consideration – and some new concepts to explore. We expect this work will blossom into many different work streams going forward. Since it may run over several years, the planning of this work demands careful attention.

Ministers have already endorsed the development of a work program. Responding to the mid-term review of the ASCR, Ministers asked that efforts be made to find more synergy between the structural reform agenda and services competitiveness.

This paper provides a framework for planning our response. It reviews the nature of services trade, explains the linkages between services trade growth and structural reform, identifies new elements of the structural reform agenda arising from digitalization, and discusses the management of work on structural reform. The paper offers some ideas about new areas of cooperation in APEC.

We commend the paper to our APEC colleagues and to all stakeholders. We thank the Australian Government for its support of this work, and both Australia and Thailand for their support in delivering two preparatory workshops, in June and August 2022, in the lead-up to release of this paper.

James Ding	*Thomas Fine*
Chair	*Chair*
APEC Economic Committee	*APEC Group on Services*

Contents

Abbreviations

ABAC	APEC Business Advisory Council
ACCC	Australian Consumer and Competition Commission
ADB	Asian Development Bank
AIDER	APEC Internet and Digital Economy Roadmap
APA	Aotearoa Plan of Action
APSC	Asia Pacific Services Coalition
ASCR	APEC Services Competitiveness Roadmap
AI	Artificial Intelligence
DSTRI	Digital Services Trade Restrictiveness Index
EAASR	Enhanced APEC Agenda for Structural Reform
EC	APEC Economic Committee
GATS	General Agreement on Trade in Services
GOS	APEC Group on Services
GVC	Global Value Chain
HI	Human Intelligence
Industry 4.0	4th Industrial Revolution; Digitalized Manufacturing and Services
IoT	Internet-of-things
ICT	Information and Communication Technology
IP	Intellectual Property
JSI	Joint Statement Initiative
MFN	Most Favoured Nation
Moratorium	WTO Moratorium on Customs Duties on Electronic Transmissions.
MRA	Mutual Recognition Agreement
MSME	Micro, Small and Medium-sized Enterprises
MTR	Mid-Term Review
OECD	Organisation for Economic Cooperation and Development
PSU	APEC Policy Support Unit
PTTNS	Public Telecommunications Transport Networks
SDGs	Sustainable Development Goals
SDR	WTO JSI on Services Domestic Regulation
SNA	System of National Accounts
STRI	Services Trade Restrictiveness Index
Telecoms	Telecommunications
TiVA	Trade in Value-Added
UN-ESCAP	United Nations Economic and Social Commission for Asia and the Pacific.
US	United States
WTO	World Trade Organization

Summary of Key Messages

Services and Structural Reform Overview

- The APEC region, along with the global economy, is facing many challenges, including recovery from the pandemic, but also continuing issues of inclusion and transition to the green economy.
- Services are fundamental to the response. Services industries have long made up the bulk of the APEC region's GDP. and employment (APEC, 2016)
- Services are not monolithic; they differ in their labour and skills intensity, linkages to other sectors and with respect to their ease of tradability and their role in global value chains. Indeed, during the pandemic, the experience differed significantly among types of services. Total APEC services trade dropped 22 percent, but while non-digital services dropped by over 40 percent, digital (that is, digitally deliverable) services trade actually increased by over one 1 percent. The digital services share in total APEC services trade rose by 14 points to 62 percent.
- The services sector contributes to growth and development through expanding opportunities for innovation, at least as much as the manufacturing sector and adds to competitiveness in all other sectors, including manufacturing, mining, and agriculture
- For the APEC economies in the Trade in Value-Added data set, the average embodied services content in gross manufactures exports is now 45 percent, up from 41 percent a decade ago. Increasingly, export opportunities across all sectors are directly or indirectly linked to the availability, efficiency, and resilience of innovative services inputs.
- The opportunity for services to contribute to inclusive and sustainable development is enhanced by the structural transformation, which is underway with the next wave of digital innovation.
- The services sector itself is both driving and being transformed by structural change. In the modern economy, more open and more efficiently regulated services markets can ensure more timely and more widespread access to information, skills, technology, and funding, all of which also support competitiveness of the services sector itself.
- Impediments remain to the capacity of the sector to make this contribution. These include border barriers to services transactions. The services sector, however, is much more regulation intensive than others, and more often constraints on capturing the benefits of trade lie behind-the-border. Reform in services calls for a close interaction, therefore, with programs on structural reform, and their attention to competition, better regulation, human capital development, infrastructure investment and facilitation of innovation.
- The management of this interaction will not be on a one-off project. The contribution of structural reform to APEC's services competitiveness is an ongoing process, calling for regular re-adjustments of domestic policy and regulatory settings driven by outcomes of reviews of progress and shifts in markets and technologies.
- APEC has tools in place relevant to this work including the APEC Services Competitiveness Roadmap (ASCR) (managed by the Group on Services (GOS)) and the Enhanced APEC Agenda for Structural Reform (EAASR) (managed by the Economic Committee (EC)).

- Policymakers from the EC and the GOS have a common interest in the structural reform process which brings together policy and regulatory intervention (both at the border and behind-the-border in domestic settings) affecting services competitiveness. There is scope for further significant contributions in both areas and through cooperative work.

Services Competitiveness and Digitalization

- Digital services can improve efficiency and productivity both by complementing existing services and by reimagining their delivery. Digital services can also lead to new business opportunities by offering a new range of possible activities.
- There is a strong evidence-base that competitiveness in the digital economy, and in participation in trade in digital services trade, is driven by a particular set of factors:
    - **Fostering Innovation Ecosystems and Investment in Digital Enablement:**
      Innovation in services is distinctly different from that in manufacturing. One example is the role of interaction with the customer. Facilitative eco-systems are important for success: APEC economies will benefit from sharing their experiences to help identify some best practices in policy and regulatory settings to promote innovation in services. Regional dialogue is important, not only for policy makers and regulators but also for key agents of innovation such as founding entrepreneurs, tech talent and investors, to learn from each other at all stages.
    - **Human Capital:**
      There is an urgent need for economies in the region to invest in digital upskilling and reskilling of their workforces. A mindset shift is needed in human capital development interventions - both broadening and deepening of human resource capacity is needed.
    - **Digital Readiness and Digital Infrastructure:**
      There is an urgent need for economies in the region to invest in quality telecommunications infrastructure. Governments are focused on infrastructure but insufficiently focused on associated digital readiness and export enablement.
    - **Digital Regulatory Regimes and Openness:**
      Digital regulatory inefficiencies impede trade and impose a high cost on local business performance. The key objective should be to reduce the regulatory compliance cost burden on businesses to cut the cost of doing both domestic and international business. Higher levels of regulatory cooperation are required; developing Asian economies need to intensify their participation in digital trade/e-commerce governance building. Openness to international trade and investment is fundamental to successful transition to the new economy.
- The updated current set of enabling factors presented in this report for digital services, has much in common with the original set of services competitiveness enablers identified in 2015. But there are also subtle shifts reflecting intensification of the digital revolution.
- While all these key enablers have to a greater or lesser extent proved necessary, none of them individually is sufficient, nor fully independent of others. While there are critical thresholds to be reached in defining economies' prospects for positioning competitively in digital services trade niches, the relative absence of any enabler may

not necessarily prove a binding constraint. Economies do not need to be well-placed in all dimensions to succeed. The overall eco-system is what matters.

Managing Structural Reform

- The extent of ongoing servicification and digital transformation underway in the regional economy calls for a review and update of the findings of the APEC Economic Policy Report of 2016, republished by the PSU in 2017. This Report focussed specifically on the linkages of structural reform and services and highlighted the manner in which performance of the services sector underpinned competitiveness of the whole economy. It observed that reform to enhance services sector competitiveness could entail different adjustment processes from those that occur in more open markets for goods, and adjustment could be facilitated by complementary investments, in skills for example.
- On inclusiveness grounds, this earlier report identified some key sectors for attention, including transport, telecommunications, health, and education. It argued for a value chain perspective in the design of reform, including because of the linkages between services activities themselves. It noted the importance of attention to regulatory issues and the dilemma that individual regulators would not necessarily have the economy wide perspective (including on trade effects) that matters for success. It discussed the value of collecting and analyzing data, to inform choices of priorities and to assess progress.
- In reconsidering these issues in 2022, the experience of the pandemic underlines the salience of many of the earlier recommendations, for example the value of attention to communications technology, to support for adjustment, and to adoption of policies that do not impede adaptation by services firms to new circumstances, such as the growth in demand for online delivery. The pandemic also raised new questions about adjustment processes given the visibly increased tradability of services across borders.
- New challenges for regulators have emerged, especially on the competition policy front. New forms of services business often rely on inputs from, and sometimes compete with, state-owned enterprises (SOEs), in telecommunications or postal services for example. There are challenges in that context in the application of principles for competitive neutrality.
- It remains important that all economies adopt the general principles of 'good regulatory practice'. This will inevitably require cross-agency cooperation, especially as digital technologies intensify data protection issues.
- There will always be political economy headwinds to reform. Here there is value in dialogue about such challenges and sharing experiences of other economies and in cooperation to illustrate and seek to measure the benefits of change, and to determine how best to help with adjustment.
- Involving the relevant regulatory agencies, the private sector, and the research community offers scope for better assessment of the effects of regulatory policies. The knowledge of firms involved as suppliers and buyers can help identify unforeseen effects. It can help set priorities on reforms to support services competitiveness, and investment in digital technologies and enhance broader community support for reform processes.

- Good regulatory practice demands consideration of the trade effects of proposed reforms. However, there are apparent limits in the adoption of an international perspective among economy level regulators. Use of the collaborative public-private public policy platform can be constructive in alleviating these limits.
- A value chain approach to reform can also help frame thinking of regulators and reduce the risk of unsighted bottlenecks associated with regulatory changes.
- The 2016 report stressed the value of international regulatory cooperation, because of the extent of behind-the-border regulatory obstacles. This became even more salient during the pandemic (in connection with health and other essential services in particular). There are important questions about how to make such cooperation in support of regulatory reform a success.
- Greater attention could be given to the adoption of 'equivalence' regimes, of which various models have been designed of relevance to services trade. Such regimes need to be able to adapt to differences in conditions over time and between economies and be responsive to accumulated experience.
- APEC has a history of a successful pathfinder approach. APEC can play a significant role in developing a set of principles to apply to regulatory cooperation initiatives, with a longer view to their eventual multilateralization. These include openness, a clear set of terms of participation criteria and transparency with non-participants.
- The structural transition also depends on management of both inclusion and sustainability. Creating positive link to both is important for support in the community for structural reform.
- There is a two-way relationship between inclusion and structural reform, which adds to the competitiveness of services and facilitates participation in trade. The challenge is to reduce internal digital divides so those opportunities can be taken.
- Policies to support transition to a green economy have taken on increasing importance for APEC economies. These strategies rely on efficient markets, competitive services and access to data and technologies. Services, digitalization, and structural reform all play a role in their success. Competitive services operationalize environmental markets. Digitalization enables services, data, and finance for assessing risks and making green investments. 'Green' structural reforms can provide the framework conditions to achieve this by supporting adjustment to activities that cause less damage to the environment and transition the economy for growth in the longer term.

Policy and Regulatory Tools for Openness

- The global and regional business environment for trade in services is poor. Restrictive trade measures apply to all modes of delivery of services, including via commercial presence, and add significantly to services trade costs in the region.
- Services trade costs also result from divergences in regulation between economies. These are outcomes of the histories of independent design of domestic regulatory arrangements, and a lack of attention to the consequences for trade.
- In addition, there are impediments to the cross-border flows of data on which transactions in digital services depend. Examples are data localization and local storage requirements, which are particularly costly for small and medium enterprises (SMEs).

- The impact of digital technology is drawing the attention of policy makers to new issues, such as data privacy and cybersecurity. Responses at the domestic level, without attention to trade affects, risks further fragmentation of markets.
- The evidence is that trade flows respond to changes in indicators of restrictiveness of policies applied to services, including digital restrictiveness. Both trade liberalization and domestic regulatory reform in digital services sectors will also boost the breadth and depth of global value chain (GVC) integration in the region. Access to digital services can also help enhance GVC resilience.
- There is significant scope for economies to gain from reform. Some of this can be undertaken at the economy level but a large part of which involves taking a coordinated approach to reform. The management of reform involves many issues, and there is scope to accelerate efforts by sharing experience. With respect to digital transactions, reference to international standards can also assist. APEC has tools relevant to the promotion of cooperation which can be brought to bear.
- For many services sectors which have been slower to globalize, the adoption of digital technology is now rapidly enabling fragmentation of tasks across borders. In professional services, as technology makes possible more extensive use of global teams and the adoption of artificial intelligence (AI) solutions. But domestic regulatory frameworks are not responding quickly. Further application of systems of mutual recognition would assist, but traditionally they too have been developed only slowly. The application of digital technology may support tools to accelerate that effort. APEC has work in progress on the promotion of the MRA processes
- Policy attention tends to focus on specific digital services which underpin e-commerce, such as Digital Intermediation Platforms (DIPs) which rely on data collection, storage, processing, and use. Data-driven network effects coupled with a degree of consumer inertia and potential switching costs enable successful platforms to capture a significant amount of data, which helps attract even more users and advertisers. But it can also confer market power and increase concerns about data protection. There is discussion about how to respond and the extent to which they are covered by existing WTO instruments on open markets in telecommunications. In this context, APEC has room to work on principles for best practice competition policy design in the ICT sectors.
- There is increasing attention, especially in the APEC region, to matters of regulatory reform and facilitation of digital services trade in regional trade agreements (RTAs). APEC members also have the scope to share experience in the treatment of these topics in each other's agreements.
- In the WTO there is a dearth of rules relevant to these issues. Ongoing discussion under Joint Statement Initiatives (JSIs) provides an opportunity to correct this problem. In the interests of ongoing regional integration and intensification of GVCs, all APEC economies should engage in the process of building international governance for digital services, especially in the WTO JSI negotiations on e-commerce.
- Joining the new WTO JSI Reference Paper on Services Domestic Regulation would also be a helpful step forward in implementing good regulatory practices and reducing services trade costs. All APEC Members should do so.
- Imposition of new barriers at the border should be avoided in the interest of continued growth in services trade and associated employment opportunities. This includes customs duties on electronic transmissions. All economies with aspirations as digital

services exporters should uphold the WTO Moratorium on Customs Duties on E-Transmissions (Moratorium), and more generally avoid discriminatory taxes on digital services.

Outline of the Policy Brief

Chapter 1 offers an extended overview of much of the material in the Brief, including a snapshot of the services sector and trade in services in the APEC region. It identifies the scope of barriers to trade, and explains why services liberalization and structural reform go hand in hand. It outlines relevant tools which APEC already has in place, and notes the Ministerial Mandate for further cooperation in the application of those tools.

Chapter 2 highlights the linkages between digitalization and services competitiveness. In the context of the development and application of new digital technology, it reports on key factors that enable a successful transformation to the new economy. It identifies policy implications from this framework.

Chapter 3 recalls the previous APEC work on services and structural reform, and notes how the experience of the pandemic has strengthened some of the earlier recommendations but also added to that list. It provides further discussion of the design and successful operation of a program of structural reform, and focuses on the contribution of cooperation among economies in that effort.

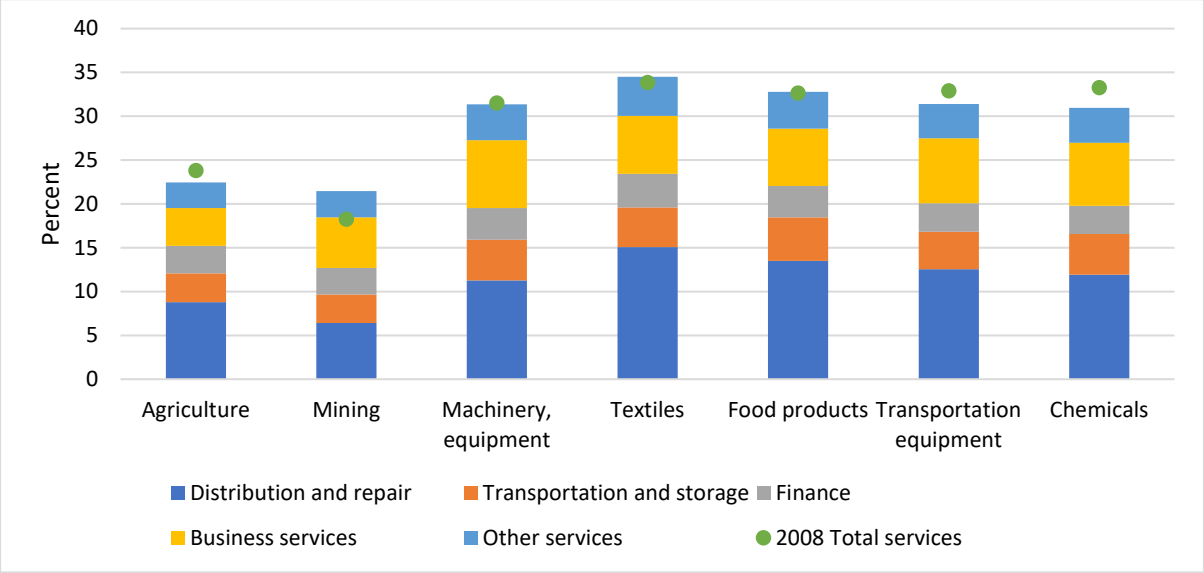
Chapter 4 reviews various forms of international cooperation which are relevant to structural reform focussed on services competitiveness in the context of the digital transformation, particularly in the WTO. With this background, the chapter concludes with attention to the especially valuable special contributions that can be made by the APEC process.

