitations of the indicator

- Perception-based indicators may be biased.
- It takes time to change perceptions even in the presence of actual improvements.
- When there is a change in methodology, it may be the case that some of the indicators may no longer be included in the survey.
- Perceptions may not change in the same direction as policies.
- Indicators do not cover all APEC economies.

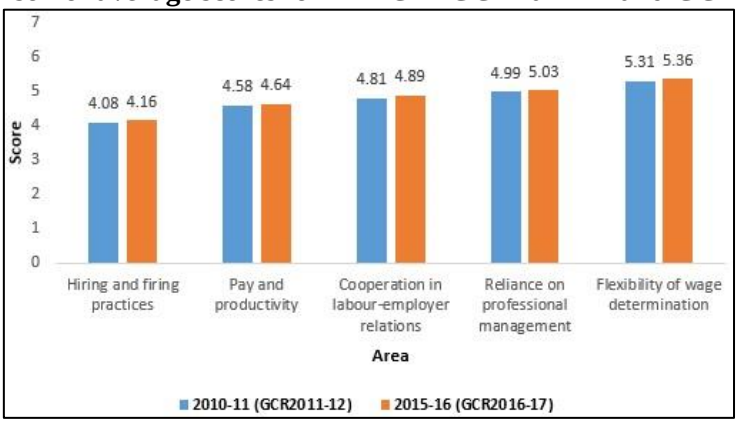
3.11.7. Coverage and additional information

Economies covered (since GCR2011-2012)	20 (AUS; BD; CDA; CHL; PRC; HKC; INA; JPN; ROK; MAS; MEX; NZ; PE; PHL; RUS; SGP; CT; THA; USA; and VN)
Latest available year	GCR2016-2017
Frequency	Annual

Note: GCR refers to Global Competitiveness Report.

3.11.8. Analysis

Comparison of average scores for APEC in GCR2011-12 and GCR2016-17



Note: APEC score is a simple average of the scores of 20 economies indicated in section 7.
Source: PSU computations based on data from World Economic Forum (accessed 30 September 2016).

APEC average scores in GCR2016-17 are higher than that in GCR2011-12 across all areas. Scores in GCR2016-17 range from 4.2 (for hiring and firing practices) to 5.4 (for flexibility of wage determination). Classifying economies into APEC developed and developing[13] showed that the former outperformed the latter in GCR2016-2017 in all areas except hiring and firing practices where both have the same score.

[13]APEC developed economies are AUS; CDA; JPN; NZ; and USA. Other member economies are regarded as APEC developing economies.

3.12. WEF Global Competitiveness Indicators for Financial Market Efficiency

3.12.1. Source

http://www3.weforum.org/docs/gcr/2015-2016/GCI_Dataset_2006-2015.xlsx and
https://www.weforum.org/reports/the-global-competitiveness-report-2016-2017-1/

3.12.2. What does it tell us?

- The set of indicators captures the perspectives of business executives on various aspects within the economy that determine efficiency of the financial market.
- Financial market efficiency indicators are classified into two groups, namely those pertaining to efficiency and depth, and those pertaining to stability.
- Only existing indicators derived from the Executive Opinion Survey of the World Economic Forum are monitored because they are fully perception-based and will complement proposed indicators which are not based on perceptions.
- The list of indicators and how they are asked in the survey are as follows[14]:

Indicators	Questions as asked in survey
Efficiency and depth	
Venture capital availability	In your economy, how easy is it for start-up entrepreneurs with innovative but risky projects to obtain equity funding? (1= extremely difficult; 7= extremely easy)
Financing through the local equity market	In your economy, to what extent can companies raise money by issuing shares and/or bonds on the capital market? (1= not at all; 7= to a great extent)
Stability	
Soundness of banks	In your economy, how do you assess the soundness of banks? (1= extremely low-banks may require capitalization; 7= extremely high-banks are generally healthy with sound balance sheets)
Regulation of securities exchanges	In your economy, to what extent do regulators ensure the stability of the financial market? (1= not at all; 7= to a great extent)

3.12.3. Linkage to specific RAASR pillars

Pillars	Reasons
More open, well-functioning, transparent and competitive markets	• The set of indicators provides business executives' perspectives about the efficiency of the financial market within the economy in allocating scarce resources. Arguably, more efficient financial markets will enable allocation of resources to projects with relatively higher expected rates of return. • This will then lead to markets that are more well-functioning and competitive.
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• Many MSMEs are dynamic and innovative but may face difficulty in accessing finance, hence hampering their growth. The set of indicators can be used to infer the ease of access to finance by firms including MSMEs and therefore their potential to participate more in the markets.

[14]WEF is in the midst of reviewing and modernizing the Global Competitiveness Index (GCI) and have identified a mix of existing and new indicators that will be used in the updated GCI methodology. This section has only listed existing indicators (in Pillar 8 of current CGI methodology) to be used in the updated methodology because they are likely to be included in subsequent versions of the survey and data for new indicators have not been made available publicly. Having said that, identified indicators may not be necessarily implemented in the final, updated methodology.

