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EXECUTIVE SUMMARY

In Part III of the World Bank study[2] (distributed with the AEPR) commissioned by the Economic Committee, the case studies of APEC economies pursuing regulatory reforms demonstrated that the ability to achieve tangible progress is important in maintaining the momentum for successful regulatory reforms.

Building on Chapter 1 which outlined broad principles and frameworks which help to drive regulatory reform, this chapter focuses on outcomes arising from regulatory reforms. It discusses indicators that can be used to measure regulatory reform outcomes, and also analyses the relationship between regulatory reform outcomes (as proxied by these indicators) with broader economic performance improvements.

Regulatory reforms that aim to facilitate business activity should maximise benefits and minimise transaction costs to businesses. This will provide an environment where businesses are able to flourish, thus boosting investment, employment and economic activity within APEC. The World Bank's *Ease of Doing Business* (EoDB) indicators are widely used by businesses in deciding whether to invest in a particular economy or whether to place their supply chain within a region. The EoDB indicators benchmark 10 areas that affect the ease of doing business, usually as a result of regulations. Businesses in APEC, as represented by the APEC Business Advisory Council (ABAC), have been keen to remind APEC that it is the ease at which business can operate that matters most to businesses.

ABAC has also urged APEC governments to demonstrate tangible progress in improving the business environment, so as to convince businesses that they should continue to base their operations within the region. As the EoDB indicators implicitly measure the regulatory burden in each member economy, they form a useful, independent, third-party perspective measuring tangible progress arising from regulatory reforms. Such visible and tangible progress can, in turn, help governments and businesses create consensus for further regulatory reforms. More sustained regulatory reform efforts can then, in turn, create real improvements in economic outcomes, as shown in the World Bank study (distributed with the AEPR) which documented the correlation between improvements in EoDB indicators with improved economic outcomes.

Overall, there is a strong case for pursuing regulatory reforms in the areas proxied by the EoDB indicators. Nonetheless, the EoDB indicators do have their limitations. The chapter thus also examine other measures, such as the IMD Business School's "World Competitiveness Yearbook", and the World Economic Forum (WEF)'s "Global Competitiveness Report" to see how they stack up against the EoDB indicators. Each set of indicators have their pros and cons; it is important to be aware of what each of these does and does not measure. Ultimately, the prevalent use of the World Bank's EoDB indicators by businesses, and its attempt to directly measure the outcomes immediately attributable to regulations, make it a simple and yet appropriate measure for reflecting the progress in regulatory reform by APEC economies.

As APEC economies pursue regulatory reforms, they also need to be aware that the end objective is not just about performing well in the World Bank's EoDB survey as a result of the *de jure* changes in

[2] World Bank (2009), "The Ease of Doing Business in APEC: The Impact of Regulatory Reforms", prepared by the World Bank at the request of the Ministry of Trade and Industry of the Republic of Singapore on behalf of the Economic Committee of APEC. The principal authors were Deepak Bhattasali, Mary C. Hallward-Driemeier and Yue Li.

regulations or published procedures. Ultimately, enforcement matters. Otherwise, regulatory reforms will not lead to positive tangible economic impact. *De facto* implementation of the regulatory reforms, as well as further improvements in the broader institutional environment, are just as important in ensuring that the *de jure* improvements in measurable regulatory reforms translate into improvements in the business environment and hence create positive economic outcomes. As vividly illustrated by the World Bank case studies (distributed with the AEPR) of member economies who have undertaken regulatory reforms, methods to ensure that regulatory reforms are well-enforced range from changing the mindset of officials, to the use of modern information and communication technology (ICT) as an enabler of effective regulation.

1. INTRODUCTION

Regulatory reforms are about improvements to the quality of government regulations—i.e., reforms that minimise unnecessary regulatory obstacles to businesses, competition, innovation and growth, while ensuring that regulations efficiently serve important social objectives.

The importance of regulatory reform has been acknowledged by APEC, which places regulatory reform as one of five key pillars of the Leaders' Agenda to Implement Structural Reform (LAISR). Indeed, regulations were discussed in the inaugural 2006 APEC Economic Policy Report (AEPR), which stated:

> "Regulation is one of the primary tools that can be used to implement government policy. Regulation helps to define the 'rules of the game'. These rules partially define the interface between society, the state and the wider economy. Regulation is most useful when the presence of market failure would allow an unfettered market to produce undesirable outcomes."

Chapter 1 of this AEPR undertook an in-depth examination of frameworks for regulatory reform. Well-designed frameworks are essential for providing the processes and systems which allow regulatory reform to occur successfully. A good regulatory reform framework helps governments to constantly review and improve their regulations, while striking a balance between the need for regulation and the cost being imposed. This in turn helps to facilitate well functioning markets and the smooth operation of the economy more generally.

Chapter 2, complementing the discussion on regulatory reform frameworks, focuses on outcomes of regulatory reform. Identifying specific areas where regulatory reforms can be carried out is a first step in this direction. Measuring the regulatory burden in these areas is another, particularly as "what gets measured gets done". Measuring the regulatory burden will help economies show concrete progress resulting from regulatory reform, progress that benefits stakeholders (both businesses and government officials) and garners their continued support, creating momentum for further reforms. The EoDB indicators provide a starting template for considering areas where regulatory reforms can be carried out, but it also allows us to measure reform outcomes, and to benchmark them against the efforts of other economies. While the EoDB indicators may have drawbacks, they are generally well-regarded by businesses and can be used to measure progress in APEC from an independent, third-party perspective.

Putting in place regulatory frameworks, and ensuring that the frameworks achieve positive regulatory reform outcomes, is all the more important in the current challenging global economic environment. In particular, reform outcomes that improve the business environment and facilitate business activities will help enhance the flexibility of the economy, thus easing the impact of the crisis and allowing APEC to emerge stronger as a whole.

Amidst a crisis comes opportunity—according to the World Bank, crises like the current global financial downturn often trigger regulatory reforms, because economies respond to the crisis with regulatory initiatives of an ameliorative or precautionary nature. In this regard, Chapter 1 of the AEPR is a very useful reference to guide economies in carrying out regulatory initiatives. In the longer run, regulatory reforms that improve the business environment will help achieve economic growth and improvements in national competitiveness. Improvements in the business environment across all of APEC will improve the attractiveness and competitiveness of APEC as a region for businesses to operate in.