Chapter 1. Services and Structural Reform – An Overview

Services Snapshot in the APEC region

APEC is a services economy, with average APEC services share of GDP comprising over two-thirds of collective APEC GDP (ABAC, 2021 and APEC PSU, 2021). For all but four APEC economies[1], services now make up more than half of GDP and well over half of total employment (APEC PSU 2021). In value-added terms, commercial services similarly account for more than half of total exports originating from APEC economies, and services trade shows a higher long run underlying rate of growth than merchandise trade (APEC PSU Policy Brief 2022). Services industries make critical contributions to value-added content in all merchandise exports. A snapshot for 2018 is set out in Figure 1.1.[2]

Figure 1.1: Services share of Value-Added in Merchandise Exports, 2018 (APEC average)



Source: OECD Trade in Value-added TiVA 2021. https://www.oecd.org/sti/ind/measuring-trade-in-value-added.htm Note: This data set includes 20 APEC economies (Papua New Guinea is not included).

The economic impact of the COVID-19 pandemic on services trade has been substantial. WTO data shows global goods trade was down by 5 percent in 2020, rebounding by nearly 10 per cent in 2021. Total global services trade was more deeply impacted, falling by 18 percent in 2020 compared to the year before (driven by sharp drops in transport and travel while other commercial services were less affected), and rose 15 percent in 2021.[3] The pandemic was especially challenging for services activities traditionally relying on face-to-face interaction (such as tourism, education, health, hospitality, entertainment, passenger transport, retail

[1] Brunei Darussalam, Indonesia, Papua New Guinea and Viet Nam.

[2] It is visibly obvious in this figure that efficiency-oriented reforms e.g. in the distribution services sector have the potential to dramatically enhance competitiveness in all exported goods sectors. The same applies to business services, one of the earliest sectors to adopt digital technology and one of the most highly impacted by restrictions on digital trade.

[3] https://www.wto.org/english/news_e/pres22_e/pr902_e.pdf

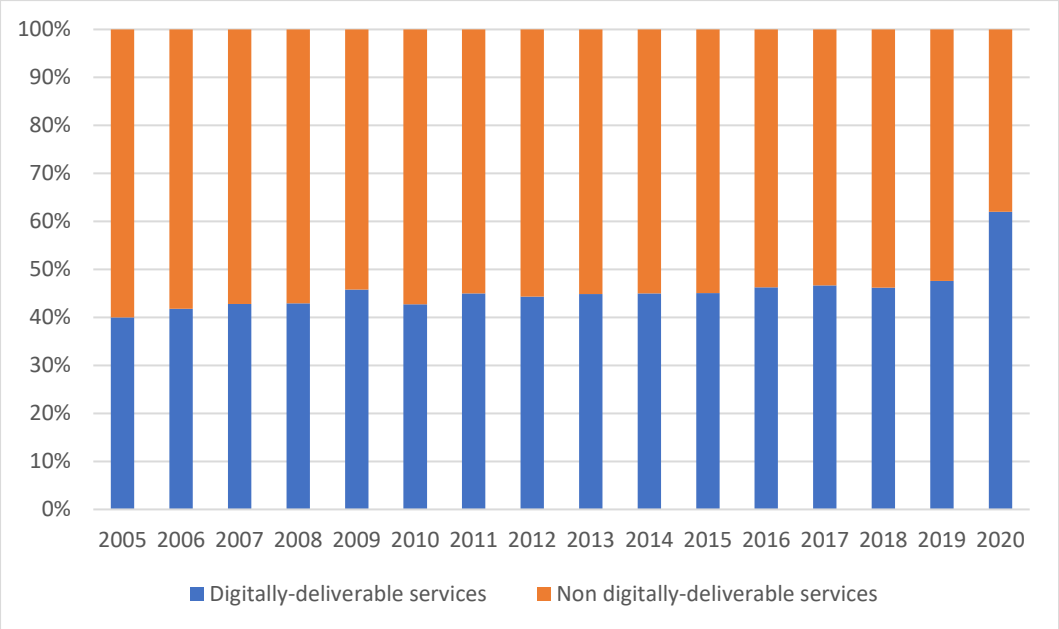
and other personal services). These industries experienced a sharp and immediate fall in demand.

Services trade via commercial presence was also heavily impacted as measured by FDI flows into the services sector. Announced greenfield investment in services sectors in 2020 declined within APEC by 37 percent compared to 2019. Investment from APEC economies to non-APEC economies fell by 24 percent. FDI into the services sector rebounded strongly in 2021, however, especially in the ICT sector.[4]

Mandatory lockdowns associated with the pandemic rapidly prompted numerous behavioural changes. Lockdowns reduced face-to-face interactions and increased remote work from home with new digital technology-driven business models introduced to enable services to be produced, ordered and delivered online. Digital trade/e-commerce in services[5] hence remained relatively robust in the first year of the pandemic and accelerated in the second year (more below).

The Asian Development Bank (ADB) estimates the first year of the pandemic saw digital services rise from 50 percent to over 60 percent of global services trade (ADB, 2022. Fig 7.6(c), p.194), the largest and fastest growing components being ITC and other business services. For the APEC region, the step change experienced from 2019 to 2020 was even more dramatic. The share of digital services in total APEC trade in services consequently jumped 14 percentage from 48 percent in 2019 to 62 percent in 2020 (illustrated in Figure 1.2).

Figure 1.2: Share of Digital Services in Total APEC Trade in Services, 2005-2020



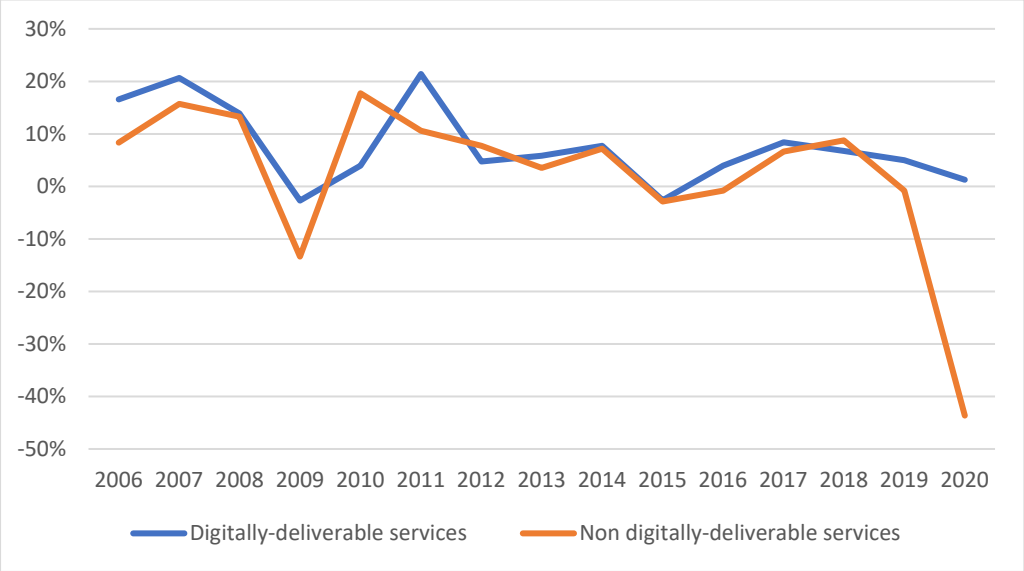
Source: APEC PSU calculations based on UNCTADstat data.
Note: Data do not include Brunei Darussalam, Hong Kong, China Peru, Viet Nam, due to incomplete coverage.

[4] https://unctad.org/system/files/official-document/wir2022_en.pdf

[5] For an explanation of the definitions involved, of both digital trade and e-commerce, see Annex 1. For the statistical evidence presented here, Digital services include insurance and pension services; financial services; charges for the use of intellectual property; telecommunications, computer, information services; business services; and personal, cultural, and recreational services. Non-digital services include manufacturing services on physical inputs owned by others; maintenance and repair services; transport; travel; construction; and government goods and services.

Further insights come from looking at the trend growth rates involved (see Figure 1.3). In the first year of the pandemic, APEC's total trade in services dropped 22 percent, compared with a global decline estimated by the ADB of 21 percent. While APEC's non digital services trade dropped 44 percent (5 percentage points more than the global average of 39 percent) APEC's digital services trade actually increased by 1.2%, running counter to a 3 percent global decline. (APEC PSU 2022). The regional trade story for non-digital services has been devastating to the sector, but robustness in digital services trade has clearly contributed to regional resilience.

Figure 1.3: Relative Growth of Digital and Non-Digital Services, APEC, 2005-2020



Source: APEC PSU calculations based on UNCTADstat data and the ADB methodology
Note: Data do not include Brunei Darussalam, Hong Kong, China, Peru, Viet Nam, due to incomplete coverage.

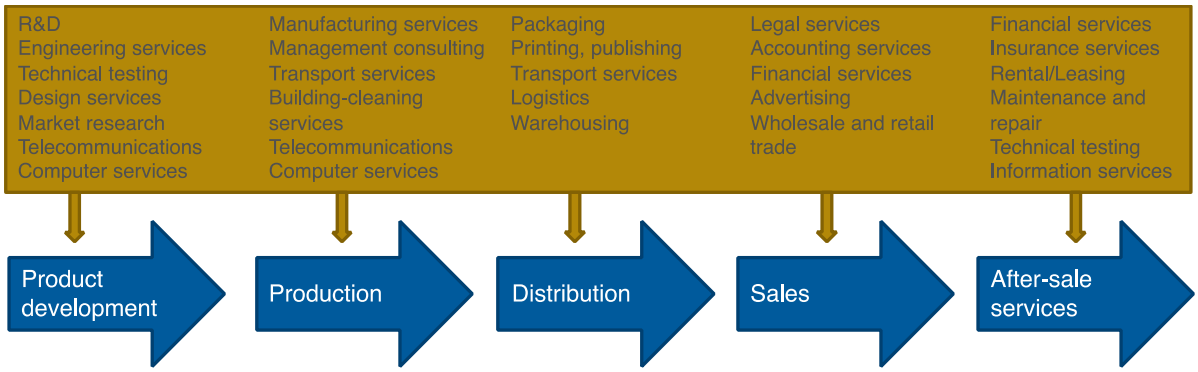
Employment was also seriously affected by the pandemic. Estimates suggest 155 million full time jobs were lost worldwide. In most APEC economies, the services sector is the largest employer and the largest employer of women and youth as well as individuals from other groups with untapped economic potential. Job losses in services have a larger impact on these populations. Globally, jobs in the informal (mainly services) sector fell faster than those in the formal sector, though they also recovered faster. In the first quarter of 2022, total global hours worked continued to fall [6] and remain nearly 5 percent below the pre-crisis benchmark level in the last quarter of 2019.

The services sector contributes to economic growth and development through expanding opportunities for achieving benefits of specialization and scale, of competition in markets associated with greater use of contracting-out, and from innovation, and does so at least as much as the manufacturing sector (WTO, 2021). Services also contribute to competitiveness in manufacturing as well as other sectors, as illustrated in Box 1.1. These may be services produced domestically or imported, and those domestically produced may be the result of

[6] https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_845642.pdf

FDI/commercial presence. The capacity of the sector to make these contributions is diminished by barriers to trade and investment.

Box 1.1: Growing Services Intensity in APEC Economy Merchandise Exports



Analysis of servicification trends across the APEC economies suggests there are multiple areas of commonality where efficiency in services markets is critical to merchandise exports. Some examples are highlighted below.

For **Hong Kong, China**, services account for nearly 70 percent of value added in **Mining** exports. Services content hovers around 50 percent of gross manufactures exports, and 65 percent for **Wood, Paper and Printing.** For **Japan**, services account for 47 percent of value added in gross exports of **Coke and Petroleum.**

For **Chile**, services content is 50 percent for gross exports of **Textiles and Apparel**, just over 40 percent for **Electrical Equipment,** just under 40 percent for **Transport Equipment** other than Motor Vehicles and for **Rubber and Plastics. For Russia,** services content is 36 percent for **Rubber and Plastics** and 35 percent for **Textiles and Apparel.**

For **Australia,** services content is over 45 percent for Other Transport, over 40 percent for **Food Products,** Wood, Paper and Printing, **Rubber and Plastics, Non-Metal Minerals** and just under 40 percent for **Machinery**, Electrical Equipment, Motor Vehicles and Other Manufacturing.

Gross exports from **Mexico** of Wood, Paper and Printing, **Chemicals,** Rubber and Plastics, **Fabricated Metals** and other Manufacturing all contain a services value-added content share over 40%. For **New Zealand**, services content is 40 percent for Textiles and Apparel and **ICT and Electronics.**

Embodied services account for 40 percent of gross **US** exports of Food Products and of Motor Vehicles. Services similarly provide 40 percent of value-added content **in Motor Vehicles** for **Canada** and just under 40 percent for **Russia.**

In **Korea**, services contribute 35 percent share of value added in exports of **Food Products.** In **China's** case, embedded services value-added reaches highs around 34 percent in exports of Textiles and Apparel and ICT and Electronics. Embodied services content accounts in I**ndonesia** for over 30 percent for exports of Machinery, Rubber and Plastics and ICT and Electronics. *Source: OECD TiVA 2021*

Barriers to trade in services lie both at the border and behind-the-border in domestic regulatory settings. Border barriers have tended to lie chiefly in visa regimes (impacting Modes 2 and 4) and in foreign investment regimes impacting commercial presence (Mode 3).

Typically, Mode 1 has been relatively free of border barriers, though that is now at considerable risk, if the WTO Moratorium on Customs Duties on Electronic Transmissions (Moratorium) is not renewed again next year and ultimately extended on a permanent basis. There is, in addition, a proliferation of new restrictions on cross-border data flows which underpin the digital services business model.

Services, like goods, are produced in value chains, with intermediate services and services providers increasingly crossing borders to input into final production. This is the case for professional services, for example, which often put together international teams of professional services expertise as they seek solutions in response to client demands. The productivity gains associated with development of such teams are impeded by traditional barriers to trade impacting on people movement and commercial establishment. Behind-the-border barriers associated with professional qualification recognition are similarly critical. Work on extending the coverage of mutual recognition agreements (MRAs) is a high priority for the APEC region.

Barriers to trade at the border also remain fundamental impediments to competitiveness in the tourism, medical tourism and education sectors. The impact of travel restrictions on flows of tourists and students was evident in the COVID-19 period. Such restrictions impacted very seriously also on seafarers, and hence on maritime freight transport.

Business stakeholders therefore stress the vital importance of dealing with barriers to people movement, impacting negatively on access to human capital, and with barriers to commercial presence, pointing to foreign investment restrictions. There is a shift underway in the mix of the modes of services supply, and in particular a recent shift to digital delivery via Mode 1, but all four modes remain relevant to modern business models across all APEC member economies. Behind-the-border measures also figure prominently, and this is another area where the structural reform agenda has a significant role to play.

Services and Structural Reform

The services sector tends to be more regulation-intensive than the rest of the economy (APEC, 2017). Dealing with impediments to trade in services is therefore more challenging compared to goods trade since the problems more often lie behind the border[7]. Domestic regulatory impediments are estimated to account for more than 55 per cent of services trade costs, which are twice as high as the costs for manufactured goods trade[8].

There is a strong rationale for regulation of many services to address market failures. Some services activities are subject to information asymmetries, calling for consumer protection when services are experience or reputation-based and their quality can only be assessed after consumption. Other services industries are characterized by monopoly or dominant power, and some are based on networks, to which access is essential for competition and therefore must be regulated accordingly. Historically, specific services industries of an essential infrastructural nature tended to be state-owned or controlled. These include air transportation, transport, and communications hubs (ports, airports, fixed line telecoms); segments of the banking sectors; health, education, and utilities such as water and energy

[7] See https://www.oecd.org/trade/topics/services-trade/

[8] http://tradecosts.wto.org/docs/Trade_Cost_Index_Background_Note_24-03-2021.pdf

distribution, and environmental services such as waste removal. Many services are subject to policies that regulate entry, scope of business, and conduct of providers.

The high degree of government intervention in the services sectors and the extent to which impediments to trade in services are found behind-the-border in domestic policy settings and regulatory practices calls for a close engagement with the overall process of structural reform.

Structural reforms are measures that change the fabric of an economy, the institutional and regulatory framework in which business operates. They ensure the economy is fit and able to realise its growth potential in a balanced way, including with respect to inclusiveness and sustainability. Structural reforms tackle obstacles to the fundamental drivers of growth by freeing up labour, goods and services markets from inefficient red tape, thereby encouraging job creation, innovation, and investment, and improving productivity. They are designed to boost an economy's competitiveness, growth potential and adjustment capacity. Typical structural reform packages include re-regulation and opening of services sectors, measures to promote competition and improve the overall business environment as well as fiscal efficiency, social protection, skills development, and other measures.

International trade and domestic regulation are two sides of the same coin. Services liberalisation and structural reform must go hand in hand. The APEC Policy Support Unit (PSU) undertook a comprehensive diagnostic on Services and Structural Reform in the APEC region for the 2016 APEC Economic Policy Report (APEC, 2016). Key messages underlined the importance of pro-competitive domestic economic policy frameworks for the services sectors and drew attention to the need to ensure contestability of services markets as a central element of structural reform.

Several case studies were commissioned to accompany the PSU work, demonstrating the benefits of a pro-competitive approach. These included the growth of the domestic air transport system in Indonesia following foreign investment regime reform, the growth and diversity of the retail sector in China after similar reforms enabling foreign entry, the contribution of reform to competition and security of supply in New Zealand's electricity market, the contribution to inclusiveness of competition reforms in Papua New Guinea's telecommunications sector, and the impact of transport reforms in Chile on overall export growth. In the United States (US), deregulation of a variety of logistics-related services industries ranging from trucking to air transport led to a series of innovations that benefited all industries and consumers, including the rise of the express industry, hub-and-spoke transport networks and distribution centres. US operators also became more competitive in international markets.