3.12.4. Possible actions at the economy level that may impact indicator

- Guaranteeing loans to MSMEs with potential by government agencies.
- Facilitating crowd-funding as a mechanism to access finance.
- Establishing MSME centres that are able to link MSMEs to potential financiers.
- Organizing seminars and workshops to share ways to improve firms' chances of accessing finance.
- Using prudential tools to limit systemic risk in the financial system.

3.12.5. Strengths of the indicator

- The set of indicators provides executives' perspectives and hence complements indicators which are not perception-based.
- It allows for monitoring of implementation of regulations and real situations on the ground as opposed to analysing the regulations themselves.

3.12.6. Limitations of the indicator

- Perception-based indicators may be biased.
- It takes time to change perceptions even in the presence of actual improvements.
- When there is a change in methodology, it may be the case that some of the indicators may no longer be included in the survey.
- Perceptions may not change in the same direction as policies.
- Indicators do not cover all APEC economies.

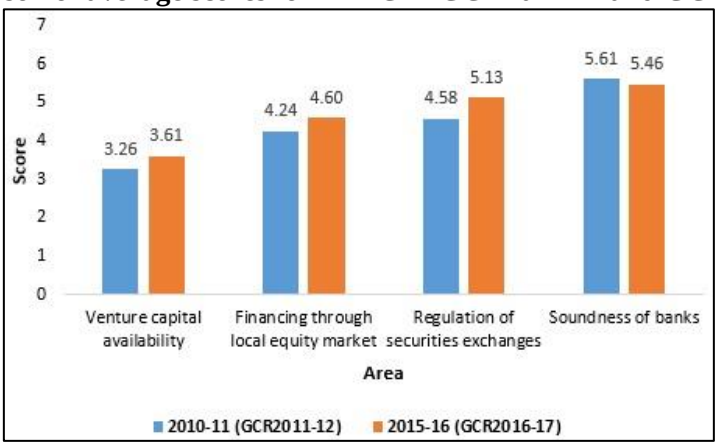
3.12.7. Coverage and additional information

Economies covered (since GCR2011-12)	20 (AUS; BD; CDA; CHL; PRC; HKC; INA; JPN; ROK; MAS; MEX; NZ; PE; PHL; RUS; SGP; CT; THA; USA; and VN)
Latest available year	GCR2016-2017
Frequency	Annual

Note: GCR refers to Global Competitiveness Report.

3.12.8. Analysis

Comparison of average scores for APEC in GCR2011-12 and GCR2016-17



Note: APEC score is a simple average of the scores of 20 economies indicated in section 7.
Source: PSU computations based on data from World Economic Forum (accessed 30 September 2016).

APEC average scores have improved from GCR2011-12 to GCR2016-17 across all areas except for soundness of banks. Scores in GCR2016-17 range from 3.6 (for venture capital availability) to 5.5 (for soundness of banks). Classifying APEC economies into developed and developing[15] showed that the former outperformed the latter across all areas.

[15]APEC developed economies are AUS; CDA; JPN; NZ; and USA. Other member economies are regarded as APEC developing economies.

3.13. UNESCO Tertiary Gross Enrolment Ratio

3.13.1. Source

http://www.uis.unesco.org/datacentre/Pages/default.aspx

3.13.2. What does it tell us?

- Tertiary gross enrolment ratio (GER) provides the number of students enrolled in the tertiary level of education regardless of age as a share of the official school-age population corresponding to the same level of education (i.e. tertiary).
- High tertiary GER points to high degree of participation in tertiary education.
- It is possible for GER to exceed 100 percent because the number of students enrolled in tertiary education may include over-aged students who entered late, under-aged students who entered early as well as repeat students.

3.13.3. Linkage to specific RAASR pillars

Pillars	Reasons
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• By providing opportunities to pursue education at higher level, an economy raises the likelihood of an individual to participate in the markets, both as a consumer and a producer.
Sustainable social policies that promote the other pillars, enhance economic resilience, and are well-targeted, effective and non-discriminatory	• Education is a critical component of development and together with areas such as health and living conditions, forms aspects of an economy's social policy because it enables individuals to learn new skills and raise their productivity. • Tertiary GER is one way to monitor the level of participation in tertiary education and consequently, make inferences on the resilience of the economy in the changing global landscape.

3.13.4. Possible actions at the economy level that may impact indicator

- Increasing the number of tertiary institutions.
- Providing scholarships for needy students to undertake tertiary education.
- Facilitating upgrading opportunities for working adults by offering part-time degrees.
- Encouraging continuous learning among working adults.
- Promoting online platforms for the delivery of tertiary education.

3.13.5. Strengths of the indicator

- Standardized definition allows for comparability across economies and years.