2. DRIVING REGULATORY REFORMS TO ACHIEVE OUTCOMES

At the Structural Reform Ministerial Meeting (SRMM) in August 2008, APEC Ministers committed to identify and prioritise structural reform efforts to address key behind-the-border barriers, and to develop a programme of capacity-building initiatives targeted at the priorities of individual or small groups of member economies. The Ministers recognised that as tariffs fall across the region, it is regulatory and other "behind the border" barriers that pose the greater challenge to businesses investing and trading in APEC. Reducing these "behind the border" impediments can help business better realise the potential gains from tariff reductions "at the border".

2.1 Building the impetus for regulatory reforms

There is now even greater urgency for action given the challenging conditions in the global economic environment. Global demand for goods and services has fallen. Credit has tightened. The survival of many businesses hangs in the balance, threatening jobs and livelihoods. Even as economies around the world pursue efforts to boost demand and ease credit, structural reforms to reduce "behind the border" impediments will help APEC economies ease the pain currently felt by businesses, and prepare their economies for eventual recovery. In particular, regulatory reform efforts that make it easier, faster and cheaper for businesses to carry out their functions can help cut cost, ease cash flow, save jobs and help businesses tide over the crisis and better position themselves for recovery.

In the face of the challenging global economic environment, APEC needs to act quickly and decisively to translate commitment into action, and put in place a framework of priority regulatory reform efforts to improve the business environment. This will grease the wheels of the economy, and will create more latitude to find new, distinct business opportunities within the current barren economic landscape. These businesses can then contribute to trade, investment and employment, and ultimately, boost economic growth.

To complement specific and targeted regulatory reforms, broader and well-designed structural reform policies can further help mitigate the impact of the crisis by setting the right incentives and by enhancing the flexibility of the economy. It is likely that economies that are well placed with respect to the five LAISR pillars, and which focus on policy measures that increase efficiency and productivity, will return to growth more quickly than economies with less robust frameworks. For instance, good corporate governance can play a key role in helping businesses to avoid being deeply involved in the troubles associated with the financial crisis, and to restore the confidence of investors in well-managed businesses who were not implicated by the financial crisis. The economies equipped with good public sector governance and sound economic and legal infrastructure could regain the confidence of businesses more easily and have more opportunities to receive investments once the global economy starts to pick up. Finally, good regulatory frameworks (which are elaborated upon extensively in Chapter 1) and competition policy can also contribute to bringing a new dynamism into the economy by supporting the establishment of new businesses and allowing smooth reallocation of resources from less competitive sectors to more competitive sectors in the new economic environment arising from the crisis.

Returning to the issue of regulatory reforms, to understand the process of driving and implementing regulatory reforms, the World Bank Study (distributed with the AEPR) commissioned by the EC performed eight in-depth case studies to examine the significant factors shaping individual reform efforts—the 2005 Company Law in China; Customs and Border-Related Reforms in Korea; Real Estate Industry Reforms in Malaysia; Business Registration in Mexico; Secured Transactions in Peru; Credit Reporting Systems in the Philippines; Tax Administration in Thailand; and Land Titling in Viet Nam. The advantage of these case studies is that they can help to glean insights into economy-specific experiences. These provide learning points on why and how regulatory reforms were implemented, and how APEC member economies have driven these reforms.

According to the World Bank (2009) study (distributed with the AEPR), the desire to improve national competitiveness is the main motive for regulatory reform among the APEC economies. This can be seen in documents that promote reforms, key pronouncements by leaders, and major performance monitoring benchmarks introduced into reform programs. The desire to be competitive has taken at least three distinct forms:

- Economies in transition from one economic system to another have implemented root-and-branch reforms to modernise their business environments by drawing extensively upon the laws, other institutions and practices of the more advanced market economies within APEC.

- Other economies, having experienced a crisis, took regulatory initiatives of an ameliorative or precautionary nature. For these economies, the benchmarks for reform initiatives came from international experience, and the importance of remaining competitive in relation to other economies was used to motivate regulatory reforms.

- Several economies have also had narrower development objectives in mind when initiating reforms, though within the ambit of wider national competitiveness concerns.

The World Bank observed from the case studies that individual regulatory reforms are most effective when pursued as part of a broader cluster of co-ordinated reforms. Such broad-based and synergistic reforms matter, and may even be necessary in an economy where finance, business agents, institutions and resources are interconnected. Broader reform clusters may also help overcome a single "binding constraint" holding back an economy.

2.2 Identifying priority regulatory reforms in APEC to spark reforms

From the World Bank (2009) study (distributed with the AEPR), it is apparent that in order to identify a need for regulatory change, governments have often relied on stakeholders and those affected by regulations to highlight the need for such changes. Such drivers of change, from outside the Government, could be individuals seeking to start up enterprises, or global or local firms seeking to invest or expand in the economy. According to the World Bank study, listening to these stakeholders and allowing them to participate in the design of regulations can be a powerful tool for fostering effective regulatory reform. Successful regulatory reforms that benefit individual stakeholders will give them incentives to drive other reforms, for their own benefit and that of the wider economy.

APEC can also play a role in driving regulatory reforms across APEC member economies—by identifying and prioritising regulatory reforms that various stakeholders deem important and useful. To this extent, one tool that has been extensively discussed within APEC is the World Bank's *Ease of Doing Busines*s (EoDB) indicators, with broad agreement that the EoDB indicators are useful for identifying regulatory burdens on business transactions.

Box 2-1: Measuring the ease of doing business in APEC

The World Bank's *Doing Business* index identifies the burdens imposed by government requirements on business transactions, and provides quantitative measures of this burden. At the moment, the Doing Business project tracks regulatory burdens affecting 10 stages of a company's business activities. These are: Starting a Business; Registering Property; Dealing with Permits; Accessing Credit; Employing Workers; Enforcing Contracts; Protecting Investors; Trading Across Borders; Paying Taxes; and Closing a Business.

The Doing Business methodology is based on specific assumptions about the company that is being affected. For instance, where relevant, the methodology assumes that the company is a private, limited liability company that operates in the largest business city in the economy. Since its inception in 2003, the Doing Business methodology has been continually improved. More indicators have been added, and the methodology for existing indicators has been refined. While these are not a perfect set of indicators, it forms a good proxy for the ease of doing business.

For more information, please refer to:
http://www.doingbusiness.org/
http://blog.doingbusiness.org/

To identify regulatory reform priorities, APEC is also well-placed to gather feedback from various stakeholders in the regulatory reform process. The Economic Committee's PRIBE (Prioritisation of Regulatory Reform to Improve the Business Environment) process is one such initiative that drew on feedback from both governments and businesses to determine priorities for regulatory reform. It used the results from an ABAC survey on business priorities, which asked businesses to identify and prioritise regulatory impediments they face in carrying out various functions, based on the classification of functions adopted by the World Bank *Ease of Doing Business* (EoDB) survey, and asks for suggestions on how these impediments can be reduced or removed. The PRIBE initiative also drew on a separate Economic Committee survey on member economies' priorities for regulatory reform to improve the business environment in APEC. Finally, it added an analytical perspective using the findings of the World Bank on the economic impact of regulatory reforms in the areas measured by the EoDB indicators.