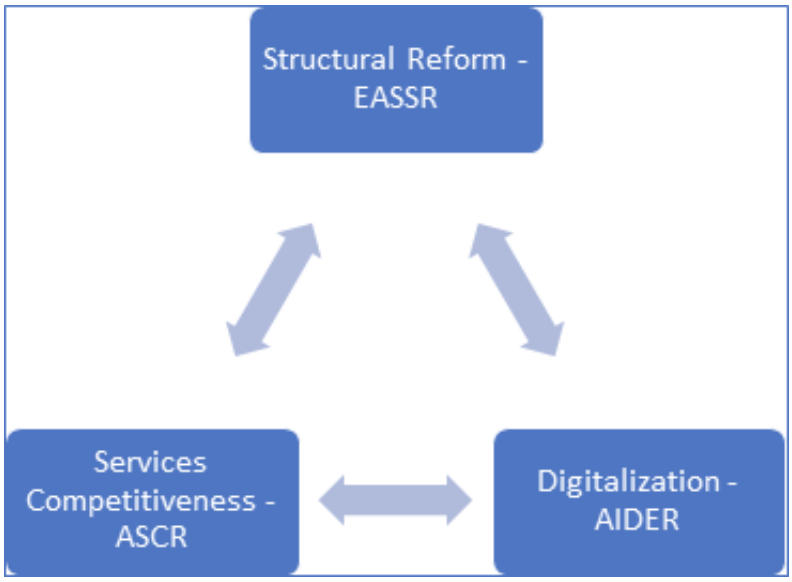
Economies move through constant structural change driven by growth, the shift in the mix of factors of production available and technological change. New issues continue to emerge, and selection of the best response to those issues demands analysis and consideration. There is value in this context of cooperation to learn from the experiences of others. The same issues might already have been considered by, and responded to, in other economies at various stages of development, or operating in different circumstances.

APEC's Toolkits on Services and Structural Reform

APEC already has a number of tools, mechanisms and processes relevant to the organisation of this cooperation on structural reform. Shown in Figure 1.4 are the high level mechanisms

for cooperation relevant to each elements of services competitiveness, digitalization and structural reform. These are Enhanced APEC Agenda for Structural Reform (EAASR) (led by the Economic Committee), which reports to Senior Officials), the APEC Services Competitiveness Roadmap (ASCR) (led by GOS, a sub-committee of the Committee on Trade and Investment (CTI) but reporting directly to Senior Officials on the Roadmap) and the APEC Internet and Digital Economy Roadmap AIDER (led by the Digital Economy Steering Group (DESG), a subsidiary body of the CTI but reporting directly to Senior Officials for the purpose of AIDER). More detail of the scope of each is located in Annex 2.

Figure 1.4: APEC Tools



APEC Services Competitiveness Roadmap (ASCR)

ASCR takes a comprehensive approach to building the region's competitiveness in services:

- promoting good regulatory practices
- facilitating international regulatory cooperation and sound competition policy frameworks and institutions
- ensuring more open services markets
- ensuring an adequate supply of skills in a rapidly changing economy, and
- facilitating effective and inclusive financial markets.

The ASCR began with 19 concerted action items, allocated to 15 different APEC groups with lead responsibility, with the GOS itself coordinating the process and focussing on specific activities including on the barriers to trade and investment.

The APEC community's assessment of progress in the ASCR has been mixed. Its targets include

(1) opening up: a reduction in restrictions on trade and investment in services,
(2) trade performance: a higher APEC share of world trade in services by 2025, and
(3) output: a higher services share of total value added than the global average (alongside higher growth of trade in services than the historical average) by 2025.

The Mid-Term Review (MTR) of the ASCR found there has been considerable progress in trade in services liberalisation. There was, however, substantial variance in the progress of reform

across sectors and across modes of supply. At the same time, there has been no consolidated increase in the competitiveness of services exported from the APEC region on a global scale. The global market share of services exports from the APEC region in global services exports declined over the period of assessment. While the results are positive on the increased importance of services in the GDP of APEC members, the improvement only highlights the already large and continued widening differential between the role of the services in the domestic economy and the extent to which the sector is achieving its export potential. In addition, as the earlier data on the composition of services trade illustrates, it is no longer realistic for APEC to expect to deliver on with the ASCR without taking the digital transformation into account. Overall, it is important to accelerate efforts to meet the ASCR goals.

Under the ASCR, the GOS has delivered two important new tools which are highly relevant to the EC structural reform agenda: the Pilot APEC Index for measuring the regulatory environment of the services sectors, and the Non-Binding Principles on Domestic Regulation of the Services Sector. The OECD estimates that streamlining of services domestic regulations by implementing the APEC Non-Binding Principles could potentially reduce trade costs in the APEC region over the next 3-5 years by an average of 7 percent across all sectors and economies. For some sectors, the trade cost reduction would be more than that, for example 14 percent for telecommunications (OECD, 2021; APEC, 2021). For computer services, for 8 of the 14 economies in the data set, trade costs would fall by over 11 percent and for 5 of those economies, by over 15 percent. In other commercial services, the drop in trade costs exceeds 29 percent for 9 economies. The estimated reductions in regional trade costs are 2-3 percentage points bigger for SMES, that is, an average of 9 or 10 percent. The benefit for SMEs would be even larger in specific sectors such as computer services, telecommunications, and e-payments.

Enhanced APEC Agenda for Structural Reform (EAASR)

EAASR is about making markets work better, including the design of regulatory reform systems which is at the heart of dealing with impediments to services trade. In large part the services reform agenda is a structural reform matter. Another pillar of EAASR is 'harnessing innovation, new technology, and skills development to boost productivity and digitalization' which is directly relevant to services competitiveness, including for digital services.

Associated with the EAASR is a commitment by members to report their contributions in Individual Action Plans (IAPs). Preliminary assessment suggests that some of the common themes in the IAPs are well aligned with elements in the "structural reform and services mandate" set out in the November 2021 AMM-endorsed ASCR Review. Specifically, these are "regulatory challenges dealing with digitalization and automation" and "regulatory inefficiency and obstacles to establishing a commercial presence". Complementary themes also appear across the IAPs:

- 15 IAPs include improving the digital economy environment in their economy
- 12 IAPs include reducing red tape
- 7 IAPs include competition policy measures.

Other themes also have synergies with services regulation and policy reform in favor of openness:

- 5 IAPs include skills, training and education
- 4 IAPs include using FTAs to improve the domestic economy

- 3 IAPs include fintech
- 2 IAPs include trade facilitation.

But a gap remains. With respect to the associated IAPs, only two mention services explicitly, suggesting the need for a greater recognition of how structural reforms (including of a cross-cutting, horizontal nature) benefit services sectors. IAPs are not the panacea. They represent only a sub-set of all the structural reforms that may be underway in APEC economies and need to be read while considering a holistic understanding of economic reform activity. Nevertheless, leveraging the material in the IAPs to the extent possible would provide a strong link between the work of the EC and the GOS as they move towards common goals. The EAASR will be subject to a mid-term review in 2023.

APEC Internet and Digital Economy Roadmap (AIDER)

In its latest report on the implementation of AIDER, the DESG noted, with reference to its 11 Key Focus Areas (KFAs) (see Annex 2) [9] that:

> Considerable efforts have been made to address such KFAs as "6. Promoting innovation and adoption of enabling technologies and services" and "11. Facilitation of E-commerce and Advancing Cooperation on Digital Trade".
>
> Following the Statement on COVID-19 by APEC Ministers Responsible for Trade, issued on 5 May 2020, a range of initiatives have been undertaken to strengthen APEC's digital agenda and strategy, including electronic commerce and related services, with fresh perspectives and innovative means to navigate the new economic realities brought about by COVID-19. At the same time, there are areas in which there are still opportunities for development:
>
> 1. Development of digital infrastructure,
> 3. Achievement of universal broadband access,
> 7. Enhancing trust and security in the use of ICTs,
> 8. Facilitating the free flow of information and data for the development of the Internet and Digital Economy while respecting applicable domestic laws and regulations
> 9. Improvement of baseline Internet and Digital Economy measurements
>
> These areas represent some "low-hanging fruit" where stronger APEC collaboration would bring significant results.

Restating the value of cooperation among APEC members in these areas, the DESG reported :

> (to) reinforce the focus on these areas, it may be necessary to suggest further actions or establish development plans specifically for them, or to explore the experience of those economies that demonstrate strong development in these areas. The collaboration may have to build on current work programs that have already been established in member economies, to find the initiatives or projects to leverage opportunities in each area.

[9] See the DESG 2021 report to the SOM at http://mddb.apec.org/Documents/2021/SOM/SOM3/21_som3_004b.pdf

Ministerial Mandate

Following the MTR of the ASCR, APEC economies were given a clear Ministerial mandate to progress services competitiveness and structural reform. The findings of the Mid-term Review were endorsed at the APEC Ministers' Meeting in November 2021. The key recommendations were to leverage cross-fora collaboration, ensure greater synergy among initiatives, specifically between ASCR and the Enhanced APEC Agenda for Structural Reform (EAASR), and to extend the engagement with the private sector. The follow up action was to be designed to make services regulation and policy reform in favour of openness a central focus of APEC's structural reform agenda, including in relation to consistency with the APEC Non-binding Principles for Domestic Regulation of the Services Sector; regulatory challenges dealing with digitalisation and automation; regulatory inefficiency and obstacles to establishing a commercial presence.

This call by Ministers amounts to a substantive new structural reform agenda on services, including digitalization. The challenge is to understand and assess how domestic regulatory regimes affect services trade and investment, and to consider how regulatory cooperation can enhance the coherence of domestic regulation and services trade policies, while also anticipating the impact of transformation to the digital age.

Chapter 2. Services Competitiveness and Digitalization

While COVID-19 has the potential to inflict long-term disruption to traditional business models in some services industries, especially international tourism and international passenger transportation, it has also intensified the general shift of most services industries online. Many sub-sectors can move their work to digital platforms and the application of modern services is helping build resilience into supply chains. There has been a widespread and lasting shift to digital processes across the services sector, from telemedicine and working from home to a shift to paperless trade processes and payments. This process will not be fully reversed post-pandemic and represents a structural shift in services transactions globally. Examples abound in all services sectors; Box 2.1 provides an unusual example regarding a services activity traditionally delivered face-to-face, suggesting there may well be more to come.

Box 2.1: Music Group C AllStar plays in a virtual concert in Hong Kong, China

All sorts of services activities are moving to virtual delivery. A recent highly innovative example involved a music concert delivered in that mode during a pandemic-related lockdown, located in a gaming environment - which is expected to be a familiar format in these circumstances, and involving an international audience, that is, cross border trade in services. This was a concert in August 2020 by Hong Kong, China group C AllStar. They used Minecraft to create a fantasy Coliseum venue. Audience members had to line up, have their temperatures checked and find their seats. There were also virtual food and other merchandise stalls.

According to reports in *China Daily,* the event raised funds through ticket sales, and from sponsors, who could sell both products for physical delivery and virtual products for use during the concert (such as glow sticks) at virtual booths outside the stadium. There were 9,500 people in the 'crowd'. The audience was international – the arrangements would have been much more complicated had there been duties on cross border electronic transactions.

The show was distributed via Microsoft Azure, a cloud computing platform. This is possible, despite divergent regulation on data flows and privacy, since Microsoft 'has more than 100 compliance certifications, including over 50 specific to global regions and economies, such as the US, the EU, Germany, Japan, the UK, India, and China.'

Sources: Based on https://news.microsoft.com/apac/features/creating-a-cantopop-cyber-spectacular/and on further reporting in https://www.chinadaily.com.cn/a/202101/15/WS60015d7ca31024ad0baa2f22.html. The Azure compliance regime is presented at https://azure.microsoft.com/en-us/explore/trusted-cloud/compliance/ For a sample of the event, see https://www.youtube.com/watch?v=o1l06up30T8

The prospects for APEC economies, including especially the developing economies, to participate in digital services trade are promising. In the post-pandemic period, the opportunities are likely to intensify as consumers and producers continue to embrace online purchasing, digital transactions, automation, and remote delivery of services. These long-term shifts in behaviour, production structure and labor market needs offer all economies opportunities to develop new competitive advantages in digital services sectors. There are also many synergies between digital services trade and other sectors of the economy. Growth in e-commerce for merchandise goods creates opportunities for digital services exports such as financial services and logistics. Manufacturing growth provides opportunities for embedding digital services and applications in manufacturing exports, enabling indirect exports of digital services.

Digital services can improve efficiency and productivity either by complementing existing services or by reimagining their delivery. Digital services can also lead to new business opportunities by offering an entirely new range of activities. Box 2.2 illustrates how access to innovative digital services, including across borders, can help add resilience to value chains.

Box 2.2: Digital Services Firms are adding to Supply Chain Robustness and Resilience

According to the Economist, digital services start-up firms offering supply chains services raised investment funds of USD62 billion in 2021, which is twice as much as before the pandemic. Supply chain operations have been organized traditionally via exchange of emails, voice calls and pdf files. The lack of use of modern digital technology, along with the lack of formal organization and contracting in freight markets, is surprising, with hundreds of emails exchanged to transport a single container. Paper-based documents also created risks of fraud and verifying them was costly.

Start-ups are now offering to revolutionize the business. Their emergence is adding to competition in supply chain services markets, against large incumbents like DHL, Kuehne and Nagel, and increasing for scope of cross border trade in services delivery.

Well before COVID-19, some major players in GVCs began digitalization processes so that organizing a freight movement would become more akin to booking a passenger flight. Digitalization involved the use of platforms, which would not only book the service but also monitor its progress and provide the information necessary for cross border movements. Forto, based in Germany and focussed on China-EU trade, notes that having data in (real) time also allows for adaptation: 'the closer one gets to real-time flawless data, the closer one is to total proactive flexibility in the supply chain. And a supply chain that can bend, is one that does not break.'

Forto notes that the use of AI adds to reliability: 'continuous analysis of historical and current data sets, these systems can be programmed to learn to identify patterns that signal anomalies and warn for proactive action.' Via the Transport Management Systems, data is accumulated which over time adds to the power of data analytic methods. Simulations, involving the construction of a 'digital twin' can be used to anticipate and deal with blockages.

Despite these benefits, interest in the use of digital technology services in supply chains varies. Citi reports a strong orientation in Asia to making use of them, 5 times more likely than in the US and about 3 times compared to Europe. In addition, 'Asia Pacific supply-chain managers remain more bullish about globalization and international supply chains than their counterparts elsewhere.'

APEC has recently extended its attention to logistics-related services, and the impediments to their operations, in its work on essential services. APEC has adopted a definition of logistics, included that sector in its work on the ASCR and is identifying the main barriers to trade in these services.

Sources: Findlay and Roelfsema, 2021; Productivity Commission, 2021; Renard et al, 2021.
https://www.economist.com/business/2022/05/07/a-flotilla-of-startups-wants-to-streamline-global-supply-chains Forto whitepaper https://explore.forto.com/rethinking-supply-chain-transparency?utm_source=website&utm_medium=organic&utm_campaign=2022-EN-Rethinktransparency

Benefitting from access to digital services, however, is not straightforward. Many enablers must come together to build international competitiveness, which are examined below. Economies differ in terms of their strengths in these various areas, but there are indications already emerging of digital services competitiveness across a diverse group of regional economies. The next section examines the empirical foundation of a set of key indicators and later sections discuss some of them in more detail.

Enabling Factors for Competitiveness in Digital Services

The ADB has recently explored the scope of the enabling factors for a successful new economy, based on the quantitative evidence base available and selected sample case studies, including three APEC economies**; Indonesia, China, and the Philippines**. In all these economies, digital services export growth exceeded 10 percent over 2005-19. China and the Philippines are both net digital services exporters. China matches India in exports of over USD140 billion of digital services, followed by the Philippines (USD24 billion) and Indonesia (USD8.7 billion).

To identify commonalities with respect to driving factors and constraints on competitiveness, these case studies drew on both recent empirical findings and on evidence gathered from industry stakeholder surveys. This ground-breaking ADB work identified a cluster of key enabling factors for competitiveness in digital services trade. They are;

- human capital,
- digital readiness and digital infrastructure,
- existence of entrepreneurial innovation eco-systems,
- efficient digital regulatory regimes and
- openness to international trade and investment in digital services.

While these enabling factors have all proved necessary, none of them alone always proves sufficient, nor fully independent of other factors. Though there are apparent thresholds to be reached in positioning competitively in digital services trade niches, the relative absence of any enabler may not be a binding constraint. Economies do not need to be well-placed in all dimensions to succeed. The overall eco-system is what matters. Highlights and characteristics of digital services trade in these 3 economy case studies are summarized in Boxes 2.3-2.5 below.

Shifts have taken place in the importance of digital services in overall trade in services which change the understanding of the drivers of services competitiveness. Back in 2016, the focal points for individual and joint activities under the ASCR were based around key enabling factors for services competitiveness identified in the APEC Services Competitiveness Framework in 2015. At that time, the identified focus included good regulatory practices and competition policy, trade policy standstill and rollback, skills development, innovation, telecommunications, and financial payments infrastructure. The updated current set of enabling factors presented in this report for digital services, has much in common with the original set of enablers identified in earlier work on structural reform. But there are also shifts reflecting intensification of the digital revolution.

Importantly, enabling factors most recently identified in the independent academic literature and now adopted by the T20 (Damuri, 2022), overlap to a marked degree with the factors identified as relevant by business stakeholders in the framework applied here. Examples are Google's Digital Sprinters Framework and the associated Future Readiness Index updated for 2022 (Portulans Institute, 2022) or the "Prosperous APAC, Digital Economy Enablers" (Access Partnership, 2022). Based on a wide variety of global indicators, this emerging business literature offers some global rankings which provide a snapshot for 2022 of the enablers and constraints affecting APEC economy competitiveness. The Future Readiness Index, for example, shows 9 APEC economies in the top 25 for 2022, and 3 of them (the US, Singapore, and Canada) ranked in the global top 10. For aspects of the overall index, several other APEC economies also rank in the top 10.

Box 2.3: Case Study: The Philippines; Digital Services Export Highlights and Challenges

The IT-BPO industry generated USD24.7b in revenue in 2018 with projected growth of 9% per annum for the next 5 years. Key sub-sectors include call centers (accounting for half of total revenue), back office and knowledge process outsourcing (KPO) in technical, trade-related and other business services, software development, animation, game development, medical transcription and engineering and construction design. Outsourcing services are on track to achieve 15% of the total global outsourcing market by 2022.