3.13.6. Limitations of the indicator

- It is an outcome indicator and hence may be affected by factors other than policies such as the state of the global economy and the element of choice.
- Unlike policy indicators, it does not identify policies that policymakers should focus on in order to raise gross enrolment ratio.
- Assuming that specific policies can affect the indicator, it takes time for the impact of policies to be captured by the indicator. For example, policies aimed at expanding the availability of tertiary education may require the establishment of new institutions and training of teachers which take time to realize.
- Indicator does not cover all APEC economies.

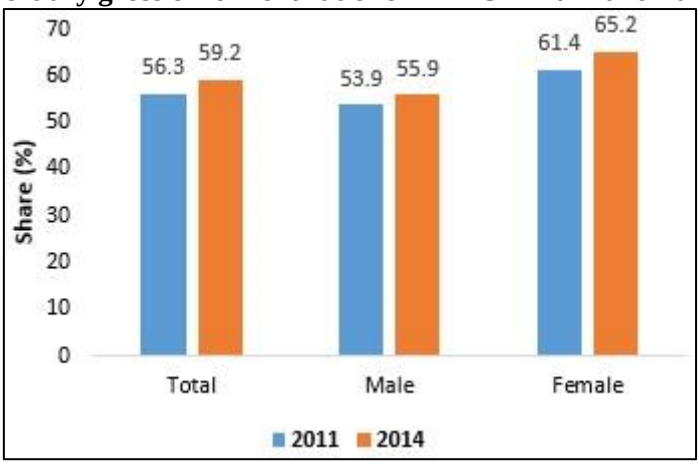
3.13.7. Coverage and additional information

Economies covered (since 2011)	17 (AUS; BD; CHL; PRC; HKC; INA; JPN; ROK; MAS; MEX; NZ; PHL; RUS; CT; THA; USA; and VN)
Latest available year	2014
Frequency	Annual

Note: 1) Latest available year varies between economies (see Appendix). 2) Chinese Taipei data is from Ministry of Education (http://english.moe.gov.tw/ct.asp?xItem=14508&CtNode=11431&mp=1) and latest available year is 2015-2016.

3.13.8. Analysis

Tertiary gross enrolment ratio for APEC in 2011 and 2014



Note: APEC total tertiary gross enrolment ratio is a simple average of the ratio of 17 economies as indicated in section 7, while APEC female and male gross enrolment ratio is a simple average of the ratio of 16 economies indicated in section 7 excluding MAS. For 2014 average ratio, 2013 data is used for AUS; CHL; PRC; INA; JPN; MEX; NZ; RUS; THA; and USA. For CT, 2011-12 data is used for 2011 and 2014-15 data is used for 2014.
Source: PSU computations based on data from UNESCO (accessed 11 May 2016) and Chinese Taipei's Ministry of Education (accessed 20 May 2016).

APEC tertiary gross enrolment ratio has improved between 2011 and 2014. The improvement was contributed by the increase in both female and male tertiary gross enrolment ratio during the period. Generally, it can be observed that female tertiary gross enrolment ratio is higher than that of male. Subject to differences in years where data is available, there is a large variation in total gross enrolment ratio among individual APEC member economies, with ratio ranging from 29.2 percent to 95.3 percent. The same was observed when data is analyzed by gender.

3.14. WEF Inclusive Growth and Development Indicators for Basic Services and Infrastructure

3.14.1. Source

http://reports.weforum.org/inclusive-growth-report-2015/

3.14.2. What does it tell us?

- The set of indicators captures the perspectives of business executives on the availability of basic services and infrastructure.
- Basic services and infrastructure indicators are classified into two groups, namely those relevant to basic and digital infrastructure, and those relevant to health services and infrastructure.
- For the purpose of RAASR, only indicators derived from the Executive Opinion Survey of the World Economic Forum are monitored because they are fully perception-based and will complement proposed indicators which are not based on perceptions.
- In addition, it will facilitate comparability because unlike others which are specific to economies of certain income group, these indicators are present across all assessed economies.
- The list of indicators and how they are asked in the survey are as follows:

Indicators	Definitions
Basic and digital infrastructure	
Quality of overall infrastructure	Survey respondents rate the general infrastructure including transport, telephony, and energy in their economies on a scale of 1-7 (1= extremely underdeveloped – among the worst in the world; 7= extensive and efficient – among the best in the world)
Quality of domestic transport network	Survey respondents rate the extent to which their national ground transport network such as buses, trains, trucks and taxis offer efficient transportation on a scale of 1-7 (1= not at all; 7= to a great extent)
Health services and infrastructure	
Quality of healthcare services	Survey respondents rate the quality of both public and private healthcare services provided to ordinary citizens in their economy on a scale of 1-7 (1= extremely poor – among the worst in the world; 7= excellent – among the best in the world)
Accessibility of healthcare services	Survey respondents rate the accessibility of healthcare in their economy on a scale of 1-7 (1= limited – only the privileged have access; 7= universal – all citizens have access to healthcare)