The PRIBE initiative identified five priority areas in APEC: Starting a Business, Getting Credit, Trading across Borders, Enforcing Contracts and Dealing with Permits, which has been endorsed by APEC Senior Officials, and can form the basis of a cluster of regulatory reforms that APEC member economies can collectively focus on. Regulatory reforms can then improve the business environment in APEC and keep the region competitive. Improvements in the business environment in APEC would also foster activities that generate trade and investment flows beyond APEC, benefiting the global economy at large.

3. MEASURING REGULATORY REFORM OUTCOMES TO MAINTAIN MOMENTUM FOR REFORM

Chapter 1 of the AEPR talks about the benefits of regulatory reform and the methods and tools to implement them. At the same time, initiatives to build impetus for regulatory reform have to be augmented with the means to maintain their momentum. Such momentum can help governments of APEC member economies build up clusters of complementary regulatory reforms over time. To this extent, the above-mentioned bottom-up initiative to identify priority regulatory reforms can therefore be complemented by a focus on measurable results. These measurements and the setting of targets can demonstrate APEC's resolve to ensure that our capacity building efforts result in effective implementation, yield concrete benefits, and make the region an even more attractive one for businesses to grow in or locate into.

The use of concrete and easily understood metrics that help show continued progress over time to business stakeholders, and also help economies publicise their efforts and generate domestic support for reform are then a crucial tool in regulatory reform efforts. In addition, these metrics can be benchmarked against other economies around the world; it would allow individual economies to generate the necessary competitive dynamics within their own economies, to spur government agencies to make the necessary regulatory changes so as to make their own economies more attractive than other competing locations for businesses and investments.

3.1 The World Bank's *Ease of Doing Business* indicators

The EoDB indicators not only identify key regulatory impediments faced by domestic small- and medium-sized companies through different stages of their lifecycle, it also measures the burden imposed by these regulations. The indicators mainly use official data from readings of laws and regulations, backed by official fee schedules and timelines for the various processes involved. Where applicable, the cost and time components of certain indicators are based on surveys conducted with legal practitioners and professionals who undertake these processes regularly, in order to tap into their greater familiarity with actual procedures. This approach of actual data collection, compared to using perception surveys that only capture one-time experiences of individuals, arguably provides a more accurate reflection of the actual costs and time involved in the various procedures.

The calculation of the index is based on a simple averaging method. For each of the 10 indicators, economies are ranked according to the simple average of the percentile rankings on their respective sub-indicators.[3] For the overall economy-level EoDB rank, economies are ordered according to the simple average of their percentile rankings on each of the 10 indicators. This simple averaging method means that every indicator is equally important in ensuring the overall competitiveness of an economy.

In recent years, APEC economies have made notable improvements in regulatory areas measured by the EoDB indicators. According to the World Bank (2009) study (distributed with the AEPR), Indonesia made substantive reforms in seven out of the 10 EoDB areas during the period spanning 2003-2008, while China and Vietnam reformed in six areas each. In particular, the World Bank (2009) study found that over the last five years, APEC economies have focused their regulatory reform efforts on three key areas, namely business formation, global integration and finance.

With these reforms, based on the World Bank's EoDB survey, APEC has performed well on an overall basis in terms of reforms. APEC economies also had an average rank of 51 out of 181 economies in 2008 and outperformed the regions of Eastern Europe and Central Asia, where the economies had an average rank of only 76. However, in comparison to the OECD economies which had an average rank of 26, there is much room for improvement. Furthermore, while APEC's average rank remains high, it has slipped in recent years, from an average rank of 45 in 2006, to 47 in 2007 to 51 in 2008[4] —the competitiveness of APEC as a region has thus been slipping.

3.2. Impact of regulatory reforms on economic outcomes from EC-World Bank study

In the World Bank (2009) study (distributed with the AEPR) commissioned by the EC, researchers found that some of the EoDB indicators are more strongly associated with positive economic

[3] Where data is not available for a particular component sub-indicator, the economy will receives a "no practice" or "not possible" mark, which puts them at the bottom of the global ranking on the relevant sub-indicators. While this may not be optimal as a methodology, it does also help to highlight areas where economies ought to ensure that regulatory information is easily available for access by businesses, thus pointing to inadequacies related to transparency in the provision of regulatory information.

[4] Average rank was out of 175 in 2006, 178 in 2007 and 181 in 2008, but as the new economies added were smaller/developing economies, APEC economies ought to rank above rather than below them.

outcomes, with improvement in these indicators associated with increases in investment, business entry and employment.

The strongest evidence of the positive impact on investment, business entry and employment arising from improvement in regulations comes from the cross-economy regressions. EoDB indicators that measure access to finance, labour flexibility and contract enforcement are also positively associated with improvements in economic outcomes such as income, firm entry rates, credit available to the private sector and labour turnover. Evidence of the impact of regulatory reforms from these cross-economy regressions are corroborated by results that focus on sectoral variations within economies. The World Bank researchers found that for sectors that are more reliant on external finance, investment rates are higher when the some of the EoDB indicators such as Getting Credit or Enforcing Contracts were better.

The World Bank researchers also examined how regulatory reforms over time, by reducing the regulatory burden, affected economic outcomes. Here, they found some significant results, although the overall association was relatively weaker, particularly after accounting for economy fixed-effects. One such significant result was that improved credit information helps raise credit to the private sector and increase investment in better-governed economies (as measured by the control of corruption in the World Bank's World Governance Indicators). An interesting implication of this result is that regulatory reforms may be more effective when they are concomitant with improvements in the broader regulatory environment.

It is important to note that while there is evidence of association in the World Bank study (distributed with the AEPR) between EoDB indicators and positive economic outcomes, more in-depth studies, conducted over a longer time series, will need to be carried out to determine causality with certainty. Conversely, we should not be too surprised that the longitudinal analysis produced relatively weak results, as the World Bank only started collecting data on EoDB indicators from 2004, and as such, the EoDB data series is short. It is only natural that few EoDB indicators are robust to the inclusion of economy fixed effects—in fact, we ought to be more surprised if the EoDB indicators, being such a short time series, are actually robust to the inclusion of economy fixed effects. Indeed, the World Bank (2009) study noted that as the panel data on EoDB indicators grows with the passage of time, similar studies would be worth repeating.