BPO is one of few industries to have remained resilient throughout the pandemic and expected to bounce back strongly by 2022 (Campos, 2020). As many as 84% of Philippine enterprises increased their ICT budgets in 2020, compared with 66% the previous year (UN-ESCAP, 2020). Cloud-based communication and collaboration services were a key technology area of interest.

Big potential exists in animation and game development (end to-end services such as art, audio and programming outsourcing to international studios), healthcare and life sciences (high value clinical research, analytics, telemedicine, digital therapeutics, care management, medical coding and claims processing), AI-based KPO and construction design. The Philippines is now the world's 2nd largest location for global shared services, with strengths in data analytics, automation and security.

Drivers of competitiveness include a literate, English-speaking population, wage and other cost competitiveness, strong customer service orientation and a well-developed IT industry with domain specific strengths in accounting, animation and health. Advantages in healthcare and life sciences flow from the large number of US registered nurses and a mix of medical know-how with customer servicing skills.

There are nevertheless significant challenges and administrative burdens for business associated with the complexity and inefficiency of the domestic regulatory environment. In 2020 the Philippines ranked 171 of 190 economies on Starting a Business in the World Bank Ease of Doing Business Index. Nor, despite its success in attracting captive investment, has the Philippines generated domestic unicorns. It falls below the world average on the World Bank Digital Adoption Index, largely due to weaknesses in the digital infrastructure, high costs and uneven quality of broadband Internet services.

The Philippines took a very positive step forward at the 12th WTO Ministerial Meeting in June 2022, joining the WTO JSI on Services Domestic Regulation. When implemented, the OECD estimates this can deliver a significant cut in services trade costs.

The Government has initiated a variety of programs, including a Broadband Plan (aiming to provide free public Wi-Fi), an E-Commerce Roadmap 2016-2022 and improvement to the domestic Retail Payment Systems to enable convenient, affordable and secure online funds transfers. The IT-BPM Roadmap 2022 aims to upgrade the sector to higher value-services that are less vulnerable to automation. The Innovative Start-up Act of 2019 provides registration benefits, R&D grants, fiscal incentives and IP support. Various Skill and Education Initiatives focus on digital literacy and provide training in data science and analytics.

Source: ADB AEIR, 2022.

Box 2.4: Case Study: China; Digital Services Export Highlights and Challenges

China's digital economy is estimated to exceed one third of GDP. Digital services exports are in surplus and account for over 50 percent of total services exports. ICT services are growing faster than total digital services but from a relatively small base; China's relative strength is in ICT goods exports rather than ICT services (32 percent compared with 6 percent global share).

China also shows stronger export performance in indirect (embedded) digital services than in direct digital services exports. Digital services are important inputs into manufacturing exports, for example software, sensors and AI in automobile exports. China's dominance in the supply of 5G hardware is also contributing to growth in digital services exports, especially digital business models and apps. Examples include Mobike (bike sharing) in Singapore, UK and the US; TikTok, and Meitu with presence in Brazil, India, UK, US and Japan. China was reported in 2016 to have 34 percent of the world's unicorns, second only to the US.

China is a major global investor in digital technologies; in 2017, 11 percent of China's outward FDI was directed to the ICT sector. 75 percent of China's total outward venture capital investment flows (USD38 billion in 2014-16) was similarly directed to the digital sector. E-commerce platforms play an important role in the growth of China's digital services exports; China's e-commerce related payments systems are in use across the Asia Pacific region and Chinese companies have invested in regional e-payments startups. China has a strong presence in digital financial services, holding in 2016 more than 70 percent of global fintech valuations– more than 10 times larger than the US. Globally, Alipay and WeChat Pay have 84 percent market share. WeChat Pay is present in 49 economies and available in 17 currencies.

China is a big investor in overseas unicorns. More than half (18) of India's 31 unicorns have at least 1 Chinese investor. Alibaba is the largest shareholder of Paytm, India's largest mobile payment service and Ant Financial has minority stakes in e-payments services in many economies. Alibaba and Tencent both hold off-shore investments in hotel aggregation and ride-sharing.

To realize opportunities in digital economic development and intensify digital services exports, the government has focused on development of 12 domestic digital services export clusters. The government invests actively in digital technologies, aiming for example to build a USD15b AI application market. The 'Internet Plus' concept adopted in 2015 aimed to provide funding for integration of the internet, cloud computing, big data and I-o-T with manufacturing sectors. Tax cuts and other funds are provided for incubating start-ups and piloting commercialization of new technologies. Baidu was authorized in 2017 to lead the first domestic engineering lab on deep learning. Constraints to competitiveness include an uneven spread of digitization across sectors and regions, regulatory challenges with IP and data protection standards and data localization requirements and other restrictions on cross-border data flows.
Source: ADB AEIR, 2021.

Role of Government

The findings concerning the critical enablers point to a fundamental role of government policy settings in shaping the overall competitiveness outcome. This is consistent with earlier work suggesting that natural endowments matter less for services competitiveness than for traditional goods sectors (Saez, 2014 and Drake-Brockman, 2014).

Governments can facilitate the growth of digital services exports by investing in digital infrastructure and skills development, providing a supportive environment for incubating start-ups - including access to trade funding - and building a regulatory environment that strengthens digital trust and facilitates cross-border business connectivity - including by ensuring data protection and enabling cross-border data transfer. Public-private dialogue and supportive engagement with services industry coalitions and business associations, which is considered relevant for services competitiveness generally, is seen to play a key role also with respect to digital services. Explicit government focus on digital trade/e-commerce in services is also essential; engaging in international digital standards development, in negotiations of

international digital trade/e-commerce governance and in international regulatory cooperation in the interests of mutual recognition and interoperability.

Across the case studies undertaken by the ADB, the government approach to digital services trade - and more broadly the digital economy - reflects an overall facilitative stance in terms of addressing human capital, digital infrastructure and innovation but a relatively more cautious potentially protectionist stance with respect to digital regulation and trade policy. It is important to note, however, that imports of digital services such as digital platforms and cloud-based data servers are just as important as digital services exports. They enable both efficiency gains and economic and social development benefits. Imports also facilitate growth in an economy's digital services exports. As a large part of digital services trade is taking place in professional and other business services, liberalizing import restrictions as well as domestic regulatory obstacles that affect these segments will be an important driver of future prospects.

While few governments have explicit structural reform strategies for the services sector, most governments do have strategies or roadmaps to develop the digital economy more broadly, including to expand digital infrastructure and connectivity. Some have programs directed at digital skills and SME digitalization and some have policies to support incubation of digital start-ups and promote venture capital financing.

With respect to digital infrastructure, the primary focus for governments in this area is improvement of telecommunications access, quality, connectivity, and penetration and on increasing the competitiveness of the telecom sector via deregulation and the application of competition policy. China's focus goes beyond developing basic infrastructure to integrating different digital services and technologies into its manufacturing sector under its Internet Plus strategy.

Policy issues associated with regulation, openness, innovation and skills are discussed in more detail in the following sections.

Box 2.5: Case study: Indonesia; Digital Services Export Highlights and Challenges

Industry estimates put the size of the Internet economy at around USD40 billion in 2019, projected to exceed USD130 billion by 2025 (Google and Temasek, 2020). But ICT services exports valued at a little over USD1 billion in 2019, are relatively low for the size of the economy.

Export growth is expected, driven in particular by provision of email, video conferencing, digital file sharing, Voice Over Internet Protocol and data processing services. There is also growing demand for Indonesian online video advertising content which reportedly earned over USD3 million in export revenue in 2017. Digital services export growth is also strong in tourism (online ticketing), finance, accounting, legal and education services. Other promising segments include healthcare, fintech and cloud services. Bubu.com, an agency providing web development, marketing, mobile app development, big data collection and analysis has found a niche with international clients seeking online presence in the Indonesian market.

Indonesia has the largest e-commerce market in the ASEAN region, projected to grow very rapidly at 38% per annum given the large population, rising incomes and anticipated expansion of telecommunications infrastructure and internet penetration. Digital start-ups are mainly in the e-commerce, ride-hailing and hotel-aggregation sector, where a number of unicorns have been particularly successful, for example Gojek, Traveloka and Tokopedia. E-commerce growth is also fuelling growth in financial technology (fintech) and payment gateways, both of which could be leveraged for export. Venture capital (VC) investment has

grown exponentially—up to 68 times—over 2012 to 2016 and Indonesia now accounts for 20 percent of VC investments in ASEAN.

Challenges to competitiveness in digital services exports nevertheless abound. Indonesia ranks 56th of 63 economies in IMD's World Digital Competitiveness Ranking 2019 and 73rd of 139 economies in the World Economic Forum ICT Readiness Index. Inadequate telecommunications infrastructure, low internet penetration rates in the regions and slow internet connection speeds persist. The size and geographic complexity of the Indonesian economy pose digital divide challenges of multiple kinds and impact on market entry. Uptake of digital technologies among MSMEs is low (less than 10 percent). There is a shortage of skilled personnel with technical expertise in data analytics, cloud storage management and cybersecurity.

In a regulatory environment already considered relatively costly for services suppliers, whether local SMEs or international players, there is a high degree of both local and international business uncertainty associated with evolving proposals for digital regulation and digital industrial policies, from data localization to customs duties on e transactions to digital services taxes. *Source*: ADB AEIR, 2022

Efficient Regulatory Regimes and Openness

Regulatory barriers to trade in services do not necessarily stem from a desire to protect local firms from foreign competition. Rather, they are often a legacy from the past when many services were subject to regulation aiming at correcting for externalities, protecting consumers and safeguarding competition. Since regulation has traditionally been created and carried out within institutional frameworks at the economy level, regulation tends to differ a lot across economies. OECD measures of policy divergence show that APEC economies currently have more divergent services trade policy than the global average, and the difference is larger for telecommunications than for professional services, for example.

There is solid evidence of the significant extent of trade costs stemming from such regulatory divergences (Kyvik Nordås, 2016). Disparate data privacy regimes, for example, create different rights and obligations for governments, data subjects and data controllers, raising compliance costs for companies. SMEs and microSMEs (MSMEs) are relatively highly affected, compromising their chances to tap into the trade opportunities offered by digital technologies (Drake-Brockman et al, 2021).

With globalization, regulatory divergence has become a trade barrier, even if the regulation *per se* is legitimate and necessary. An architect, for example, must document formal education, practice, and abilities to obtain a license to offer services in her home economy. Unless comprehensive MRAs are in place, the license is valid only in the jurisdiction in which it is issued. Therefore, the architect must obtain a license in all jurisdictions she wants to sell her services. Depending on the criteria for recognition and the transparency and efficiency of the procedures for recognizing qualifications obtained abroad, the cost associated with additional courses and tests can be substantial10. For professional services generally, the OECD identifies the biggest contributors to trade restrictiveness originate in opaqueness and duplication in cumbersome domestic regulatory frameworks (Kyvik Nordås, 2016). Improved

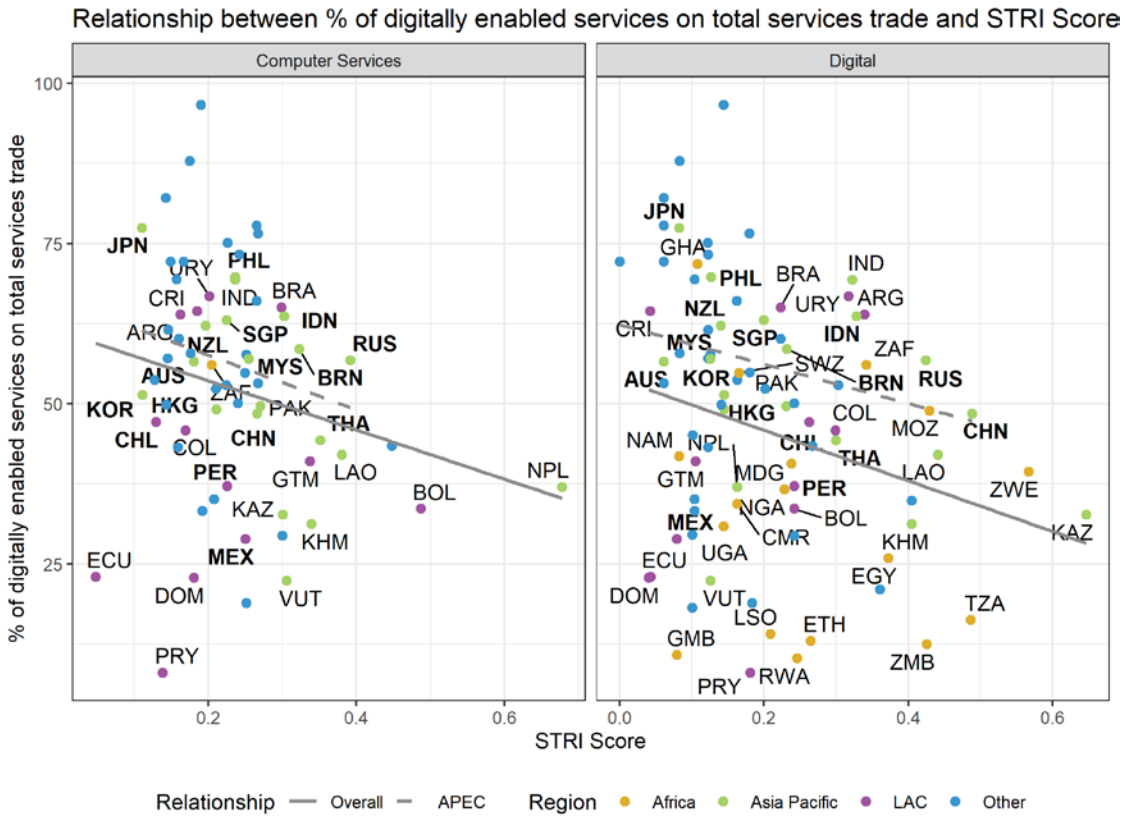
[10] Some recent studies find that the fixed cost of establishing a commercial presence may be lower than the fixed cost of entering a market through exports (Bhattacharya et al. 2012; Kyvik Nordås et al. 2022).

efficiency in domestic services regulation consequently delivers greater than average cuts in trade costs for professional services (APEC, 2021).

Policy-induced services trade costs are substantially higher than policy-driven trade costs facing goods. Furthermore, while trade costs for goods have declined steadily over time, services trade costs have remained relatively high (Miroudot et al. 2013). The estimates vary somewhat but a recent study suggests that the average tariff-equivalence of policy-induced trade barriers in e.g., commercial banking services is more than 200% (Benz and Jaax, 2022)[11].

Recent OECD research undertaken with the UN regional commissions in Asia and the Pacific, Africa, and Latin America (OECD et al, 2022), contains the first empirical evidence of a strong global *and* regional correlation between the openness of an economy's digital services regulatory environment, including its openness to trade in computer services, and the strength of an economy's overall trade in services performance (Figure 2.1). This finding sends an important global and regional message, as the correlation holds for the 19 APEC economies included in this data set (shown by the dotted line in the figure). It means that the region's overall trade in services will benefit from a focus on reducing the trade costs associated with the regional digital regulatory environment.

Figure 2.1: Digital regulatory regimes impact on overall services trade performance



Source: OECD et al, 2022. Notes: APEC economies are shown in bold. The data set of 65 economies for Computer Services STRI and 100 economies for Digital STRI does not include Papua New Guinea and Chinese Taipei.

[11] Architects often work on projects in teams. Teaming up with locally licensed architects who sign off on the designs and other documents may in many cases suffice for regulatory compliance.

Reforms may take time to work their way through to trade costs. Furthermore, changing a single policy measure may have little effect if related measures remain unreformed. Responding to changes in trade costs through investment and entering new markets may take additional time.

Recent research shows that the trade response to reduction in trade costs is non-linear.[12] When trade costs are high and only the largest and most productive firms trade, the impact of bringing down services trade cost may be mute. However, as trade costs come down to a level where also medium-sized firms consider entering foreign markets, trade liberalization has a much larger effect. Furthermore, regulatory differences kick in as the major barrier to trade and overtake the level of regulation as the main impediment to trade (Kyvik Nordås, 2016). At that point, collaboration towards regulatory equivalence, convergence or even harmonization, where possible, needs to take center stage in trade policy reforms.

Finally, we offer a reminder that trade through commercial presence still dominates cross-border trade and is likely to continue to do so in the future for a broad range of services. This also applies to services that are tradable over digital networks and face few policy-induced barriers. The reason is that many services are so-called experience or credence products (Sleuwaegen and Smith, 2021). Consumers learn the quality of a service only after consuming it, and sometimes not even then. For instance, the quality of medical diagnosis and treatment, infrastructure engineering, and maintenance services can often not be assessed by the customer even after having consumed the service.

Reputation is therefore important for services firms – and reputation does not travel well. Hence, services providers often prefer to establish close to consumers to build the trust and reputation needed to attract and retain customers (Oldenski, 2012). Importantly, reputation is typically firm-specific rather than product-specific. Having established a commercial presence and a reputation in a market, multi-product services firms may produce some services locally and offer others through cross-border trade (Kyvik Nordås et al., 2022). In such cases cross-border trade and trade through commercial presence may be complementary while barriers to establishing a commercial presence also slow down cross-border trade.

Policy respect to data flows demands specific attention. About 18 percent of global trade in digitally-enabled services is now impacted by data localization (van der Marel, 2021), largely motivated by data protection (security and privacy) concerns. OECD data shows that over the decade to 2020, there were 143 digital trade/e-commerce in services related measures enacted or implemented. More than one-third of these measures affect the use, storage and transfer of data. New restrictions are also impacting on online payments and Internet banking when these involve foreign providers and on downloading and streaming. Censorship and limitations on online content affect more than 40 percent of the economies covered. On average, the general level of restrictiveness has been increasing. Over the period 2014-2020, the OECD DSTRI shows there have been globally more than twice as many restrictive measures introduced than liberalizing measures.