3.14.3. Linkage to specific RAASR pillars

Pillars	Reasons
More open, well-functioning, transparent and competitive markets	• Availability of and access to basic services and infrastructure increase the productivity of scarce resources and raise the competitiveness of the economy.
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• Availability of and access to basic services and infrastructure allow various segments of the society to participate in and make meaningful contribution to the economy. For example, access to healthcare by previously excluded group means that members from the group are more likely to be able to join the labour market.
Sustainable social policies that promote the other pillars, enhance economic resilience, and are well-targeted, effective and non-discriminatory	• Business executives' perceptions on the availability of basic services and infrastructure reflect to a certain extent, their views on the adequacy of social policies and their level of implementation at the ground level.

	• Basic services and infrastructure also have a role in ensuring more equality in access to economic opportunity.

3.14.4. Possible actions at the economy level that may impact indicator

- Building more clinics and hospitals.
- Providing healthcare support to needy households.
- Increasing access to basic services such as clean water and electricity.
- Raising the ratio of doctors/nurses to population.
- Enhancing transport networks in rural areas.

3.14.5. Strengths of the indicator

- The set of indicators provides executives' perspectives and hence complements indicators which are not perception-based.
- It allows for implementation of policies at the ground level to be monitored.

3.14.6. Limitations of the indicator

- Perception-based indicators may be biased.
- It takes time to change perceptions even in the presence of actual improvements.
- When there is a change in methodology, it may be the case that some of the indicators may no longer be included in the survey.
- Perceptions may not change in the same direction as policies.
- Indicators do not cover all APEC economies.

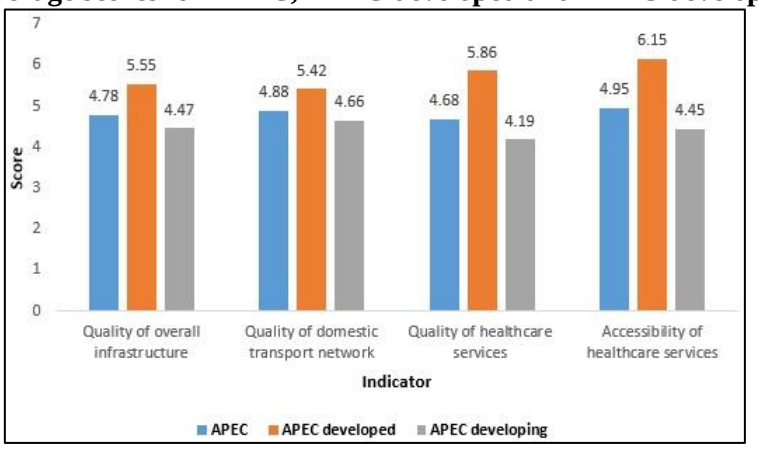
3.14.7. Coverage and additional information

Economies covered (since IGDR2015)	17 (AUS; CDA; CHL; PRC; INA; JPN; ROK; MAS; MEX; NZ; PE; PHL; RUS; SGP; THA; USA; and VN)
Latest available year	IGDR2015
Frequency	2015 is the report's inaugural year

Note: IGDR refers to Inclusive Growth and Development Report.

3.14.8. Analysis

Comparison of average scores for APEC, APEC developed and APEC developing (IGDR2015)



Note: APEC developed comprises of AUS; CDA; JPN; NZ; and USA. APEC developing comprises of CHL; PRC; INA; ROK; MAS; MEX; PE; PHL; RUS; SGP; THA; and VN.
Source: PSU computations based on data from World Economic Forum (accessed 11 May 2016).

APEC scores range from 4.68 (for quality of healthcare services) to 4.95 (for accessibility of healthcare services). The average scores of APEC developed economies are higher than that of APEC developing across all indicators. Despite this observation, it is worthwhile to note that there are large variations in scores among developing members, with the scores for some being closer to APEC developed economies.

3.15. WEF Inclusive Growth and Development Indicators for Fiscal Transfers

3.15.1. Source

http://reports.weforum.org/inclusive-growth-report-2015/

3.15.2. What does it tell us?

- The set of indicators captures the perspectives of business executives on the economy's fiscal policies.
- Indicators of fiscal transfers are classified into two groups, namely those pertaining to tax code, and those pertaining to social protection. For the former, the underlying view is that although taxation is a source of revenue which can be used to minimize poverty and inequality through different programs, it should not lead to disincentive to work, save and invest. In addition, government expenditure should not be wasteful and transfers should be well-targeted.
- For the purpose of RAASR, only indicators derived from the Executive Opinion Survey of the World Economic Forum are monitored because they are fully perception-based and will complement proposed indicators which are not based on perceptions.
- In addition, it will facilitate comparability because unlike others which are specific to economies of certain income group, these indicators are present across all assessed economies.
- The list of indicators and how they are asked in the survey are as follows:

Indicators	Definitions
Tax code	
Extent and effect of taxation on incentives to work	Survey respondents rate the extent to which taxes reduce the incentive to work on a scale of 1-7 (1= significantly reduce the incentive to work; 7= do not reduce incentive to work at all)
Extent and effect of taxation on incentives to invest	Survey respondents rate the extent to which taxes reduce the incentive to invest on a scale of 1-7 (1= significantly reduce the incentive to invest; 7= do not reduce incentive to invest at all)
Social protection	
Government effectiveness in reducing poverty and inequality	Survey respondents rate the effectiveness of their government's efforts to address income inequality on a scale of 1-7 (1= not effective at all; 7= extremely effective)
Wastefulness of government spending	Survey respondents rate the efficiency by which their government spends public revenue on a scale of 1-7 (1= extremely inefficiently; 7= extremely efficiently)

3.15.3. Linkage to specific RAASR pillars

Pillars	Reasons
More open, well-functioning, transparent and competitive markets	• Well-targeted fiscal and hence social policies raise the productivity and competitiveness of the economy.
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• Good fiscal policies mean that the government has a higher tendency to implement sustainable social policies such as economy-wide public health insurance that will potentially allow more segments of the society to participate and make meaningful contribution to the economy.
Sustainable social policies that promote the other pillars, enhance economic resilience, and are well-targeted, effective and non-discriminatory	• Business executives' perceptions on the economy's fiscal policies reflect to a certain extent, their views on the sustainability and effectiveness of its social policies.

3.15.4. Possible actions at the economy level that may impact indicator

- Simplifying the tax code.
- Introducing progressive taxation.
- Performing cost-benefit analysis prior to implementing social programs.
- Instituting impact analysis of ongoing social programs at regular intervals.
- Linking social assistance schemes to certain deliverables by recipients.

3.15.5. Strengths of the indicator

- The set of indicators provides executives' perspectives and hence complements indicators which are not perception-based.
- It allows for implementation of policies at the ground level to be monitored.

3.15.6. Limitations of the indicator

- Perception-based indicators may be biased.
- It takes time to change perceptions even in the presence of actual improvements.
- When there is a change in methodology, it may be the case that some of the indicators may no longer be included in the survey.
- Fiscal policies are not always positively correlated to social policies.
- Perceptions may not change in the same direction as policies.
- Indicators do not cover all APEC economies.

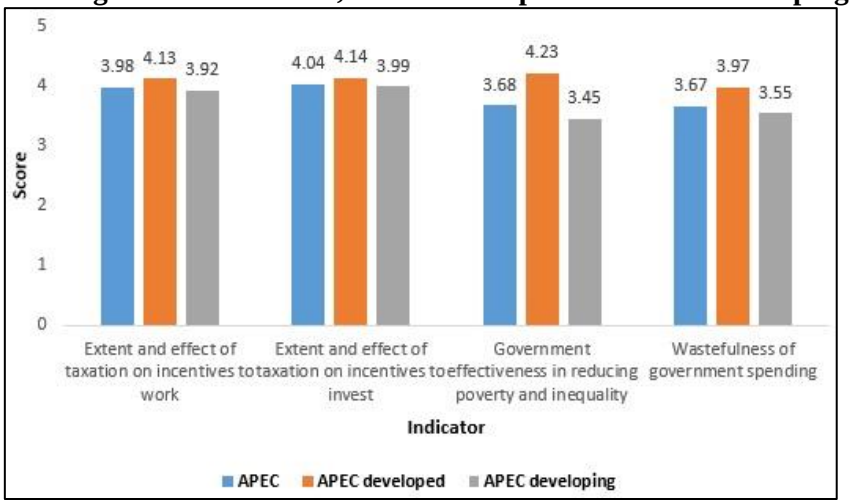
3.15.7. Coverage and additional information

Economies covered (since IGDR2015)	17 (AUS; CDA; CHL; PRC; INA; JPN; ROK; MAS; MEX; NZ; PE; PHL; RUS; SGP; THA; USA; and VN)
Latest available year	IGDR2015
Frequency	2015 is the report's inaugural year

Note: IGDR refers to Inclusive Growth and Development Report.

3.15.8. Analysis

Comparison of average scores for APEC, APEC developed and APEC developing (IGDR2015)



Note: APEC developed comprises of AUS; CDA; JPN; NZ; and USA. APEC developing comprises of CHL; PRC; INA; ROK; MAS; MEX; PE; PHL; RUS; SGP; THA; and VN.
Source: PSU computations based on data from World Economic Forum (accessed 11 May 2016).

APEC scores range from 3.67 (for wastefulness of government spending) to 4.04 (for extent and effect of taxation on incentives to invest). Classifying economies into APEC developed and developing economies showed that the former outperformed the latter across all indicators. However, it should be noted that there are large variations in the scores of individual economies within the same group.