3.3 Alternative indicators for measuring regulatory reform

There are critics on the robustness of the World Bank's EoDB indicators in measuring tangible regulatory reform efforts. The objections range from the fact that EoDB indicators are often *de jure* indicators, which are not reflective of *de facto* realities, to objections on the way that sampling and surveys are done, to the dissatisfaction that overall ranks are determined on the basis of a simple weighted average across indicators. In this section, we thus examine two other alternative sets of widely used international benchmarking tools that could also measure the quality of an economy's business environment. They are namely the World Competitiveness Yearbook (WCY) prepared by the IMD Business School and the Global Competitiveness Report (GCR) prepared by the World Economic Forum.

3.3.1 The World Competitiveness Yearbook

The World Competitiveness Yearbook (WCY) by the International Institute for Management Development (IMD) Business School is a ranking that analyses the competitiveness of the business environment in several economies, including sub-regions of economies. Economies that can create and maintain a better business environment will help businesses operating within these economies to be more competitive. "Competitiveness" as measured by the WCY is divided into four main factors. Each main factor is in turn divided into five sub-factors as follows, with specific criteria in each sub-factor:

- Economic performance (82 criteria) – domestic economy, international trade, international investment, employment, prices;

- Government efficiency (70 criteria) – public finance, fiscal policy, institutional framework, business legislation, societal framework;

- Business efficiency (67 criteria) - productivity, labour market, finance, management practices, attitudes and values; and

- Infrastructure (110 criteria) – basic infrastructure, technological infrastructure, scientific infrastructure, health and environment, education

The WCY uses two thirds "hard data" and one third "soft data". Hard data refers to data that can be measured, such as GDP per capita, and are obtained through various organisations such as the IMD's Partner Institutes. On the other hand, soft data refers to criteria that can only be perceived, such as the availability of good managers. Soft data is collected through the IMD's annual Executive Opinion Survey, which polls senior business leaders representing a cross-section of each economy's business community.

3.3.2 The Global Competitiveness Report

The World Economic Forum's (WEF) *Global Competitiveness Report (GCR)* aims to proxy competitiveness by measuring indicators on institutions, policies and factors that determine the level of productivity of an economy in the medium to long run (WEF, 2008). Through these measurements, it aims to provide policymakers information to better formulate improved economic policies and institutional reforms.

Some indicators used to calculate the GCR's composite Global Competitiveness Index (GCI) are soft data from the WEF's Executive Opinion Survey. Other indicators are hard data culled from multiple sources, such as the International Monetary Fund, the International Telecommunications Union, United Nations agencies, and even the World Bank's EoDB indicators. The GCI indicators are classified into 12 pillars of competitiveness, grouped into three sub-indices as follows:

Table 2-1: GCI's 3 sub-indices and 12 pillars of competitiveness

Basic requirements	Efficiency enhancers	Innovation and sophistication
• Institutions • Infrastructure • Macroeconomic stability • Health and primary education	• Higher education and training • Goods market efficiency • Labour market efficiency • Financial market sophistication • Technological readiness • Market size	• Business sophistication • Innovation

Source: Global Competitiveness Report (GCR)

Each economy's performance on these 12 pillars is weighted to obtain its overall score. For the 134 economies surveyed in the 2008-2009 report, these weights are determined based on their stage of development—whether they are "factor-driven", "efficiency-driven" and "innovation-driven".

Table 2-2: Weights of the three GCI sub-indices at each stage of development

Pillar Group	Factor-driven (%)	Efficiency-driven (%)	Innovation-driven (%)
Basic requirements	60	40	20
Efficiency enhancers	35	50	50
Innovation and sophistication factors	5	10	30
Total	100	100	100

Source: Global Competitiveness Report (GCR)

3.4 Comparing the three sets of indicators

While the WCY and the GCI indicators are similar to the EoDB indicators in that they all measure economic competitiveness, they differ in key respects (see Table 2-3). These differences give each set of indicators its own unique set of strengths.

Table 2-3: Comparison of the three indicators

	Organisation of Data	Methods of data collection	No. of Economies	Index Calculation Method
EoDB	• 10 topics related to the stages in the lifecycle of a local SME	• Rules and regulations • Interview with legal practitioners and professionals	181	Simple average
WCY	• Four main factors divided into five sub factors each • Each sub factor has several criteria • Some criteria not used in index calculation	• 1/3 soft data from surveys • 2/3 Hard data	57	Standard deviation method
GCI	• 12 pillars of competitiveness organised into three different categories • Economies organised into three different types and two transition types	• Executive opinion survey • Hard data	134	Weighted average

As shown above in Table 2-3, the World Bank EoDB indicators are the most comprehensive set of indicators in terms of economy coverage. They include all of APEC's member economies. In contrast, the GCR does not feature Papua New Guinea and the WCY does not include Brunei, Papua New Guinea and Viet Nam. Therefore, to ensure comparability of economies both within APEC and externally with the rest of the world, the EoDB indicators are arguably the most appropriate choice.

In addition, the World Bank EoDB indicators most directly measure the impact of regulations affecting businesses, thus lending themselves to target setting and performance monitoring in regulatory reform efforts. The World Bank EoDB indicators, such as starting business time, offer concrete suggestions for APEC economies to act on and benchmark themselves against. Moreover, they tend to be intuitive, relatively uncontroversial and simple to introduce.

On the other hand, WCY and GCR tend to measure broader macroeconomic variables, such as the price index and international trade, rather than the regulations directly affecting businesses. Moreover, they tend to measure many more criteria than the EoDB indicators. For instance, in the WCY 2009 report, 245 criteria were used in the calculation of overall rankings. For reforms to be effective, it is important to identify priorities and set feasible targets for improvement. The EoDB, having 10 straightforward indicators with less than 30 sub-indicators, has a clearer focus that highlights specific priority areas for possible simple reforms. Such simple reforms are useful at the initial stages of measuring regulatory reforms and will serve as springboards for more comprehensive reforms in the future. On the other hand, both the WCY and the GCR are made up of a large number of criteria, which means that certain specific regulatory choke points may not be immediately obvious.

Furthermore, the measurability of the EoDB indicators allows policymakers to set reform targets more conveniently. While the WCY and GCR are more comprehensive and include a wider range of criteria from the more general macroeconomic environment to the more specific details of doing business, some of these aspects are not measurable quantitatively in absolute terms_and tend to be more subjective than EoDB indicators. For instance, the soft data in the WCY and the data from the Executive Opinion Survey in the GCI are more about individual perceptions and personal opinion. On the other hand, all the criteria in the EoDB are measurable, may it be the number of procedures, cost or time involved in the various stages in the lifecycle of a business. This helps economies set specific targets such as reducing the time required to get a construction permit by a certain percentage point by a certain time. After the reform period, pre-reform and post-reform numbers can be compared to gauge the effectiveness of these regulatory reforms. From the various case studies published in the World Bank (2009) study (distributed with the AEPR), we see that simple reforms do deliver visible and significant results. While this can be done for WCY and GCR indicators as well, the more subjective nature of these indicators makes them even more vulnerable to criticism. Given that the indicators themselves are supposed to serve as objective benchmarks and build the momentum for reforms, questions about the validity of these benchmarks that can potentially derail regulatory reform would be undesirable.