Given that digital services production and trade is heavily dependent on access to international transmission of data, policies that impact cross-border data flows will impact

[12] Estimates of services trade costs strongly depend on the elasticity of substitution between services from different origins. Benz and Jaax (2022) use elasticities between 2.5 and 3.7, depending on the sector. These are low compared to goods trade but draws on the elasticities from the literature.

trade in digital services. All kinds of data flow restrictions impede firms from sourcing and sending data where its value is best used, increasing trade costs for companies and hindering economies from exploiting comparative advantage in digital services. Higher levels of data flow restrictiveness are shown to be associated with lower firm productivity (Ferracane et al., 2020) and reduced performance in cross-border trade in services (Ferracane and van der Marel, 2021). In recent years, several APEC economies have adopted stricter data regulations. This can be expected to impact negatively on regional trade in digital services.

The literature focuses on the extent and impact of data localization requirements, local storage requirements and conditional data flow regimes. Data localization impacts about 15 percent of global trade in digital services. The term 'data localization' covers both bans on data transfer abroad and local data processing rules (which allow companies to nevertheless send copies of the data abroad). At the global level, rules which only require domestic data processing do not have significant negative impact on digital services trade (Ferracane and van der Marel 2021).

Given that digital services trade increasingly takes place business-to-business (B2B) in GVCs, digital services exports are themselves increasingly dependent on digital services imports. It is important therefore for governments to consider the impact of local data restrictions on local digital services export potential. Research undertaken for the ADB AEIR 2022 found that for the Asian region, there is a stronger negative impact on digital services exports than for imports, for both data localization and local storage requirements. Data localization and local storage requirements in the Asian region bring an estimated 15 percent reduction in digital services imports. The downward impact on the region's digital services exports is even larger.

Background research for the ADB AEIR 2022 (Shepherd, 2021) also tracked the involvement of digitally-enabled services in Asian region GVCs and identified both digital services trade restrictiveness[13] and digital regulatory divergences as sources of services trade costs in the region, suggesting that both trade liberalization and domestic regulatory reform in digital services sectors can boost the breadth and depth of GVC integration in the region.

During 2020 some improvement emerged: fewer barriers to trade in digitally-enabled services were introduced than in 2019 and new liberalizing measures just marginally exceeded the number of new restrictions. New policy measures were taken that facilitated digital services trade, particularly regarding e-signatures and e-payments. Policy responses to the pandemic contributed, as governments supported business efforts to accommodate remote working and expand online operations, via some temporary easing of regulatory restrictions.

It is important for APEC economies to consider whether all the liberalization experienced in 2020 needs to be reversed in the post-pandemic environment, especially as the intensification witnessed in 2020 of the radical shift to digitization is unlikely to be undone. Policy action is also needed to address the build-up of barriers over past years, particularly in key enabling services such as telecommunications and computer services.

There is an urgent need for all APEC economies to engage more fully in international discussions to shape the international governance of digital trade/e-commerce. On regulatory matters, experience in the traditional economy points to the need not to go it alone but to engage in regional and international dialogue and cooperation, to work towards consensus-

[13] As measured by the OECD DSTRI.

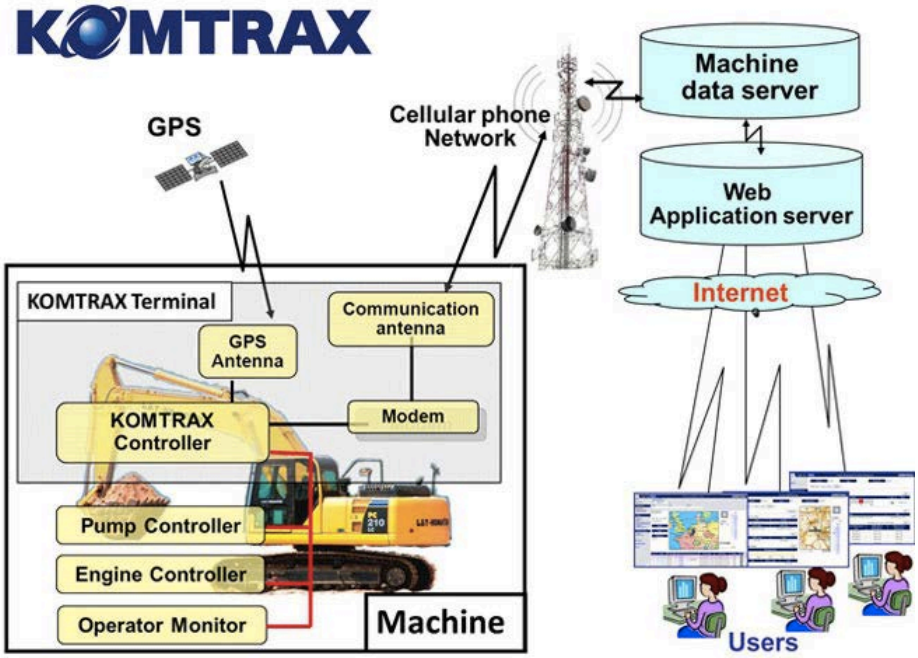
based common frameworks and international standards, and to adopt good regulatory practices. But some economies are showing inclination to individual design and adoption of approaches to data localization and transfer.

Deeper Dive on Services Innovation and Entrepreneurship

Innovation is a core driver of productivity. Investment in development of intangible capital assets, commonly called innovation in services, is a key driver of competitiveness in services. Services innovation is also, in effect, a prerequisite for services export. Any services provider aiming to do international business, including attract global services work onshore, must have an innovative offering.

Services innovation is also a driver of competitiveness across the goods sectors, where it has the capacity to build new competitive advantage and to rescue competitiveness in otherwise declining industries. The currently intensifying application of digital services solutions across the whole economy is taking the process of servicification to the point where services and goods are seamlessly intertwined and interdependent. Figure 2.2 illustrates the range of services that are now built into heavy machinery: 'Komtrax harnesses satellite and mobile based ICT data … to monitor the location, health and performance of every machine in (the) fleet – whether a single machine or hundreds of units.'[14]

Figure 2.2: Digital Services Solutions Driving Manufacturing/Services Convergence



Source: Komatsu: Keidanren/International Chamber of Commerce Presentation to Joint APEC EC/GOS Stakeholder Roundtable on Services and Structural Reform, June 2022.

At the outset of the ASCR, public policy understanding of innovation was still grounded in manufacturing, with limits to which that experience could be transferred to services. Science-based R&D tended to be the sole focus of policy attention, with emphasis on access to

[14] https://www.komatsu.com.au/support/komtrax/what-is-komtrax

technology/know-how rather than generation of innovative ideas, novel solutions, and new performances. Business surveys and APEC Public/Private Dialogues helped enhance understanding at the time, but that understanding needs to be updated again to take account of digitalization, which has brought data science to the fore. Some commentators claim that the rapid adoption of digital and data technologies during the pandemic-related lockdowns has meant that many sectors and organizations have experienced a decade's worth of digital transformation in the space of months (CSIRO, 2022).

In general, innovation in services tends to take place at the point of interaction between services provider and the client. Driven more by client relations than is the case for innovation in manufacturing, services companies must maintain a flexible approach to innovation, constantly changing to solve client problems and meet new needs. Services innovation is people-driven as well as laboratory-driven and requires integrated input from operational, organizational, technical, and managerial staff as well as researchers. It tends not to take place as a specialized activity but to be inextricably tangled up with everyday creativity and problem solving. Where elevated levels of deep tech input are needed, it is often most effective when the eco-system allows for strong interaction and co-innovation with knowledge providers.

Services innovation also tends to focus on new modal delivery methods as much as on new suites of services offering and on new business models to reach new markets. Services innovation requires technological inputs but also non-technological inputs, involving the social as well as the natural sciences – and the creative arts and humanities. All services industries bring to the fore the softer aspects of innovation, based on the skills of employees and cross-professional and inter-organizational collaborative skills. Services skills focus not only on standardization and scale but also on securing the value associated with handling exceptions or complexity in real time.

So, what sorts of policy and regulatory settings are relevant? Good innovation policies need of course to be grounded in strong economic and social fundamentals, including economic openness, integration into global value chains, entrepreneurship, and regulatory efficiency. Regulatory predictability and certainty matter but enabling firms to respond quickly to change increasingly calls for an agile approach on the part of the regulator.

Innovation in services also requires openness to international engagement, trade, investment, and cross border data flows. Building a local center or hub of services innovation and excellence is about facilitating a collaborative cluster of talent, ideas – and data flows. For best results, this should happen in an internationally collaborative manner. The earlier innovation ecosystems develop global connectedness, the quicker they take off, support start-up founders to go global, access export markets and create jobs. Start-ups with early global market reach see their revenue grow twice as fast as those focused on the domestic market and are more likely to become scale-ups (Start-up Genome, 2022).

APEC economies need specific opportunities to share their experiences and help identify some best practices in policy and regulatory settings to promote innovation in services. APEC economies take similar policy approaches to digital innovation: incubation support, funding, tax incentives, encouragement of start-up clusters, promotion of higher value-added digital

services - including segments such as e-commerce and fintech. Box 2.6 describes some key features of the emerging start-up eco-systems in selected APEC economies. Regional dialogue is nevertheless important, not only for policy makers and regulators but also for key agents of innovation such as founding entrepreneurs, tech talent and investors, to learn from each other at all stages. ABAC is calling for more APEC Public/Private Dialogue in this area.

Box 2.6: Start-Ups and Unicorns

Digital startups are disrupting industry after industry and are growing more than 10 percent a year. The so-called "Tech" sector is estimated (Start-up Genome) already more than 6 percent of the global economy, with Life Sciences adding another 10 percent.

In **Indonesia**, the emergence of digital start-ups mainly in the e-commerce sector, growth of ride-hailing businesses as well as multiplicity of edutech, healthtech, fintech and cryptocurrency applications, and the growing number of unicorns and investments in such enterprises, are potential drivers of future digital services exports. In **China**, digital innovation and entrepreneurship as reflected in the growth of e-commerce, pilot projects to test and commercialize new digital services, provision of tax incentives and venture capital funding for incubating start-ups, alongside related investments in payment platforms and digital enterprises in the wider Asia Pacific region, are seen as major facilitators of digital trade and e-commerce.

APEC eco-systems that have recently had their first unicorn include Santiago, **Chile** with notco.com, Ho Chi Minh City, **Viet Nam** with skymavis.com and momo.vn and Bangkok, **Thailand** with flashexpress.com.
Initially, start-up ecosystems were largely about the development of new digital solutions and digital applications, for example across fintech, regtech and agritech. More recently, what is commonly known as "deep tech" and has generally been considered in the realm of science and engineering R&D (eg AI, Big Data and Blockchain) has been growing its share also in technology start-up ecosystems, from a global 25 percent in 2012 to more than 40 percent in 2021, in both the count of startups and the amount of funding. These are powerful new technologies which will be empowered further by the arrival of quantum computing; they will undoubtedly generate a whole new wave of digital services spin-offs.

Indeed, there has been an explosion in AI discoveries and applications across practically all industry sectors over recent years. A 2021 study of 85 Fortune 1000 businesses found that 96 percent benefited from using big data and data-driven decision-making, and a separate study found companies that use customer analytics are twice as likely to generate above-average profits than those which do not (CSIRO, 2022). The International Data Corporation estimates that the AI market will grow from USD455 billion in 2021 to USD665 billion by 2024. Keeping pace with global trends in R&D expenditure will be critical for APEC economies global competitiveness, particularly around AI and other technology developments.

The adoption of high-performance computing, AI, machine learning, sensors, IoT, robotics and other Industry 4.0 technologies is growing globally. The next wave of digital innovation is expected to generate USD10-15 trillion globally, and to contribute massively to APEC economies' growth by 2025. Untapped opportunities exist for all economies to accelerate digital adoption and its associated productivity gains (CSIRO, 2022).

Upskilling and the Future of Work

The second industrial revolution was associated with mass industrial production and deskilling of work in the late 19th and the early 20th centuries. Tasks and functions previously performed by skilled craftsmen and artisans were sliced into individual tasks that could be

performed by unskilled workers working with machines (James and Skinner, 1985 and Mokyr and Strotz, 1998). At the same time, mass production created desirable and affordable products for the masses and a sharp rise in employment and real income.

In contrast, the information technology revolution starting in the 1970s brought skills-biased technology to the workplace, contributing to a growing skills premium, and widening income inequality as skills supply failed to keep up with demand (Acemoglu, 2002; Card and Di Nardo, 2002). The digital economy is now widely estimated to be generating net employment growth but concerns remain with respect to social inclusion.

The most recent development in technology affecting the future of work is the adoption and uptake of AI and AI-enabled robotics. As we shall see, the impact of the ubiquitous presence of AI on labor markets is not well understood. Will AI have a similar effect on labor markets as had mass production in the early 20th century - this time deskilling and mass-producing services? Or is AI skills-biased in a manner comparable to computers?

One approach in the literature is to assess which tasks can be performed by AI-enabled algorithms and base predictions on automation and skills demand from that. It is found that up to half of all tasks currently being performed by workers can be automated with existing technology. Some see a bleak future for workers and suggest that universal income in some shape is needed to distribute the benefit of technological progress (Korinek and Juelfs, 2022). Others argue that AI is not introduced task by task but requires fundamental changes in the way production is organized. It will take time before it is widely adopted – time that can be spent on skills and infrastructure adjustment, including preparing a legal framework for safe use of AI (Bresnahan 2021, Agrawal et al 2021, Klügl and Kyvik Nordås, 2021).

Another scenario is that AI has a similar impact on services as the second industrial revolution had on craftsmen and artisans (Susskind and Susskind, 2015). Professional services such as architecture, legal services, engineering, or medical services can be broken down to standardized tasks that can be mass produced using software that consumers can manage themselves. Harbingers of what is to come are wearable sensors that monitor blood sugar levels, blood pressure and heartbeat and automatically trigger personalized medication; architecture software[15] combined with virtual reality allows people to design their own homes and virtually test the convenience and functionality of their designs. Algorithms sifting through case law have already entered the law profession. Whether this is the start of a new era of a mass market for affordable professional services is yet to be seen.

At first sight the jobless future and the mass production of services scenarios may look the same. They are not. The jobless future scenario envisages AI as a skills-biased technology that keeps creeping up the skills ladder, eliminating unskilled jobs and further raising the skills premium on the way. The mass-production scenario in contrast sees AI as a deskilling technology in the sense that less skills are needed to work with AI to produce affordable, sophisticated services and reducing the skills premium. Understanding whether AI replaces or enhances human skills is essential for future skills policy, so let us take a closer look at the empirical evidence.

[15] See for example https://academy.archistar.ai/15-great-vr-software-packages-and-apps-for-architects

AI can only have an impact if it is used. The most comprehensive surveys, from the US and Sweden, suggest that surprisingly few firms – less than 10 percent - report that they use AI[16]. Demand for AI-related skills is also mute but has grown rapidly over the past five years from a low base. We know this from an innovative literature studying the skills requested in vacancy notes over time. It finds that the share of vacancy notes asking for AI-related skills is in the range of a few decimals of a percentage point to 2-3 percent of all vacancy notes. In Stanford University's AI Index Report for 2022[17], Singapore had the highest share of AI-vacancies at 2.5 percent. Interestingly, the fastest growth in demand for AI-skills, albeit from an exceptionally low base, is observed in Brazil, India, and Canada. India also ranks at the top on the relative AI skill penetration rate, which measures the share of AI skills among the top 30 skills demanded in each occupation. It is thus possible that some developing economies, having less resources invested in existing technology, could leapfrog to the technology frontier.

Analyses of the share of AI-vacancies by occupation, sector and firm characteristics show that computer and mathematical professions as well as engineering and architecture have the highest rate of demand for AI-skills. Among sectors, AI-skills are most demanded in information services, professional services, and finance. Demand for AI-related skills also varies across firm characteristics where large and R&D intensive firms are much more likely to post AI-vacancies than smaller and less innovative firms (Alekseva et al., 2021) [OBJ]. These are also occupations and sectors with a growing share of total employment in most developed economies (Kyvik Nordås and Tang, 2022). Studies that looked at not only the frequency of AI-related skills, but also which non-AI skills are most frequently requested in AI-vacancies found that soft skills such as communication, problem solving, creativity and teamwork as well as software and management skills stand out and have gained relative importance over time (Squicciarini and Nachtigall, 2021).

The correlation between AI-skills and problem solving is consistent with the fact that AI is a prediction technology. At the workplace hundreds of decisions under uncertainties are made every day. To manage, firms – or regulation - set rules and standards to save time and resources and make processes and procedures predictable. However, rules and standards come at the expense of flexibility and ability to respond to changing circumstances and reassess risks. AI helps shift that trade-off towards less rules and more human judgement (Agrawal et al., 2022).

From a skills policy point of view, it is crucial to understand how AI affects overall skills demand, bearing in mind that AI-related skills account for only around 1 percent of all vacancies. As a general-purpose technology, AI will eventually affect labor markets beyond the supply and demand for AI-related skills. AI is likely to drive a continued rise in the share of services in employment, while AI appears to favor workers with good social as well as verbal cognitive skills (Deming 2021).

In summary, the current evidence suggests that demand for AI-related skills will grow rapidly soon but may remain a small share of total skills demand. The fastest growing demand appears to be for soft skills including for decision making, problem solving, critical thinking

[16] Enterprise surveys with samples covering mainly larger firms present much higher shares. See Kyvik Nordås and Tang (2022) for a discussion.

[17] https://aiindex.stanford.edu/wp-content/uploads/2022/03/2022-AI-Index-Report_Master.pdf

and adaptability. The best skills policy for the future of work is therefore to encourage critical thinking and problem solving in the education system from primary to tertiary education as well as life-long learning. As use of a computer use does not require coding skills, AI-use may not require AI skills. Box 2.7 provides illustrations from the construction services sector, including reference to the trade policy issues emerging.

Box 2.7: AI and Services: The Case of Architecture.