3.16. UNESCO Pupil-Teacher Ratio

3.16.1. Source

http://www.uis.unesco.org/datacentre/pages/default.aspx

3.16.2. What does it tell us?

- Pupil-teacher ratio provides the level of human resources input being allocated to the education sector by indicating the number of students/pupils per teacher.
- Lower pupil-teacher ratio can arguably be associated with better teaching quality since each teacher can focus his/her effort on a smaller group of students.

3.16.3. Linkage to specific RAASR pillars

Pillars	Reasons
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• Improvement in teaching quality can potentially lead to more educated labour force capable of participating and making meaningful contribution to the economy.
Sustainable social policies that promote the other pillars, enhance economic resilience, and are well-targeted, effective and non-discriminatory	• Quality of education, as captured by pupil-teacher ratio and other indicators, is reflective of one aspect of an economy's social policy and can potentially be used to infer about the resilience of the economy in responding to changing global landscape.

3.16.4. Possible actions at the economy level that may impact indicator

- Training more teachers.
- Improving career prospects of teachers.
- Facilitating mid-career switch for individuals interested in teaching.
- Increasing the number of shifts/sessions per day.
- Introducing part-time teaching scheme.

3.16.5. Strengths of the indicator

- It is one way of monitoring quality of education.

3.16.6. Limitations of the indicator

- There may be underlying variations in the way indicator is calculated by each economy, hence possibly affecting quality. For example, there may be no differentiation between part-time and full-time teachers. It is also possible that double-shift teacher is only counted once.
- It is an outcome indicator and hence may be affected by factors other than policies such as the state of the global economy and element of choice.
- Assuming that specific policies can affect the indicator, it takes time for the impact of policies to be captured by the indicator.
- Established national norms on the number of pupils per teacher for each level of education may differ between economies depending on the preferred mode of teaching.

3.16.7. Coverage and additional information

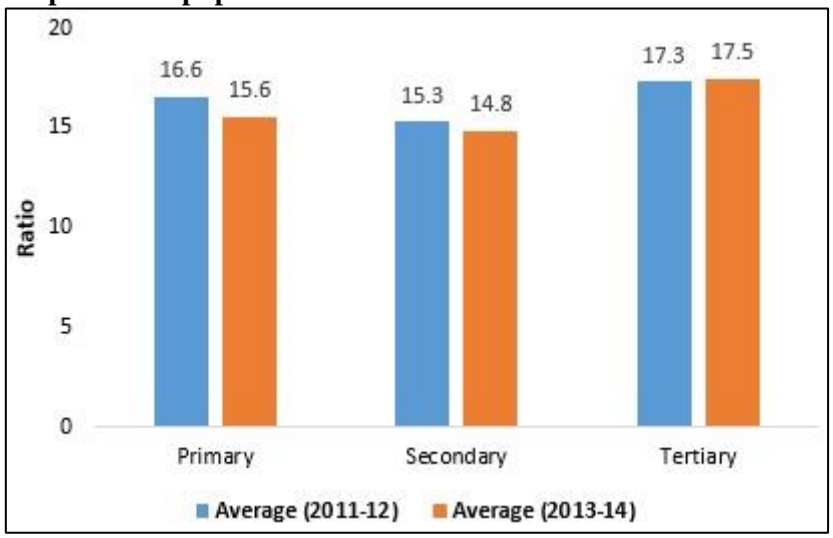
Economies covered (since 2011)	20 (AUS; BD; CHL; PRC; HKC; INA; JPN; ROK; MAS; MEX; NZ; PNG; PE; PHL; RUS; SGP; CT; THA; USA; VN)
Latest available year	2014

Frequency	Annual

Note: 1) Number of economies covered varies depending on level of education. 2) Latest available year varies between economies (see Appendix). 3) Chinese Taipei data is from Ministry of Education (http://english.moe.gov.tw/ct.asp?xItem=14508&CtNode=11431&mp=1) and latest available year is 2015-2016.

3.16.8. Analysis

Comparison of pupil-teacher ratio for APEC in 2011-12 and 2013-14



Note: APEC pupil-teacher ratio at primary level is the average ratio of 12 economies including BD; CHL; PRC; HKC; INA; JPN; ROK; MAS; PE; CT; USA; and VN. APEC pupil-teacher ratio at secondary level is the average ratio of 10 economies including BD; CHL; PRC; HKC; INA; ROK; MAS; PE; CT; and USA. APEC pupil-teacher ratio at tertiary level is the average ratio of 11 economies including BD; CHL; INA; JPN; ROK; MAS; NZ; SGP; CT; USA; and VN.
Source: PSU computations based on data from UNESCO (accessed 11 May 2016) and Chinese Taipei's Ministry of Education (accessed 20 May 2016).