This is not to say that the EoDB indicators are flawless. The EoDB indicators do have their limitations, though some of these can be resolved. For instance, economic heterogeneity across regions is not taken into consideration. Where applicable, the EoDB assumes that the business is a private, limited liability firm operating in the *largest business city* of the economy. For many economies, especially large economies with many levels of administration, procedures/practices associated with the regulatory environment probably differs significantly across different regions of the economy. Hence, EoDB indicators do not provide the fullest reflection of the business environment in the entire economy as a whole. There may thus be a need for World Bank to complement its national indicators with subnational indicators that investigate more closely the conditions in different cities of the economy under study. To date, 15 sub-national studies have been conducted in economies and regions including Veneto, South East Europe, Nigeria and China.

Also, as the EoDB indicators tend not to cover the entire breadth of issues affecting the business environment, economies may want to carry out structural and regulatory reforms that go beyond simply improving the ease of doing business indicators through the simplification of regulations and/or procedures. Such broader and more comprehensive reforms, possibly also aimed at improving the business environment, may benefit from measurement of progress using other international benchmarks, such as the WCY and GCR, as they provide a more comprehensive assessment of business environment issues. Nonetheless the EoDB indicators are still very useful, as they provide a lens through which economies can examine specific areas of *regulations* that affect business transactions.

3.5 Analysing alternative regulatory indicators

A natural question arising from this discussion is how well alternative sets of regulatory indicators drawn from EoDB, WCY and GCR provide a consistent picture of the quality of the regulatory environment in APEC economies. To examine this issue, the Asia Competitiveness Institute (ACI) carried out a comparative study[5] to assess the relative strength of these different sets of indicators' in terms of their association with improved economic outcomes.

Since the WCY and GCR measure competitiveness on a much broader basis, the ACI study attempted to select a number of sub-indices from WCY and GCR that proxy the regulatory environment, in order to facilitate appropriate comparison with the EoDB indicators. These indices, which are mainly survey responses, capture information on regulatory areas that are similar to the EoDB indicators, as well as those that contain information on regulatory aspects that are not covered in EoDB. The set of indicators and their detailed definitions are attached as Annexes 2-1 to 2-4.

The study found varying degrees of correlation between an APEC economy's rank based on the EoDB indicators versus that of a WCY or GCR indicator. Spearman rank correlation coefficients, computed for 2008 data, range from statistically insignificant to significant coefficients with values between 0.455 and 0.798. The full set of correlation coefficients is presented in Annex 2-6. This indicates that improvements in EoDB indicators are broadly correlated with improvements in WCY/GCR indicators in some regulatory areas.

Preliminary econometric analyses conducted on panel data between 2003 and 2007 also seem to show that improvements in some of the indicators selected from WCY, GCR and EoDB have statistically significant results in terms of being associated with positive economic outcomes in investment rate, credit to the private sector and total unemployment rate. Among the WCY indicators, variables on the support of legislation in the creation of firm, the tax system and the efficiency of competition legislation show evidence of having statistically significant links with economic outcomes. Among the GCR indicators, protection of minority shareholders' interests seems to be a relatively significant factor. As for EoDB indicators, the time taken to start a business, the recovery rate of closing a business and the rigidity of employment index are significant variables. This corroborates broadly with the World Bank (2009) study. Among the indicators studied by ACI, the statistically significant EoDB indicators are closely associated with regulatory reforms, whereas the WCY and GCR indicators tend to be more closely related with legislative or broader policy reforms.

Overall, the ACI study noted that all regression results—for the EoDB, WCY, and GCR indicators—are sensitive to variations in the sample, time period and measurement unit of the regulatory indicators and whether the econometric method takes into account economy fixed effects. It noted that these results reinforce the need for ongoing effort to build a consistent set of data over time across all data sources for testing over a longer panel to generate robust findings. In the context of this chapter, the preliminary results of the ACI study emphasises that the relatively weaker results found by the World Bank (2009) study (distributed with the AEPR) in analysing the aggregate variations across time in an individual economy's regulatory burden is due more to technical econometric issues associated with a short time series, because problems also exist for alternative indicators such as the WCY and GCR when studied over an equally short time frame.

The ACI study also serves to highlight that while the EoDB indicators might be suitable for use by APEC economies in measuring regulatory reforms, a comprehensive assessment of the regulatory environment will benefit from the use of complementary regulatory indicators from a range of sources.

4. IMPLEMENTATION AND ENFORCEMENT, AND COMPREHENSIVE IMPROVEMENTS IN THE BROADER REGULATORY ENVIRONMENT

In short, the EoDB indicators are therefore useful in identifying areas for driving targeted regulatory reforms to make it easier, faster and cheaper to do business in APEC. They can also measure progress in these regulatory reforms, to help maintain reform momentum. Nonetheless, in

[5] Forthcoming Working Paper, "Comparing Alternative Indicators of the Regulatory Environment in APEC", prepared by the Asia Competitiveness Institute (ACI), Lee Kuan Yew School of Public Policy, National University of Singapore in collaboration with the Ministry of Trade and Industry of the Republic of Singapore. The principal author was Marn-Heong Wong.

implementing these reforms, regulatory authorities will also need to remember that the devil is in the details. According to the World Bank (2009) study (distributed with the AEPR), as the EoDB indicators are *de jure* measures of regulation, they represent the rules and regulations implemented by the APEC economies, but do not capture *de facto* regulations, which are the effect of regulations actually experienced by firms on the ground. To ensure that improvements in EoDB indicators lead to improved economic outcomes, these reforms are therefore best carried out as part of a broader structural and regulatory reform agenda, that ensures a better regulatory environment as well as consistency in enforcement throughout the economy.

To study the link between *de jure* reforms and *de facto* impact experienced by firms, the World Bank (2009) study (distributed with the AEPR) supplemented its analysis of EoDB indicators with analysis on its Enterprise Surveys. These Enterprise Surveys, which are broad surveys of over 85,000 firms in over 100 economies, capture what are actually experienced on the ground by firms and are useful complements to the EoDB indicators. As a survey that gathers the opinions of business stakeholders, the Enterprise Surveys are similar to the “soft data” collected in the WCY and GCR. The World Bank (2009) study thus used these to examine the link between *de jure* requirements (as captured by the EoDB indicators), *de facto* implementation (that would ensure that improvements in the EoDB indicators are actually felt on the ground), and impact on economic outcomes.