In the early days of construction, the dimensionality of buildings and infrastructure was within the limits of what muscle power from men, horses, and oxen - enhanced by simple tools - could achieve. Machines such as excavators and building cranes immensely augmented muscle power and opened opportunities for buildings and infrastructure that simply could not be built with manpower alone. Although surpassing human abilities by orders of magnitude, such machines certainly did not eliminate jobs in construction. By the same token AI augments brain power and opens new opportunities for architects to create buildings and designs that could not be done without it.

Architectural start-ups now use AI- and cloud-based digital platforms with built-in algorithms for urban planning and architecture - from site acquisition to final project. Architects, urban planners, software engineers, management consultants, designers, data scientists and many more work together on one platform or model, where they generate, explore, and discuss multiple design options, apply generative design, study and optimize parameters related to, for instance, daylight, noise, view, wind and microclimate, while meeting local regulations. All this can be done in minutes. AI is doing to architects what excavators and cranes did to construction workers – enhancing their abilities by orders of magnitude to do things that were impossible without the technology. AI is unlikely to eliminate architects but may change how they work including open the field to other professions, regulators willing.

Services trade policy as well as professional services regulation did not have AI in mind when first introduced and needs to adapt. Multidisciplinary, international teamwork over digital platforms requires transparency and non-discrimination in procedures related to license requirements and recognition of qualifications. It would be even better if architecture were deregulated, such that other professions could perform some of the functions currently reserved for licensed architects. Restrictions on dataflows are also incompatible with the business model described here. Open government data, such as building codes, urban plans, accepted and rejected applications for building permits and meteorological data are indispensable for optimizing AI-enabled architecture and should be available both to domestic and international services suppliers. Commercial presence requirements also need to be reviewed as they prevent the formation of project-based international teams working digitally on AI-enabled platforms. Finally, a few jurisdictions restrict commercial association between different regulated professions in the construction sector, for example between architects and civil engineers. Such regulation may exclude these professions from contributing to multidisciplinary teams.

Source: (Leach, 2022)

Chapter 3. Structural Reform Agenda

In 2015, the benchmark year for measuring progress towards the targets associated with the APEC Services Competitiveness Roadmap (ASCR), and the latest data available for the 2016 PSU work on Services and Structural Reform, digital services were 45 percent of total APEC trade in services and performing, in terms of growth rates, in a roughly comparable manner to non-digital services. In 2022, with digital services now taking a 62 percent share of total APEC services trade (see Chapter 1), it is evident that for APEC to expect to deliver on the ASCR, account must be taken of the rapid digital transformation of member economies.

The original ASCR was based on enabling factors for services competitiveness identified in the APEC Services Competitiveness Framework adopted in 2015. At that time, the priority focus, as discussed in Chapter 2, included good regulatory practices and competition policy, trade policy standstill and rollback, skills development, innovation, telecommunications and financial payments infrastructure. The updated current set of enabling factors we have presented in this report for digital services, has much in common with the original set of enablers identified. But there are also shifts reflecting intensification of the digital revolution.

Key enabling factors for competitiveness in digital services revolve around human capital, digital readiness and digital infrastructure, existence of entrepreneurial innovation eco-systems, efficient digital regulatory regimes and openness to international trade and investment in services (see Chapter 2). While there may be critical thresholds to be reached in enhancing APEC economies' prospects for positioning competitively in digital services trade, the relative absence of any single enabler is not necessarily a constraint. The overall eco-system is what matters.

This chapter briefly revisits the findings of the 2017 APEC-PSU report on Structural Reform and Services and reflects on principles for the design and implementation of structural reforms considering the increasing role of digital services in the economy. This is done in light of the enabling factors identified in Chapter 2, particularly those related to regulatory reform and openness, which we explained earlier as two sides of the same coin.

This chapter concludes with a discussion of the positive links between services competitiveness and two other dimensions of the APEC structural reform agenda, namely inclusion and sustainability.

The 2017 Structural Reform and Services Report Revisited

The PSU report (APEC, 2017, pp. 46-50) made several recommendations, calling on governments to pay more attention to services given high and rising share of services in GDP and employment and the prospect of growth of digital and internet businesses and demand for a broad range of services as incomes increase. The report stressed that the competitiveness of all firms in an economy will be determined in part by the performance of services providers, most of which are SMEs, because many services are inputs into production and many others are central to the welfare of individuals, households, and communities. It argued that the design and implementation of structural reform initiatives is a matter for individual governments, noting that while structural reforms in services sectors should be informed by international experience and regulatory cooperation to jointly reflect on what constitutes good practice, there may be less of a political economy rationale to pursue structural reforms in services through binding international trade agreements than has been

the case for opening markets to trade in goods. This was because reforms in many services, especially those dominated by face-to-face delivery, were understood to give rise to more limited adjustment costs than occur with liberalization of trade in goods because of the more limited potential for specialization. Because many services still require local production, reforms will be associated with exit and entry of firms within a sector as opposed to significant downsizing and offshoring of production in which an economy does not have a comparative advantage. As discussed below, this is changing because of the rapid adoption of digital technologies and new business models. Digitalisation has made all services more tradeable; services tasks are now readily fragmented across borders.

The report argued that from an inclusive growth perspective, reforms should focus on improving total factor productivity and universal access to infrastructural services, notably transportation, telecommunications, health and education, leveraging market mechanisms and competition by identifying and removing policy-driven barriers to exit and entry and business innovation. It pointed out that structural reform will be accompanied by adjustment costs and unanticipated spill-over benefits for ancillary activities, e.g., widening access to services, and called for identifying and measuring both the direct and indirect effects of reforms, as well as policies to address adjustment costs, e.g., complementary investments in skills development and training of workers, and more broadly active labor market policies.

As the effects of structural reforms in services will be determined in part by linkages between sectors, the report suggested use of value-chain informed 'whole of government' approach to identify policies affecting a bundle of activities and technologies that jointly determine the ability of firms to supply and consumers to consume (new) services, e.g., linkages and interdependencies between internet platforms, e-commerce retailers, financial intermediaries, and logistics service providers. Similarly, the report argued that at the APEC level, deliberation on the regulatory issues that are the focus of the broader structural reform agenda must be informed by and involve the relevant sectoral regulators and related working groups, and vice versa. Regulators will not have an economy-wide focus, while economic policy efforts aiming at inclusive growth may depend on regulatory reforms at sector level.

The report also noted that flexibility is needed in the pursuit of reform programs because of unforeseen circumstances or intended consequences, calling for mechanisms to generate information, including from industry, other stakeholders and relevant regulators, and support for analysis to help determine what adjustments to consider. More generally, determining priority areas, assessing progress, and analysing impacts and effects of structural reforms requires timely firm- and household-level micro data and information on services policies and aggregate services performance – productivity, employment, trade and investment flows. The 2015 report on APEC Work on Services and Baseline Indicators identified a wide range of services data gaps and weaknesses across APEC economies, indicators, and time periods. While collecting such information is costly, it has high potential payoffs in helping to understand structural reform efforts and the benefits they create.

The experience with the COVID-19 pandemic and the associated major shocks incurred by firms and households in all APEC economies underline the continued salience of the recommendations made in the 2017 report. The importance of investment in connectivity and universal access – including digital infrastructure – was particularly evident in 2020-21, as this determined the ability of households to use digital technologies for education, health, videoconferencing and working from home, purchases of goods, entertainment services, etc.

Disparities in such access became a major determinant of inclusion in both economic and social activity.

The need for policies to support firms, workers and communities to deal with adjustment costs generated by exogenous shocks and more generally by technical change was amply illustrated in the pandemic. The pandemic made clear the need for social safety nets, and the importance of addressing the social benefits and costs of technological change that will accompany the increasing shift in economic activity toward digitally enabled and intermediated transactions.

The salience of pro-competitive regulation that supports entry of new suppliers and adjustment in modes of supplying and consuming services was equally evident, with firm responses to the mix of supply and demand shocks determined in part by the ability to provide new services and adjust production and delivery processes. The ability of firms to substitute towards online modes of supply was a key determinant of business success during the pandemic.

International regulatory cooperation was shown to be important as well, in this case illustrating the payoffs to cooperation that allowed cross-border payments to be made and enabling firms, workers, consumers and people generally to connect and engage in cross-border exchanges.[18] The pandemic also illustrated the importance of regulatory cooperation by demonstrating the potentially high opportunity costs of lack of ex ante cooperation between regulators, reflected in an absence of mutual recognition of conformity assessment processes and standards that would have supported more rapid adjustment by companies. Greater use of international standards and mutual recognition (reliance) increases the potential for trade in medical diagnostic and treatment services and the ability (incentives) for firms and consumers to use alternative modes of supply. Greater ex ante cooperation and coordination of regulatory requirements pertaining to public health, such as agreement on what constitutes essential travel and essential activities can reduce policy-induced frictions and uncertainty for firms.

The COVID pandemic experience and the associated acceleration of the digital economy also suggests several of the arguments and associated recommendations of the 2017 report may need to be revisited. The accelerated shift towards digitally enabled economic activity and underlying technological change may put into question the presumption that adjustment costs associated with structural reforms in services are likely to be primarily of an intra-sectoral nature. The responses to the COVID-related lockdowns and sharp reduction in many services activities involving physical proximity (hospitality; travel, retail services) involved a shift from eating in restaurants and shopping in stores to on-line ordering and delivery at home, an intersectoral reallocation of resources, especially to logistics and delivery services, reflected in changes in business models and tasks for workers as opposed to a sustained reduction of the associated services activity. For other services activities (culture and entertainment), it remains to be seen whether the pandemic-induced shifts generate more sustained reductions in local activity and associated adjustments in employment, such as closure of theatres and increased provision of audio-visual services content through online platforms. The extent to which there may be substitution of on-line domestic and cross-

[18] An example is education where regulatory cooperation was essential to allow remote education both in destination economies and in student source economies.

border provision of digitally-enabled services also remains to be determined. For the time being, as noted in Chapter 3, the long-standing stylized fact that commercial presence dominates trade in services is likely to continue to hold for a broad range of services because services tend to be experience and credence goods (Francois and Hoekman, 2010).

Making Reform a Success

Despite efforts to encourage interoperability in forward-looking regulations, a rapidly growing stock of regulatory measures contributes to fragmentation of markets both geographically and across sectors and functions. This has substantial costs for services traders, particularly SMEs which are particularly affected by rising regulatory compliance costs. Fragmentation of regulation runs the danger of stifling innovation, while compliance with a multitude of regulations curbs international trade.

An important element of successful reform is the adoption of good regulatory practices (GRP). Basic principles of GRP are well-understood and include clearly defined objectives (the aim of and rationales for regulating an activity), transparency and consultation with stakeholders when defining regulatory objectives and performance standards, processes for identifying measures that are efficient (least cost) in achieving the objective (ex-ante impact assessments), considering use of internationally agreed regulatory standards where these exist, flexibility in responding to changed circumstances in a timely manner, independent monitoring and evaluation of outcomes (ex post impact assessment), and regular dialogue and consultations with stakeholders.

GRP centres on clearly defining regulatory goals and requirements, whether these aim at addressing market failures (e.g., information asymmetries that may adversely affect consumer health and safety; protection of the environment) or the pursuit of social equity objectives (for example universal access to basic services), leaving it to firms to determine how to satisfy the associated standards by innovating and competing on the basis of different business models and production processes. Agile and flexible regulation can be reconciled with regulatory certainty, predictability, and transparency by setting standards for regulatory processes and introducing time-bound regulations.

To a significant extent the principles underlying GRP are equivalent to those identified in the theory of economic policy, which as a practical matter can be reduced to several basic questions:

- What is the problem?
- Why does it call for government intervention?
- What policy instruments are available to deal with the problem?
- Of those instruments, which politically feasible ones achieves the goal at lowest cost?

Good practice in the design of regulatory reform should start with a re-assessment of these questions, starting with defining the original problem, determining whether this still applies, and if so, whether and how changing market conditions and/or technologies change the nature of the problem in a significant way. A clear recognition of the problem and the objectives to be attained is crucial. Assuming government intervention continues to be necessary, it is critically important to have a good understanding and communication of the expected benefits and potential costs of regulatory reform, i.e., alternative forms or types of intervention and to ensure that all stakeholders have been consulted in the assessment of

those costs and benefits, including from an international trade and investment perspective. Because new regulations motivated by public policy reasons often will concern different parts of government, inter-agency consultation is required, including departments responsible for international trade dimension. In practice this often is not the case, requiring international services providers to engage with the regulatory agencies concerned as opposed to being able to rely on trade ministries to point out potential trade costs and less trade-restrictive approaches that achieve the regulatory objective. Cyber security and privacy regulations are examples.

Regulatory reform will inevitably confront political economy headwinds, which will be influenced by the timing of reform implementation and the associated distribution of benefits vs. the short term and possibly concentrated nature of adjustment costs. Quantitative assessments of proposed reforms should consider both sides of the equation to the extent possible and be explicit on the question whether costs associated with reforms are pecuniary or nonpecuniary, and if the former, whether they call for partial compensation of a capital loss (for example due to elimination of rents), assistance to cover adjustment costs associated with job loss and search for new employment opportunities or complementary policies to 'crowd in' the private sector to facilitate adjustment (through job training support and other active labour market policies).

The modern services economy is complex, involving a wide range of actors. Involving the private sector and other stakeholders through consultations and platforms designed to solicit both inputs on desirable reforms and feedback on reforms once these have been decided and begun to be implemented, including a focus on digital dimensions of value chains and services trade can help to identify where reform efforts should focus to generate investment and job creation. Tools to do this include well-designed surveys, deliberative polling and public-private partnerships and platforms.

Surveys with closed ended questions can provide useful information on reform areas and issues that are deemed most important by stakeholders and should be prioritized as scaled responses can be used to rank order concerns. What is needed is a set of questions that aim at identifying the issues that matter most to a representative sample of stakeholders. Quantitative impact assessments can provide a basis for designing questions by informing respondents on the likely range of benefits and costs. Surveys could also be used as the basis for in-depth consultations by providing a sampling frame comprising different groups and organizations that can be sampled to generate a representative group of stakeholders. Such a group can be used for deliberative polling to identify issues deemed to be priorities by a majority of the stakeholders represented.

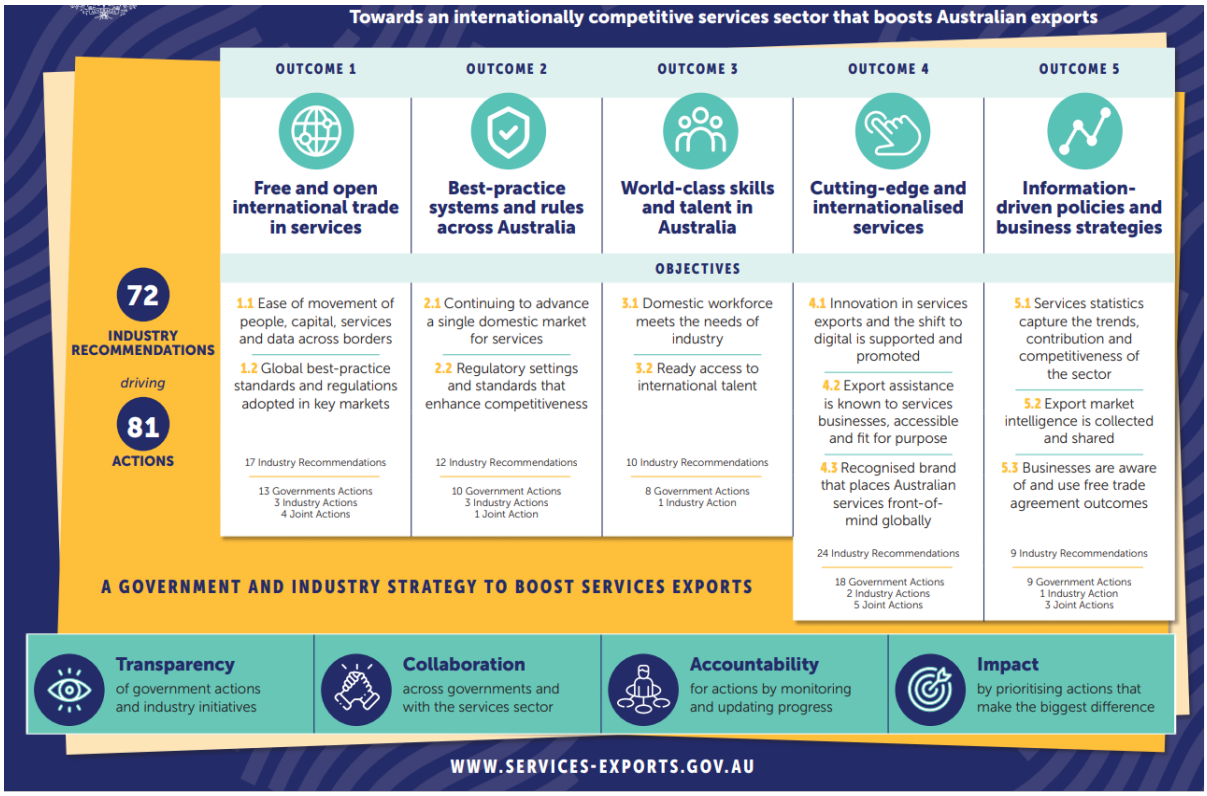
Deliberative polling brings together a representative group of stakeholders to discuss a subject in small groups facilitated by trained moderators, informed by accessible expert briefing materials that provide balanced information on the range of salient issues, including economic effects and non-economic concerns. The goal is to solicit the group's views – through a poll — on a set of issues raised initially in a first round of consultations or a survey. If the group is statistically representative of the relevant stakeholders, the result of the poll

should reflect better the conclusions that would have been attained had the population been more informed and more engaged. [19]

Box 3.1: Australia's Services Export Action Plan rests on Structural Reform

Australia's services export action plan provides a concrete example of the intersection of services competitiveness and structural reform. The plan recognises domestic regulatory settings must take the international context and the trade impacts into account. It's five policy pillars with underpinning objectives seek domestic reform outcomes to provide a springboard for services exporters to stay internationally competitive and boost services exports. As a Federation, Australia does not have a single-market in services and, like the APEC region itself, regulatory disconnects across the economy risk compromising export competitiveness in services. Australia worked closely with the OECD to undertake a diagnostic on the competitiveness of Australia's services sector. The study, *Australian Services Trade in the Global Economy,* highlighted the importance of coordinated domestic policy reform in addition to international trade action and promoted behind the border regulatory reforms. It was undertaken in a coordinated cross-agency manner and involves very close private sector stakeholder engagement from the research stage through the implementation stages. It helps set priorities for reform. The design and implementation of the Plan involved ongoing close consultations with services firms and organisation, and with various agencies and regulators.