APEC pupil-teacher ratio has fallen between 2011-12 and 2013-14 for primary and secondary level but has risen over the same period for tertiary level. However, it should be pointed that large variations exist between APEC economies. For example, the 2013-14 ratio at primary level ranges from 10.2 to 19.5. Similarly, the ratio at secondary level ranges from 9.4 to 21.0 while that at tertiary level ranges from 7.1 to 27.5.

3.17. World Bank and OECD Physicians Per 1,000 People

3.17.1. Source

World Bank World Development Indicators (http://data.worldbank.org/data-catalog/world-development-indicators) and OECD (http://stats.oecd.org/index.aspx)

3.17.2. What does it tell us?

- Physicians per 1,000 people provides one measure of the level of human resources available in the health sector.
- Higher number of physicians per 1,000 people can arguably be associated with better access to healthcare since it will be easier for the population to obtain treatment.
- In World Bank World Development Indicators, physicians include both generalist and specialist medical practitioners, while in OECD, it refers to practising physicians.

3.17.3. Linkage to specific RAASR pillars

Pillars	Reasons
Deeper participation by all segments of society, including MSMEs, women, youth, older workers, and people with disabilities	• Improved healthcare access can potentially lead to healthier workforce capable of making more meaningful contributions to the economy.
Sustainable social policies that promote the other pillars, enhance economic resilience, and are well-targeted, effective and non-discriminatory	• Improved healthcare access, as measured by physicians per 1,000 people, is one indicator that can be used to reflect the economy's social policy pertaining to health.

3.17.4. Possible actions at the economy level that may impact indicator

- Training more physicians.
- Having more mutual recognition agreements (MRAs) for healthcare professionals with other economies.
- Encouraging career in the healthcare sector.
- Introducing graduate medical programs.

3.17.5. Strengths of the indicator

- It is one way of monitoring access to healthcare.

3.17.6. Limitations of the indicator

- Underlying data are compiled from several sources such as national population censuses and labour force and employment surveys. Therefore, there are likely to be variations in coverage and quality which may affect comparability across economies.
- It is an outcome indicator and hence may be affected by factors other than policies such as the state of the global economy and element of choice.
- Assuming that specific policies can affect the indicator, it takes time for the impact of policies to be captured by the indicator.

3.17.7. Coverage and additional information

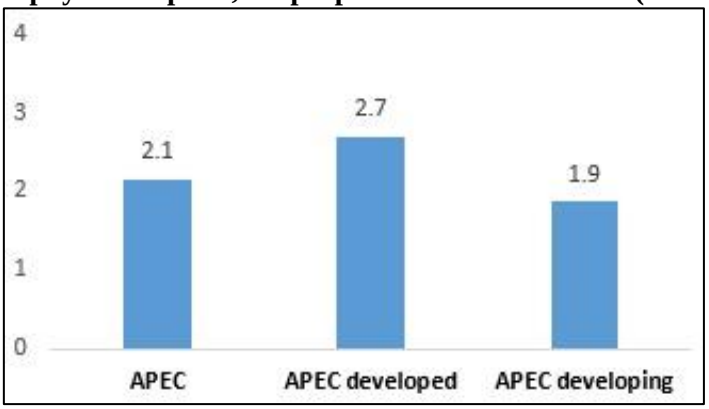
Economies covered (since 2011)	15 (AUS; BD; CDA; PRC; INA; JPN; ROK; MEX; NZ; PE; RUS; SGP; CT; USA; and VN)
Latest available year	2015

Frequency	Annual

Note: 1) Latest available year varies between economies (see Appendix). 2) Data for Australia; Canada; China; Indonesia; Japan; Korea; Mexico; New Zealand; Russia; and United States are from OECD, while data for the rest are from World Bank World Development Indicators. 3) Chinese Taipei data is calculated from Ministry of Health and Welfare (http://www.mohw.gov.tw/CHT/DOS/Statistic.aspx?f_list_no=474) as well as Directorate-General of Budget, Accounting and Statistics (http://statdb.dgbas.gov.tw/pxweb/dialog/statfile1L.asp) data and latest available year is 2014 and 2015 respectively.

3.17.8. Analysis

Comparison of physicians per 1,000 people in APEC economies (Average, 2011-15)



Note: APEC number of physicians per 1,000 people is the simple average (2011-15) of 15 economies as indicated in section 7. APEC developed comprises of AUS; CDA; JPN; NZ; and USA. APEC developing comprises of BD; PRC; INA; ROK; MEX; PE; RUS; SGP; CT; and VN.
Source: PSU computations based on data from World Bank World Development Indicators (accessed 7 July 2016), OECD (accessed 6 July 2016), and Chinese Taipei's Ministry of Health and Welfare and Directorate-General of Budget, Accounting and Statistics (accessed 21 May 2016).

The average number of physicians per 1,000 people in APEC between 2011 and 2015 is 2.1, with the average number being higher in APEC developed relative to APEC developing. However, there is a large variation within APEC member economies, particularly those in APEC developing with average number ranging from 0.3 to 5.0.