Broadly, the World Bank (2009) study found a high association between *de jure* regulations and *de facto* firm experiences, only if implementation was strong. For instance, economies with a higher regulatory burden, that did not perform well in the EoDB indicators, generally saw more time spent by businesses with government officials. However, there was also significant variation in the different firms’ experiences within the same economy—this points to a need for consistency in implementation. For instance, the World Bank’s analysis showed that smaller firms, and those in smaller cities, had experienced a higher regulatory burden—there was evidence of large variation in regulatory enforcement within economies.

These findings were corroborated by the case studies done by the World Bank (2009) study, which found that the link between improvements in EoDB indicators and positive economic outcomes is greater when there is more consistent enforcement by officials. The World Bank noted that this requires changing the mindset of officials from a “ruling and administering” mode to a service orientation, and creating incentives for officials to improve the quality and consistency of enforcement—thus translating into a better business environment for firms. For instance, according to the World Bank, Thailand’s reforms of the operations of its revenue department showed that it was possible to put in place a robust monitoring and evaluation system that covers not just physical targets and outcomes, but also behaviours.

Moreover, according to the World Bank (2009) study (distributed with the AEPR), there is evidence that improvements in the regulatory burden have a greater positive impact on economic outcomes when there is a better regulatory environment that ensures proper regulatory implementation. For instance, in economies with strong performance in EoDB indicators, consistency of enforcement was associated with higher employment growth. There was also evidence that enforcement issues are intertwined with an economy’s broader governance framework. Compared to economies that had consistency of enforcement but weak rule of law, economies that combined consistency of enforcement with a strong rule of law saw higher employment growth.

To ensure that regulatory reforms are implemented and enforced in a consistent manner, the World Bank (2009) study suggested that governments can make use of modern information and communication technology (ICT). According to the World Bank, ICT played a positive role as a facilitator of reform in Customs and border-related reforms in Korea and in the credit reporting systems reform in the Philippines. ICT can also help mitigate the effects of poor governance, especially in economies with a poor performance culture and weak incentives to carry out proper and consistent enforcement. Finally, the World Bank (2009) study (distributed with the AEPR) noted that ICT can improve the business environment by reducing the discretionary power by bureaucrats, and thereby reducing the scope for corruption.

5. CONCLUSION

A focus on measuring regulatory reform outcomes, in concrete improvements in the domestic business environment in APEC, helps ensure that a well-designed regulatory reform framework achieves its desired end goals. In particular, as "what gets measured gets done", it will be useful for APEC to identify specific areas of regulatory reform as priorities and measure progress over time in these areas. Concrete reform progress will in turn help create momentum for further reforms. In this regard, the EoDB indicators provide a useful starting monitoring tool, notwithstanding their limitations. Focussed reform initiatives built around the EoDB indicators can then be complemented by efforts to improve the broader business environment and efforts to ensure consistency of enforcement, which will help ensure that these initiatives will really result in concrete economic benefits.

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Annex 2-1: WCY and GCR Indicators, and Corresponding EoDB Regulatory Areas

S/N	IMD WCY	WEF GCR	WB EoDB
1	Creation of firms	NA	Starting a business
2	Shareholders' rights	Protection of minority shareholders' interests	Protecting investors
3	NA[1]	NA	Dealing with permits
4	Composite index comprising indices on: - Corporate tax rate on profit - Real corporate taxes - Employer's social security contribution rate	NA	Paying taxes
5	Composite index comprising indices on: - Labour regulations - Unemployment Legislation	Composite index comprising indices on: - Flexibility of wage determination - Hiring and firing practice	Employing workers
6	Composite index comprising indices on: - Customs authorities - Protectionism - Public sector contracts - Foreign investors	Composite index comprising indices on: - Burden of customs procedures - Business impact of rules on FDI - Prevalence of trade barriers - Prevalence of foreign ownership	Trading across borders
7	NA	NA	Registering property
8	Legal and regulatory framework	NA	Enforcing contracts
9	Banking regulation	Ease of access to loans	Getting credit
10	NA	NA	Closing a business
11	Ease of doing business	Burden of government regulation	Overall Ease of Doing Business
12	Competition legislation	Effectiveness of anti-monopoly policy	NA
	Price controls		

Notes: 1. NA means that a separate WCY or GCR indicator that corresponds to a particular EoDB regulatory area is not available.

Annex 2-2: World Bank's *Ease of Doing Business* (EoDB) indicators

S/N	Regulation	Definition	Measurement	Data
1	Starting a business	Procedures, time, cost and paid-in minimum capital to open a new business	Records all procedures that are officially required for an entrepreneur to start up and formally operate an industrial or commercial business. These include obtaining all necessary licences and permits and completing any required notifications, verifications or inscriptions for the company and employees with relevant authorities	Survey
2	Protecting investors	Strength of investor protection index: extent of disclosure index, extent of director liability index and ease of shareholder suits index	Measures the strength of minority shareholder protections against directors' misuse of corporate assets for personal gain. The indicators distinguish three dimensions of investor protection: transparency of related-party transactions (extent of disclosure index), liability for self-dealing (extent of director liability index) and shareholders' ability to sue officers and directors for misconduct (ease of shareholder suits index).	Survey
3	Dealing with permits	Procedures, time and cost to obtain construction permits, inspections and utility connections	Records all procedures required for a business in the construction industry to build a standardised warehouse. These procedures include submitting all relevant project-specific documents (for example, building plans and site maps) to the authorities; obtaining all necessary clearances, licences, permits and certificates; completing all required notifications; and receiving all necessary inspections.	Survey
4	Paying taxes	Number of tax payments, time to prepare and file tax returns and to pay taxes, total taxes as a share of profit before all taxes borne	Records the taxes and mandatory contributions that a medium-sized company must pay in a given year, as well as measures of the administrative burden of paying taxes and contributions. Taxes and contributions measured include the profit or corporate income tax, social contributions and labour taxes paid by the employer, property taxes, property transfer taxes, dividend tax, capital gains tax, financial transactions tax, waste collection taxes and vehicle and road taxes.	Survey
5	Employing workers	Difficulty of hiring index, rigidity of hours index, difficulty of firing index, firing cost	Measures the regulation of employment, specifically as it affects the hiring and firing of workers and the rigidity of working hours.	Survey
6	Trading across borders	Documents, time and cost to export and import	Compiles procedural requirements for exporting and importing a standardised cargo of goods by ocean transport.	Survey