Australia's Services Export Action Plan – An overview



Source: Home | SEAP (services-exports.gov.au). Australia has 3 levels of government: (1) federal (laws for the whole of Australia); (2) state and mainland territories (laws for the state or territory); and (3) local councils (by-laws for their region/district). Each level has its own responsibilities but in some cases they are shared.

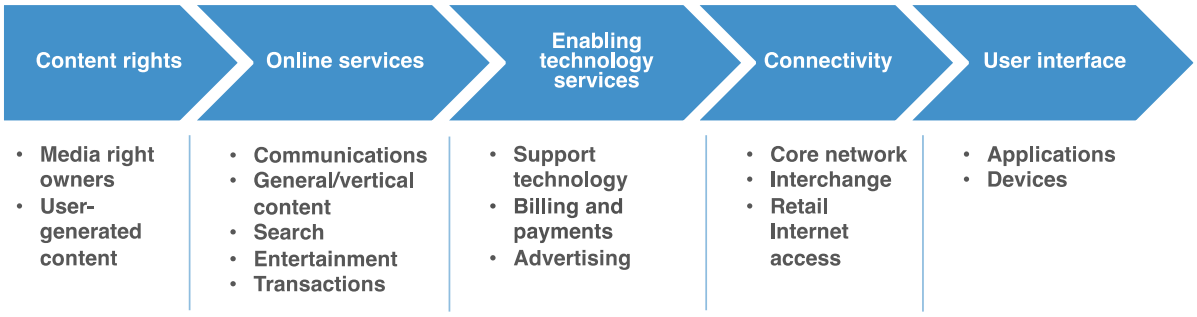
[19] Fishkin, 2009 discusses the approach, the circumstances under which the technique can be used and examples where it has been implemented. Elliott, 2005 provides practical guidance on use of the technique.

Cooperation of businesses with regulators, analysts, and researchers has the scope to develop better policy. Findlay and Hoekman (2021) suggest principles for the design and operation of such cooperation, drawing on the experience with multi-stakeholder partnerships. The basic idea is simple: facilitate and frame deliberation and cooperation among the relevant regulatory agencies, the private sector, and the research community to assess the effects of regulatory policies. Leveraging the knowledge of firms involved as suppliers and buyers to identify reforms that would stimulate services activities and investment in digital technologies can help enhance political support for reform processes. Support for such deliberation in member economies and at APEC level could help focus reform priorities for APEC economies, such as improving inclusion and sustainability by enhancing the ability of SMEs to exchange services across borders.

A value chain approach to reform is distinct from the industry or product-specific focus that tends to frame thinking of regulators. Framing structural reform around value chains would ensure involvement and consideration of clusters of firms in very different industries that contribute to or depend on a value chain. Modern approaches to industrial policy stress the importance of public-private dialogue mechanisms and institutions to identify and resolve coordination problems (Devlin and Pietrobelli, 2019). By fostering communication between actors with a stake in an economic activity to identify and address specific constraints and market failures that affect the feasibility and profitability of a new activity the process can help to assess what type of reform to consider. Box 3.2 illustrates these points with respect to digital services regulators.

Box 3.2: Why Digital Regulators Need to Take a Value-Chain Approach

Digital services and the technologies they deploy are interlinked and co-dependent. All of the services work in tandem, within and across companies and economies. The figure below (based on GSMA, 2022, Figure 4) illustrates a series of steps involved in digital service provision, and the various elements of each step.



In the 5G world, the use of the internet of things (IoT), for example, relies on devices that will gather data from a great many pieces of equipment in one or more markets and transmit these over Wi-Fi networks, 5G mobile networks or satellites. The considerable amounts of data generated by IoT connections usually require cloud-based services for storage often located in another economy or region and draws on Big Data analytic power for processing conducted by another company followed by application of AI algorithms available from yet another supplier to make sense of it all. Rarely would all these interlinked services be provided by a single company, even if one company might be the interface with the business or other party

that is the end consumer. Often, the eco-system is so seamless that the end consumer is not even aware of the complexities.

As a result, high-technology services form part of complex global value chains involving networks of collaboration and commercial relationships across any number of companies and economies. These consist of a multitude of contracts companies conclude to purchase services from one another or can take the form of joint ventures, subsidiaries, outsourcing, partnerships, and subcontracting. The eco-system can also foster entrepreneurship in developing economies whose firms gain access to subcontracted or outsourced within the ecosystem.

Regulatory reform similarly needs to take a value chain approach. This is because the regulations targeted at any one of the services or technologies will have spill-over effects on all the other services in the value chain and well as on their clients. Unforeseen spill-overs can impact negatively on both foreign inward investment and on services exports. Foreign companies can become wary of including local entrepreneurs in their network of relationships, reducing the benefits to local firms of participation in this global digital value chain.

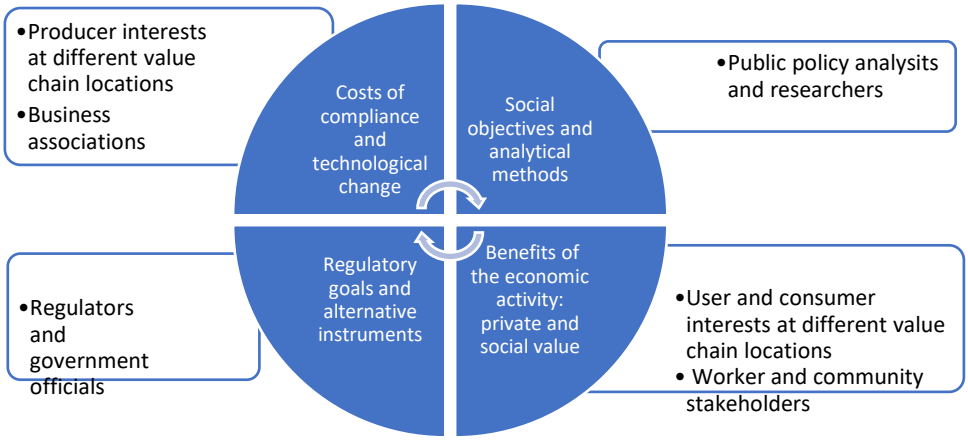
Data regulation has far reaching consequences for technology-driven services. The eco-system permits companies to collect, transmit, and share information, as data, efficiently and widely across economies and among businesses and communities. This is precisely why they can make such an enormous contribution to globalized production in manufacturing and agribusiness, and in seamless international transactions in transport, tourism, and finance as well as merchandise trade. Data localization requirements and other data transfer restrictions on any one of the services or technologies will have spill over effects on all the other services.

The potential elements of a public-private structural reform platform are summarized in Figure 3.1. These include regulators and government agency representatives responsible for policy (bottom left) and producers, buyers, consumers, and other stakeholders such as workers and community representatives. Producers (top left) can best identify the impediments to realizing value at different parts of the chain, including in different economies. Analysts can help assess impacts and provide research capacity to facilitate discussion of transactions and operating costs, as well as monitor progress in implementation of measures aimed to reduce costs over time. Setting goals for progress and monitoring performance will be critical for success. Business can play a role by sharing data and experience.[20]

Public-private structural reform partnerships or platforms will entail costs, but these are relatively minor – essentially time devoted to participating firms and other stakeholders and the costs of preparing background analysis assessing the effects of extant regulation and economic policies and evaluation of alternative options. The return on investment is likely to greatly exceed the costs, and the extent to which this is the case can (and should) be assessed periodically.

[20] Digitization will generate more data over time (Schniederjans, Curado and Khalajhedayati, 2020).

Figure 3.1: Structural Reform Platforms



Source: Adapted from Findlay and Hoekman (2021).

Resolving Challenges for Regulators

Services competitiveness and digital transformation overlap. Inclusive economic participation through the digital economy is a priority area of focus for many APEC members, in recognition of the importance of an enabling environment for exploitation of digital opportunities for small companies, access to a reliable, interoperable, open, and secure ICT environment, narrowing digital skills and regulatory gaps, encouraging development of digital infrastructure and bolstering consumer and business trust in digital transactions. Regulators confront many challenges in this setting. What is called for to address such challenges is to determine and adopt good regulatory practices, as discussed above.

To illustrate, the digital transformation in services is leading to greater complexity in regulation of trade. Services regulations are typically sector or occupation specific. A crucial question for regulators is then whether sector or occupation specific regulation is still effective and if not, what reforms would be useful. New opportunities draw on a multitude of experiences, skills and capabilities. For instance, as we have seen for architecture (box x), some of the activities that are traditionally reserved for licensed architects can now be performed by software in the hands of other professions including engineers, city planners, and the ultimate customer.

In the health sector, data analytics and software support diagnostics, choice of treatment, patient monitoring, prediction of outcomes, and automated medication (Jiang et al. 2017; Yu et al. 2018). Some of these technologies can be safely operated by semi-skilled health workers, and some can be fully automated. Patients can also more often take advantage of automated medication, sensors monitoring e.g., heartbeat or blood sugar and alerting the family doctor, the local hospital, or emergency services, if needed.

Against this backdrop, traditional regulation of professions in the form of reserving a given set of tasks and functions for certain occupations may no longer serve its intended purpose. There is for instance some evidence that occupational licensing nowadays protects the professionals rather than the consumers (Kleiner, 2006; Blair and Chung, 2019). Furthermore,

such regulation may hold back the adoption of technology in services. That means lost opportunities for job creation in potentially competitive and rapidly growing markets for services that only high-income households can currently afford.

In an international regulatory collaboration context, there is a trade-off between external and internal consistency. Services regulation is typically embedded in the economy's institutional and social fabric which may vary across economies. Some examples illustrate the point. Economies that have an extensive rights-based and government-funded social safety net, including health, education, pensions, and unemployment benefits, may see less need for regulating insurance services than economies that rely on private insurance for such safety nets. The building industry is another example. Some economies focus regulation on the services providers, including the regulation of architects and engineers as well as requiring authorization for a host of crafts. Others regulate mainly through the building codes, and the process and requirements related to obtaining a building permit.

Thus, services regulation may be part of a coherent and consistent domestic regulatory framework, while some of the specific regulations – or lack thereof – may be inconsistent with trading partners' regulation. Mutual recognition of licenses or qualifications may not work if one trading partner requires a license and the other does not, for instance. International regulatory collaboration in these areas needs to focus on principles for regulation and regulatory processes such as non-discrimination and transparency. The question of mutual recognition is revisited in the next chapter.

An important element of GRP is transparency and analysis to permit regulators to focus on first order issues from a competition and consumer interest perspective, including taking international dimensions into consideration. A new element involves appropriate competition policies to address potential abuse of market power and assure a level playing field for firms seeking to use or compete with established digital platforms and market-leading services providers. In practice small economies acting alone may not be able to effectively combat anti-competitive practices by large firms that dominate segments of the global market. Participating in international deliberations on the design of competition law for a digital economy can help identify good practices for domestic competition policy enforcement and areas in which joint enforcement actions should be considered. This topic is also discussed further in the next chapter.

Competition policy is also a tool to address the potential for SOEs to distort competition because of subsidies provided to and by such entities (through soft loans, guarantees, preferential access to factor inputs such as energy or land) that affect both their ability to contest a market and may generate spill-overs insofar as they subsidise other firms through below-market pricing for their goods and services. In addition, SOEs may benefit from protection from foreign competition (e.g., reflected in FDI restrictions, joint venture requirements, preferential access to public procurement markets, etc.). From a competition perspective, what matters is the extent to which SOEs are large (have a major market presence) and operate on a commercial basis. Box 3.3 provides an illustration of these issues.

Compilation of up-to-date information on applied policies and cooperation initiatives aimed at reducing the adverse effects of government support policies should be prioritized, as data is needed to analyse the operation and impacts of SOEs. There is much discussion of SOEs, but

too little focus on the operations and effects of SOEs on market competition. Up-to-date information on SOEs is necessary to assess cross-border spill-over effects, and more importantly from a domestic policy perspective, impacts on competition in local markets. Regulators can be assisted in efforts to address the competitive neutrality challenge that can be posed by large SOEs through creation of mechanisms that generate information of the prevalence and operation of SOEs, as well as provision of subsidies more generally.[21]

Box 3.3: Parcel Delivery in Viet Nam

Viet Nam has undertaken significant reform of its state-owned enterprise (SOE) sector. In the 1990s, there were 12,000 SOEs which is now reduced to less than 700 by a process of sale of all or part ownership, called 'equitization', the process of which is recently below target. However, those that remain are significant (a small share of the total number of enterprises but 30 percent of assets in the economy and account for 20 percent of GDP). Some sectors are also dominated by SOEs, some of which are in the natural monopoly category (such as electricity, water and gas as well as letter post) but not all (others are in rubber, coal, and fertilizers). SOEs are also relatively large firms, and account for a large share of debt in the economy, and their return on assets is high relative to that in the private sector.

Postal services, a sector where SOEs are important, around the world have been buffeted by two shocks, both associated with the application of digital technology. One is the decline in the demand for letters and the other is the boom in e-commerce. The OECD found that two government owned entities accounted for 69 per cent of the domestic small parcel delivery market (Viet Nam Post (wholly owned by the Ministry of Information and Communications) with 47 percent and Viettel Post (which is traded on the stock market, and of which the Ministry of Defence is a major shareholder) with 20 percent). Viet Nam Post is also the public service operator in the letter market, and has an obligation for universal service, but also in the letters business operates under price control. Viettel Post focusses on express delivery and logistics. These two firms are part of a group of large and 'leading' SOEs.

The OECD noted the large market share of Viet Nam Post in the parcels market and its position in the letters market. It then identified a series of advantages which may apply to Viet Nam Post, one of which was the lack of separation of its ownership with regulation of the market. The OECD then recommended that Viet Nam Post instead of financing its public service obligation internally be compensated directly for that function, but that it also undertake accounting and reporting practices that would avoid its over-compensation for that role. It also recommended that policy and regulation be applied in a manner which does not favor state owned businesses, that the independence of the SOE boards be strengthened, that government not interfere in SOE management, that hard budget constraints be applied to SOEs, and that the government not guarantee SOE loans.

Further work on the competitive neutrality condition is underway. Viet Nam has included in its EAASR IAP an item on improving the legal framework for competitive neutrality between SOEs and private firms. The plan notes the link from fostering market competition to efficiency of resource use and economic recovery. The work plan includes dialogues on the concept leading to reform proposals.

Sources: Dang, L. N., Nguyen, D.D. and Taghizadeh-Hesary, F. (2020). State-Owned Enterprise Reform in Viet Nam: Progress and Challenges. ADBI Working Paper 1071. ADBI, Tokyo. Press reporting is at https://Viet Namnet.vn/en/Viet Nam-aims-to-have-7-world-class-state-owned-corporations-754525.html and https://Viet Namnews.vn/economy/537029/Viet Namese-soes-must-reform-and-invest-in-technology.html

[21] Only one-third of all trade agreement that include provisions dealing with SOEs have notification requirements, and only 10 out of 283 foresee collaboration in generating information on the operations of SOEs (Rubini and Wang, 2020).

Regulatory Cooperation

One dimension of GRP is engagement in international regulatory cooperation. This can enhance the effectiveness of regulation while at the same time reducing costs for both regulatory institutions and firms that are subject to regulatory standards. This can be achieved through mutual reliance and recognition regimes that reduce the need to assess compliance in each market a product is sold or a producer operates and/or through international standardization and harmonization.

As noted in the ASCR MTR (APEC PSU 2021) reducing the costs of regulatory incompatibility and divergence is a priority challenge for regulatory cooperation. This includes a need for greater focus on standardization and mechanisms to establish regulatory equivalence to support firms' potential to provide cross-border services. Data-related regulatory policies are one priority area as these will affect a broad cross-section of firms across many services sectors. Policies towards the cross-border flow of data and digital services and movement of services providers (skilled workers; entrepreneurs) will impact on incentives to invest in new digital activities and the ability to use the different modes of supplying services (Stephenson, 2021). Especially important in this respect are policies regulating ~~the facilitation of~~ cross-border movement of electronic data on the internet. In contrast to goods, where border policies such as tariffs and non-tariff barriers influence trade incentives, in the services context inadequate regulatory frameworks may matter as much as explicit discrimination against foreign suppliers.

Given the extent of divergent behind-the-border regulatory obstacles to trade in services, and the associated potential for market fragmentation, it has become increasingly well understood that efforts to liberalize services trade barriers need to be accompanied by deepening international regulatory cooperation. This is now considered essential in building the confidence required among regulators if trade negotiating efforts to reduce incompatible regulatory frameworks are to succeed (WTO World Trade Report 2019). Sharing of experiences and adoption of regulatory best practices and international standards have always been key to reducing regulatory obstacles for both merchandise and services sectors.

There are broadly three types of regulation of data flows in the world today: jurisdictions with open data flow regimes; those where flows are conditional on attaining (satisfying) domestic standards; and regimes where data flows are subject to government control. All three types of regimes are found in the APEC region (Ferracane and van der Marel, 2021).

In considering the design of regulatory policies affecting international trade in services and data flows, there is both a domestic and an external dimension. Restrictive domestic regulation may have negative consequences for trade and the ability of firms to connect and use digital platforms to provide services to both local customers and foreign clients. As important from a digital transformation perspective is the impact of foreign regulatory regimes that impede or simply exclude domestic firms from engaging in cross-border digital transactions and restricting choice for local consumers. Data and digital regulation more broadly are particularly important for firms that rely on data as a core part of their business, for example, platform companies and providers of 'software-as-a-service' (Ferracane, Kren and van der Marel, 2020).