4. CONCLUDING REMARKS

APEC has a substantial history of work pertaining to structural reforms. While member economies are to be applauded for the efforts that they have applied so far, more could be done to advance APEC's structural reform agenda. Specifically in the area of tracking progress, the 17 external indicators proposed will allow for comparative analysis across economies and consequently, progress at the APEC-wide level under RAASR. Although these proposed indicators are not exhaustive and hence will not be able to cover all possible impacts that may arise from structural reform efforts, they provide a good snapshot of progress in certain areas or topics with linkages to the RAASR pillars and, hopefully, encourage deeper policy discussions. They will also serve to complement the monitoring of progress made by individual economies in their IAPs.

APPENDIX

Data availability for each indicator since 2011 and latest available year by economy

No.	Indicator	AUS	BD	CDA	CHL	PRC	HKC	INA	JPN	ROK	MAS	MEX	NZ	PNG	PE	PHL	RUS	SGP	CT	THA	USA	VN
1	World Bank Ease of Doing Business Distance to Frontier[1]	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015
2	OECD Economy-wide Product Market Regulation[2]	2013	×	2013	2013	2013	×	2008	2013	2013	×	2013	2013	×	×	×	2013	×	×	×	2008	×
3	OECD FDI Regulatory Restrictiveness Index	2015	×	2015	2015	2015	×	2015	2015	2015	2015	2015	2015	×	2015	2015	2015	×	×	×	2015	×
4	OECD Services Trade Restrictiveness Index	2015	×	2015	2015	2015	×	2015	2015	2015	×	2015	2015	×	×	×	2015	×	×	×	2015	×
5	The Conference Board Labour Productivity Per Person Employed	2016	×	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	×	2016	2016	2016	2016	2016	2016	2016	2016
6	WEF Global Competitiveness Indicators for Business Sophistication and Innovation[3]	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	×	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16
7	ILO Employment to Population Ratio	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015
8	ILO Share of Youth Unemployment	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015
9	ILO Labour Force Participation Rate for Age Group 65+	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015
10	World Bank Indicators for Women, Business and the Law[4]	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015
11	WEF Global Competitiveness Indicators for Labour Market Efficiency[3]	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	×	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16
12	WEF Global Competitiveness Indicators for Financial Market Efficiency[3]	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	×	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16	2015-16

13	UNESCO Tertiary Gross Enrolment Ratio[5,6]	2013	2014	✗	2013	2013	2014	2013	2013	2014	2013	2013	2013	✗	✗	2014	2013	✗	2015	2013	2013	2014
14	WEF Inclusive Growth and Development Indicators for Basic Services and Infrastructure[7]	2013-14	✗	2013-14	2013-14	2013-14	✗	2013-14	2013-14	2013-14	2013-14	2013-14	2013-14	✗	2013-14	2013-14	2013-14	2013-14	✗	2013-14	2013-14	2013-14
15	WEF Inclusive Growth and Development Indicators for Fiscal Transfers[7]	2013-14	✗	2013-14	2013-14	2013-14	✗	2013-14	2013-14	2013-14	2013-14	2013-14	2013-14	✗	2013-14	2013-14	2013-14	2013-14	✗	2013-14	2013-14	2013-14
16	UNESCO Pupil-Teacher Ratio[5,6]	2013	2014	✗	2013	2013	2014	2013	2013	2014	2013	2012	2013	2012	2014	2013	2012	2013	2015	2012	2013	2014
17	World Bank and OECD Physicians Per 1,000 People[8]	2014	2012	2014	✗	2014	✗	2013	2014	2015	✗	2014	2015	✗	2012	✗	2013	2013	2014	✗	2013	2013
Total no. of indicators available		17	11	15	16	17	11	17	17	17	14	17	17	6	14	14	17	13	12	13	17	14

Note: 1) For World Bank Ease of Doing Business Distance to Frontier, 2015 refers to data obtained from DB2016. 2) For OECD Economy-wide Product Market Regulation, data availability is from 2008 onwards since they are collected every 5 years and latest year is 2013. 3) For WEF Global Competitiveness Indicators for Business Sophistication and Innovation, Labour Market Efficiency and Financial Market Efficiency, 2015-16 refers to data obtained from GCR2016-17. 4) For World Bank Indicators for Women, Business and the Law, 2015 refers to data collected from Women, Business and the Law database 2016. 5) For CT, 2015 refers to 2015-16. 6) CT data is from Ministry of Education. 7) For WEF Inclusive Growth and Development Indicators for Basic Services and Infrastructure and Fiscal Transfers, 2013-14 refers to data collected from Inclusive Growth and Development Report 2015. 8) CT data is from Ministry of Health and Welfare and Directorate-General of Budget, Accounting and Statistics.

Source: Compilations by APEC PSU.

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