S/N	Regulation	Definition	Measurement	Data
7	Registering property	Procedures, time and cost to transfer commercial real estate	Records the full sequence of procedures necessary for a business (buyer) to purchase a property from another business (seller) and to transfer the property title to the buyer's name so that the buyer can use the property for expanding its business, use the property as collateral in taking new loans or, if necessary, sell the property to another business.	Survey
8	Enforcing contracts	Procedures, time and cost to resolve a commercial dispute	Indicators on enforcing contracts measure the efficiency of the judicial system in resolving a commercial dispute.	Survey
9	Getting credit	Strength of legal rights index, depth of credit information index	Constructs measures of the legal rights of borrowers and lenders and the sharing of credit information. The first set of indicators describes how well collateral and bankruptcy laws facilitate lending. The second set measures the coverage, scope, quality and accessibility of credit information available through public and private credit registries.	Survey
10	Closing a business	Recovery rate in bankruptcy	Doing Business studies the time, cost and outcomes of bankruptcy proceedings involving domestic entities.	Survey

Annex 2-3: World Bank/ World Economic Forum- EoDB Indicators and Global Competitiveness Report (GCR) Indicators

S/N	Regulation	Definition	Data	Source
1	Burden of government regulation	Complying with administrative requirements (permits, regulations, reporting) issued by government in your economy	Survey (1=burdensome, 7=not burdensome)	World Economic Forum, Executive Opinion Survey 2007, 2008
2	Total tax rate	This variable is a combination of profit tax (% of profits), labour tax and contribution (% of profits), and other taxes (% of profits)	Hard data	The World Bank, Doing Business 2008
3	No. of procedures required to start a business	Number of procedures required to start a business	Hard data	The World Bank, Doing Business 2008
4	Time required to start a business	Number of days required to start a business	Hard data	The World Bank, Doing Business 2008
5	Business impact of rules on FDI	In your economy, rules governing foreign direct investment	Survey (1=discourage foreign direct investment, 7=encourage foreign direct investment)	World Economic Forum, Executive Opinion Survey 2007, 2008
6	Burden of customs procedures	Customs procedures (formalities regulating the entry and exit of merchandise) in your economy	Survey (1=extremely slow and cumbersome, 7=rapid and efficient)	World Economic Forum, Executive Opinion Survey 2007, 2008
7	Flexibility of wage determination	In your economy, wages are…	Survey (1=set by a centralized bargaining process, 7=up to each individual company)	World Economic Forum, Executive Opinion Survey 2007, 2008
8	Rigidity of employment	Rigidity of employment	Hard data (Rigidity of employment index on a 0-100 (worst) scale)	The World Bank, Doing Business 2008

S/N	Regulation	Definition	Data	Source
9	Hiring and firing practices	The hiring and firing of workers	Survey (1=impeded by regulations, 7=flexibly determined by employers)	World Economic Forum, Executive Opinion Survey 2007, 2008
10	Firing costs	Firing costs (in weeks of wages)	Hard data	The World Bank, Doing Business 2008
11	Ease of access to loans	How easy is it to obtain a bank loan in your economy with only a good business plan and no collateral?	Survey (1=impossible, 7=very easy)	World Economic Forum, Executive Opinion Survey 2007, 2008
12	Strength of investor protection	Strength of investor protection index on a 0-10 (best) scale	Hard data	The World Bank, Doing Business 2008

Annex 2-4: IMD- World Competitiveness Yearbook (WCY) Indicators

S/N	Regulation	Definition	Data	Source
1	Corporate tax rate on profit	Maximum tax rate, calculated on profit before tax	Qualitative	PricewaterhouseCoopers 2008, "Resource Tax Manager"; National sources
2	Real Corporate taxes	Real corporate taxes do not discourage people from working or seeking advancement	Survey	IMD
3	Capital markets	Capital markets (foreign and domestic) are easily accessible	Survey	IMD
4	Competition legislation	Competition legislation is efficient in preventing unfair competition	Survey	IMD
5	Product and service legislation	Product and service legislation does not deter business activity	Survey	IMD
6	Price controls	Price controls do not affect pricing of products in most industries	Survey	IMD
7	Regulation intensity	Regulation intensity does not restrain the ability of companies to compete	Survey	IMD
8	Ease of doing business	Ease of doing business is supported by regulations	Survey	IMD
9	Creation of firms	Creation of firms is supported by legislation	Survey	IMD
10	Start-up days	Number of days to start a business	Survey	IMD
11	Labour regulations	Labour regulations (hiring/firing practices, minimum wages, etc) do not hinder business activities	Survey	IMD
12	Unemployment legislation	Unemployment legislation provides an incentive to look for work	Survey	IMD
13	Immigration laws	Immigration laws do not prevent your company from employing foreign labour	Survey	IMD

Annex 2-5: Improvement in Each *Ease of Doing Business* (EoDB) Indicator in APEC

Economy	Total	Starting a Business	Accessing Credit	Trading Across Borders	Paying Taxes	Investor Rights	Construction Permits	Closing a Business	Employing Workers	Enforcing Contracts	Registering Property
(Yrs data available)		**(6 yrs)**									
Indonesia	7	55%	100%	33%	53%		14%	38%	15%		
China	6	87%	100%	45%	74%	100%		29%			
Vietnam	6	21%	100%			100%			67%	17%	15%
Peru	5	34%	133%	19%		14%				15%	
Korea	5	23%	20%	33%	14%		39%				
Thailand	4		25%	75%	34%	250%					
Hong Kong, China	4		25%	71%		13%	35%				
Australia	3			45%					100%		29%
Singapore	3	50%	33%				63%				
Canada	3	50%		50%			12%				
Russia	3	68%			15%			14%			
Philippines	3	13%		11%						14%	
Malaysia	2	57%			66%						
Japan	2	100%	17%								
Mexico	2	52%				62%					
Chinese Taipei	2	21%	33%								
New Zealand	1	92%									
United States	1				42%						
Chile	1							20%			
Papua New Guinea	1							13%			
APEC*	64	14	10	9	7	6	5	5	3	3	2

**Data covers from 2003 to 2008.*

Source: World Bank, Hallward (2009)

Annex 2-6: ACI Study- Spearman Rank Correlation Coefficients 2008

APEC economies	Overall [1]			Spearman's Rank Correlation Coefficient - DB and WCY [2]	Spearman's Rank Correlation Coefficient - DB and GCR	Starting a business			Spearman's Rank Correlation Coefficient - DB and WCY	Protecting investors			Spearman's Rank Correlation Coefficient - DB and WCY	Spearman's Rank Correlation Coefficient - DB and GCR
	DB	WCY	GCR			DB	WCY	GCR		DB	WCY	GCR		
Australia	6	3	15			3	4	NA		13	2	4		
Brunei Darussalam	16		13			18		NA		19		18		
Canada	5	5	9			2	5	NA		5	3	3		
Chile	11	10	8			8	14	NA		10	6	8		
China	15	9	7			19	11	NA		17	17	19		
Hong Kong, China	4	2	2			6	2	NA		3	10	6		
Indonesia	20	12	10			21	13	NA		13	12	9		
Japan	7	7	4			9	9	NA		8	15	11		
Korea, Rep.	10	17	6			17	17	NA		15	16	10		
Malaysia	9	4	5			11	10	NA		4	5	7		
Mexico	12	16	19	0.682	0.448	14	18	NA	0.684	10	14	16	0.654	0.774
New Zealand	2	6	14			1	3	NA		1	7	1		
Papua New Guinea	18					12		NA		10				
Peru	14	14	20			15	16	NA		9	8	15		
Philippines	21	15	17			20	12	NA		20	13	13		
Russian Federation	19	18	18			10	15	NA		17	18	20		
Singapore	1	1	1			5	1	NA		2	1	2		
Chinese Taipei	13	8	3			16	6	NA		15	11	14		
Thailand	8	13	11			7	8	NA		7	9	12		
United States	3	11	12			4	7	NA		5	4	5		
Viet Nam	17		16			13		NA		21		17		

Notes: 1. These are reordered ranks for the subset of APEC economies from the values of their ranks in each dataset.
2. Correlation is significant at the 10% level (2-tailed) unless otherwise specified.

APEC economies	Dealing with permits [1]			Paying taxes			Spearman's Rank Correlation Coefficient - DB and WCY [2]	Employing workers			Spearman's Rank Correlation Coefficient - DB and WCY	Spearman's Rank Correlation Coefficient - DB and GCR	Trading across borders			Spearman's Rank Correlation Coefficient - DB and WCY	Spearman's Rank Correlation Coefficient - DB and GCR
	DB	WCY	GCR	DB	WCY	GCR		DB	WCY	GCR			DB	WCY	GCR		
Australia	10	NA	NA	10	8	NA		4	5	13			13	5	6		
Brunei Darussalam	13	NA	NA	6		NA		3		12			11		15		
Canada	7	NA	NA	5	9	NA		7	4	5			12	6	7		
Chile	11	NA	NA	7	2	NA		12	13	8			15	1	3		
China	20	NA	NA	18	14	NA		15	11	11			14	15	11		
Hong Kong, China	4	NA	NA	1	1	NA		8	2	2			2	3	2		
Indonesia	14	NA	NA	16	7	NA		20	18	10			10	13	12		
Japan	9	NA	NA	15	18	NA		6	7	15			6	10	17		
Korea, Rep.	5	NA	NA	8	13	NA		19	17	6			4	16	8		
Malaysia	15	NA	NA	4	5	NA		10	8	9			8	12	10		
Mexico	8	NA	NA	21	17	NA	0.696	17	15	19	0.798	0.192 (not sig.)	18	14	14	0.455	0.504
New Zealand	1	NA	NA	3	10	NA		5	12	17			7	4	4		
Papua New Guinea	18	NA	NA	13		NA		9					19				
Peru	17	NA	NA	12	12	NA		18	16	14			20	11	13		
Philippines	16	NA	NA	17	15	NA		16	14	20			16	17	19		
Russian Federation	21	NA	NA	19	16	NA		14	9	6			21	18	20		
Singapore	1	NA	NA	2	3	NA		1	1	1			1	2	1		
Chinese Taipei	19	NA	NA	14	4	NA		21	10	4			9	8	5		
Thailand	3	NA	NA	11	6	NA		11	6	16			3	9	16		
United States	6	NA	NA	9	10	NA		1	3	3			5	7	9		
Viet Nam	12	NA	NA	20		NA		13		18			17		18		

Notes: 1. These are reordered ranks for the subset of APEC economies from the values of their ranks in each dataset.
2. Correlation is significant at the 10% level (2-tailed) unless otherwise specified.

APEC economies	Registering property[1]			Enforcing contracts			Spearman's Rank Correlation Coefficient - DB and WCY	Getting credit			Spearman's Rank Correlation Coefficient - DB and WCY	Spearman's Rank Correlation Coefficient - DB and GCR	Closing a business		
	DB	WCY	GCR	DB	WCY	GCR		DB	WCY	GCR			DB	WCY	GCR
Australia	8	NA	NA	8	3	NA		3	7	13			7	NA	NA
Brunei Darussalam	21	NA	NA	20		NA		17		18			11	NA	NA
Canada	7	NA	NA	12	4	NA		10	5	15			3	NA	NA
Chile	10	NA	NA	14	9	NA		14	4	11			18	NA	NA
China	6	NA	NA	6	8	NA		12	15	10			14	NA	NA
Hong Kong, China	16	NA	NA	1	2	NA		2	1	5			6	NA	NA
Indonesia	20	NA	NA	19	11	NA		17	13	19			20	NA	NA
Japan	13	NA	NA	9	13	NA		7	14	4			1	NA	NA
Korea, Rep.	14	NA	NA	3	18	NA		7	18	17			5	NA	NA
Malaysia	17	NA	NA	13	7	NA		1	8	8			13	NA	NA
Mexico	18	NA	NA	15	17	NA	0.377 (not sig.)	12	17	16	0.494	0.261 (not sig.)	10	NA	NA
New Zealand	1	NA	NA	4	6	NA		3	3	1			9	NA	NA
Papua New Guinea	15	NA	NA	21		NA		21					17	NA	NA
Peru	11	NA	NA	18	12	NA		7	11	7			16	NA	NA
Philippines	19	NA	NA	17	15	NA		20	10	2			21	NA	NA
Russian Federation	12	NA	NA	6	16	NA		17	16	6			15	NA	NA
Singapore	4	NA	NA	5	1	NA		3	2	3			2	NA	NA
Chinese Taipei	5	NA	NA	16	10	NA		14	12	9			4	NA	NA
Thailand	2	NA	NA	10	14	NA		14	9	12			12	NA	NA
United States	3	NA	NA	2	5	NA		3	6	14			8	NA	NA
Viet Nam	9	NA	NA	11		NA		11					19	NA	NA

Notes: 1. These are reordered ranks for the subset of APEC economies from the values of their ranks in each dataset.
2. Correlation is significant at the 10% level (2-tailed) unless otherwise specified.