The associated agenda for cooperation is driven by concerns in the business community regarding the trade-impeding (cost-raising) effects of *differences* in applicable domestic

health, safety, privacy and data security standards, prudential and licensing requirements, certification and conformity assessment procedures for products and production processes. Domestic regulators frequently have their own mechanisms through which they interact with each other internationally. Governments at different levels (central, sub-central, municipal), regulators and international businesses are all engaged in mechanisms that entail cooperation with counterparts across borders (jurisdictions).[22] Reducing the trade cost effects of differences in regulations is difficult because of concerns that it may compromise economies' regulatory objectives and hinder the execution of regulatory agencies' authority and obligations. The nature of regulation is technical and dynamic, involving many actors with different degrees of autonomy and decentralization; moreover, regulators must consider differences in local circumstances and priorities. Nevertheless, regulators often do not consider the international implications of what they do. There is often relatively little effort required to consider the trade impacts of regulatory requirements and alternative approaches that might have fewer negative effects while not impacting the realization of the regulatory objectives desired.

A simple yet powerful way to change this is to reform regulatory processes to include an assessment of trade and investment effects as part of broader regulatory impact assessments that are considered to be an element of GRP. This should be accompanied with the necessary (financial) resources to ensure such an effort will not crowd out (or be seen to crowd out) other activities. The CPTPP incorporates provisions calling for consultations on (new) horizontal regulations, the use of regulatory impact assessments and ex post evaluation, language on pursuit of regulatory coherence across levels of government, and on cooperation between domestic regulators. A standing body is tasked with overseeing implementation of GRP and regulatory cooperation – including undertaking a review of the operation and lessons learned 5 years after implementation. The CPTPP and Pacific Alliance also call for signatories to consider creating a domestic coordinating body with a mandate to support regulatory coherence by facilitating inter-agency coordination and regulatory oversight.[23]

This type of approach also can be applied to subsidies and SOEs. Resolving problems related to SOEs calls for disciplines to ensure that they act in accordance with commercial considerations. In addition to application of competition law in domestic markets, two approaches can be envisaged to do so to manage international spill-overs. One option is to equate SOEs with public bodies, with findings of subsidisation if SOEs do not act in accordance with commercial considerations (Mavroidis and Sapir 2021). Another option is to build on the approach followed in the China-EU draft Comprehensive Agreement on Investment (CAI), defining a category of 'covered entities' and clarifying the relationship between the need for non-discrimination and operating in accordance with commercial consideration (Hoekman and Sapir, 2021).

Some APEC members are establishing "equivalence regimes" that determine whether foreign providers will be treated in the same way as domestic firms when it comes to access and processing of data. Several APEC economies have negotiated plurilateral agreements to address digital policies. Examples include the Digital Economy Partnership Agreement (DEPA) between Chile, New Zealand and Singapore, the Digital Economy Agreement between

[22] The same is true for the private sector. Lead firms set standards for quality, health and safety for both products and processes that occur in their supply chains. They may cooperate in private standards-setting activities that have as a goal achievement of inter-operability and minimum standards in supply chains.
[23] Kaufmann and Saffirio (2021) discuss the regulatory elements of the CPTPP and Pacific Alliance.

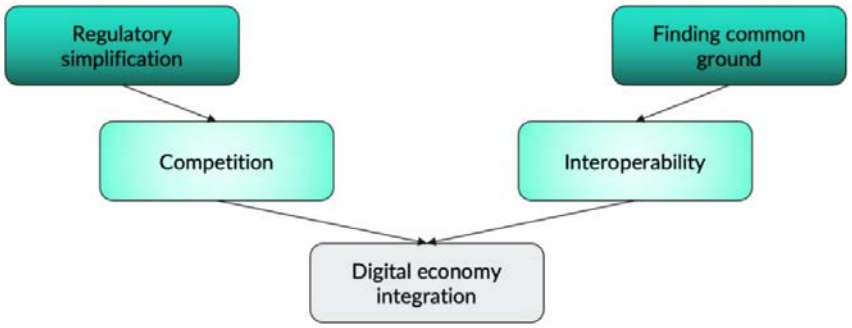
Australia and Singapore, the Japan-US Agreement on Digital Trade and negotiations between Singapore and South Korea on a digital partnership agreement. They address cross-border transfer of data; data localization and protections for source code; encourage cooperation on compatible e-invoicing and e-payment frameworks and establish benchmarks (focal points) for regulatory reforms that support the digital economy, inclusion, and bolster the associated governance frameworks.

Several of the topics covered in DEPA may not initially appear to be about trade. Inclusion of issues such as artificial intelligence, online safety and open government data reflect the propensity to think broadly about digital trade going beyond rules dealing with to data flows. As regulatory settings for all the elements of an online cross-border transaction – from data flows to payments to documentation to consumer protection – can all impact how and whether trade takes place, so cooperative frameworks are needed that create an enabling digital environment overall. The emphasis therefore often tends to be on soft law approaches and establishing platforms for collaboration (Honey, 2021).

Carving out policy space in individual jurisdictions is not a constructive way forward given the necessity for coherence among governments' policies in the context of cross-border services trade. On the contrary it is about jurisdictions mutually opening to trading partners' input. There is also a need to recognize that there remains a significant degree of uncertainty as to where best regulatory practice might turn out to lie as the shift from the traditional to the digital economy intensifies. Governments will benefit most from a willingness to jointly engage in the learning process. This approach reflects a recognition that regulations may need to evolve as new technologies and understanding of them evolve and may need to be adapted for variations in local conditions across trading partners (Honey 2021). Ultimately it is in the interests of the international trading system for governments to engage at an early stage in regulatory dialogue and then collaborative experimentation).

It is worth noting the recent efforts on the UN regional commissions to also come to terms with the need for regulatory cooperation with respect to the policy and regulatory environment affecting digital trade and e-commerce (UN-ESCAP, ECLA, ECA, 2022). These organizations identify both regulatory reform (in the interests of enhanced competition) and regulatory convergence (in the interests of enhanced interoperability) as key to the process of regional integration (Figure 3.2). UN-ESCAP mapped the policy areas measured under each pillar of their Digital Trade Integration Index according to the general similarity of the policy and regulatory environment among regional economies and the level of consequent compliance costs for trade.

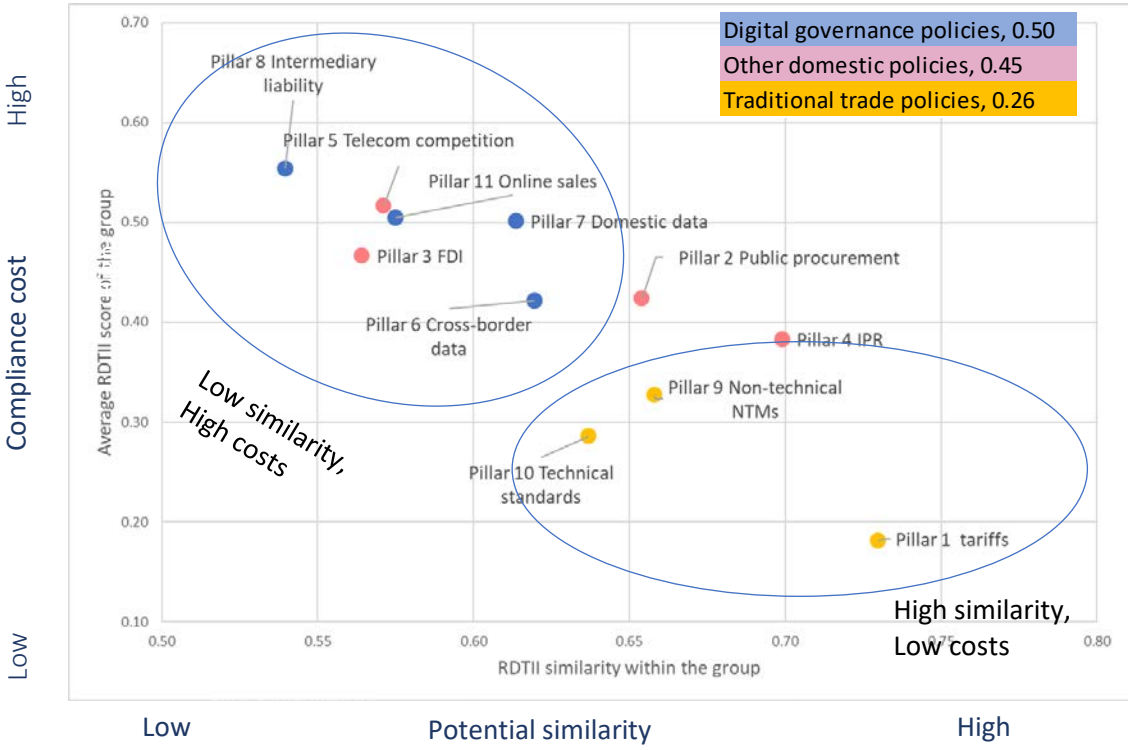
Figure 3.2: Simplification and interoperability of digital trade/e-commerce rules



Source: UN-ESCAP, ECLA, ECA, 2022. Figure 1.

This process helped identify two groups of policy and regulatory issues: those in the High-Similarity/Low Cost basked and those with Low Similarity/High Cost (Figure 3.3). ESCAP notes that initial efforts might most productively be focused on higher similarity areas and gradually approach the more challenging areas.

Figure 3.3. Towards Regional Cooperation



Source: UN-ESCAP presentation to Joint APEC EC/GOS Stakeholder Roundtable on Services and Structural Reform, June 2022.

Developing Regional Principles

Although the digital partnerships are important initiatives, the result is still a patchwork. Elms and Agnew (2022) provide an overview of areas of digital regulation where APEC economies could potentially cooperate to enhance regional interoperability frameworks and standardize

regulatory standards. Broadening elements of the existing arrangements to cover a wider number of APEC economies would help reduce regulatory heterogeneity. Targeting such cooperation to address "pain points" that are particularly important for small firms would help ensure greater inclusion. Efforts to do so would benefit from agreeing on a set of governance principles that would provide assurances to trading partners that these initiatives are not intended to be exclusionary.

In practice, not all economies are necessarily equally equipped to engage in open regional regulatory cooperation initiatives. There are major differences in capacities to engage on regulatory matters and the ability to participate in a fully informed way. Some governments may find it difficult to determine the 'return' to adopting a proposed principle for regulatory reform. In the APEC context, cooperation needs to center on soft law approaches (principles, best practices), be premised on defining GRP, support learning-by-doing and go hand-in-hand with opportunities for capacity building.

These principles are familiar. But it is worth continuing to revisit them, refine them and restate them. For example, ensuring that initiatives are truly open to any APEC economy wishing to join, are fully transparent, and encourage involvement of international and sectoral organizations with relevant expertise could help address potential concerns of any non-participants. Application of principles that apply in an open regional approach could help make pathfinder APEC initiatives in the digital arena and associated regulatory reforms and cooperation a basis also for gradual multilateralization. This dialogue could be refreshed by reference to principles for cooperation suggested in Hoekman and Sabel (2021):

1. Openness to participation not only by APEC economies, but also potentially over time, additional trading partners, with a clear description of expectations and procedures to be followed by participants.
2. Assurances that future participation cannot be on terms that go beyond those that applied to inaugural participants at the outset, adjusted for any changes in regulatory practices adopted by participants over time.
3. An obligation to provide reasons to non-APEC economies seeking to join an initiative for decisions to reject participation requests.
4. A commitment to provide capacity building for APEC members that are not in a position to for participate in terms of capacity to implement any substantive outcomes of a regulatory cooperation initiative but desire to do so.
5. Where feasible and in instances where capacities must be built for an economy to benefit from participation, consideration be given to establish non-binding guidelines and a stepwise schedule for unilateral implementation of outcomes, along the lines of the modular approach envisaged in the DEPA.
6. Voluntary compliance with WTO requirements pertaining to transparency/publication of information on approaches taken and outcomes reached in any cooperative arrangement in a given regulatory policy domain.
7. Mechanisms to engage stakeholders in an ongoing conversation about how cooperation is working in practice and to identify areas for possible adjustment and future needs.
8. A commitment to initiate annual reporting of activities to the WTO General Council.
9. Inclusion of consultation procedures for non-participants in cases where they perceive that members do not apply the foregoing principles.

Inclusion and Sustainability

Many structural reform efforts in the region are focussed on achieving greater inclusivity for example by enhancing economic opportunities for regional and rural areas, for SMEs and MSMEs, for women entrepreneurs, for youth and other potentially disadvantaged segments of the work force including those in the informal sector. The digital divide can be reduced by improving mobile internet and smartphone connectivity with universal coverage and affordability as well as enhancing digital literacy.

The services sector *is* the SME sector. A recent study by the International Trade Centre (ITC, 2022) estimates that 9 out of 10 services enterprises globally have less than 100 employees. This compares with 8 out of 10 in manufacturing. Small companies in services tend to be even smaller than those in manufacturing. The median services company has 6 employees, and the median manufacturing firm has 12.

The ITC shows that smaller firms are at less of a disadvantage in services. SMEs are 48 percentage points less likely to export than large firms in manufacturing. In services sectors, SMEs are only 22 percentage points less likely to export than large firms. So being small is half as crippling for exporting services compared with manufactured goods.

The pattern is similar for companies led by women and youth. Women-led services firms participate less in trade than male-led ones, but the gap (6 percentage points) is three times smaller in services than in manufacturing (18 percentage points). For youth-led services firms the gap is four times smaller than in manufacturing. Small, women and youth-led services businesses, even if not yet exporting, are much closer to the export threshold than their manufacturing counterparts. Structural reforms focussed on the services sector have a strong likelihood of generating export growth, therefore. Access to infrastructural services like financial services, telecoms services and transport and logistics services also matters.

This new evidence base suggests that packages of structural reform in services have big potential to really kickstart more inclusive participation in international trade.

Box 3.4: Digital Services and Social Inclusion

The digital economy is widely estimated to be generating net employment growth. In the **Philippines**, for example, digitization is estimated to have generated 1.3 million direct jobs and 4.08 million indirect jobs including 280,000 jobs across 23 rural provinces. In **Indonesia,** local technology-based unicorns such as e-commerce platform Tokopedia, online marketplace for SMEs and family-owned businesses Bukalapak, travel service firm Traveloka and fintech company OVO, are widely recognized for their contribution to local economic growth and inclusive employment. Tokopedia is estimated to have contributed USD4.1 billion and 3 million jobs to the Indonesian economy in 2018, benefitting 5 million local SMEs. Inward foreign direct investment is also contributing to job growth; Apple is building three R&D centers for app development and marketing tools.

The wider development benefits due to the digital economy by enabling financial inclusion, access to education, health, and government services can also be immense. The **Philippines** has more than 190 fintech companies which are enabling lending, payments, digital wallets and remittances. The mobile money service GCash has partnered with Alipay to develop a blockchain based digital wallet remittance service which enables overseas Filipino workers in Hong Kong, China to remit money online in a secure, low cost and convenient manner.

The mobile health technology start-up mClinica, originating in **Singapore**, is present in most ASEAN economies. In the **Philippines**, mClinica has partnered with the government to connect pharmaceutical companies, distributors, pharmacies and patients on a common platform, pooling data across 5,000 pharmacies and 70 million patients to improve access to affordable medicines and health outcomes.

In **Indonesia**, data analytics firm Dattabot is utilizing Predix software (General Electric Digital) to develop HARA, a smart farming solution which helps Indonesian farmers improve crop yields by providing data-driven insights on farm and field potential, input and supply management, and mitigation of risks. In the area of infrastructure, the largest subsidiary of Indonesia's domestic power utility is using GE's digital asset performance analytics and operations optimization system to improve efficiency, reducing energy losses by up to 3% and generating annual savings of USD1 billion.

Digitization nevertheless brings its challenges, costs, and risks. Uneven access to digital technologies and limited capacities to make effective use of them can lead to inequitable distribution of benefits, with under-educated, low-skilled, and populations living in remote and rural areas, and MSMEs fearing they could lose out from eventual job losses due to automation. Even with net employment growth predicted in the IT-BPO sector, many existing workers could be impacted and even displaced by digital technologies, such as data-entry operators, bank tellers, clerks and insurance claims and policy-processing staff.

Much depends on how well governments can spread digital awareness and provide access to digital infrastructure across both urban and rural areas, income and age groups, women and youth and all sizes of businesses, including through public-private partnerships. In particular, regulations which enable access to lower cost overseas cloud servers and cross border data transfers can enable local enterprises to provide data-driven, affordable solutions to the poorer sections of the home market. The extent to which development benefits will be dispersed and inclusiveness challenges overcome will be largely a function of how well governments address the dimensions of the enabling framework set out in Chapter 2 of this Report. *Sources*: ADB AEIR 2022 and Chanda, 2021.

The recent ITC research puts specific spotlight on four types of services – described as connected services – that drive growth, development and structural transformation, regardless of economic level. These are transport and logistics, financial services, information and communication technologies, and business and professional services all of which contribute directly to output, trade and jobs and contribute indirectly to growth, by making all firms more competitive. These services link the various parts of all supply chains, and spearhead digital innovation. ITC survey research shows that in regions with high-quality connected services, 44 percent of all companies export, compared with only 19 percent where services competitiveness is weaker. ITC's latest research also shows that in low-income economies, connected services' jobs have been growing, at 8 percent a year over 2007-2019, which is twice as fast as jobs in manufacturing and four times faster than jobs in agriculture. ITC business surveys reveal moreover the digital divide can be reduced by improving internet/smartphone connectivity with universal coverage and affordability as well as enhancing digital literacy.

Turning to the matter of sustainability, the transition to a green economy calls for domestic regulatory efficiency, international regulatory cooperation and liberalization of trade in both environmental goods and environmental services, broadly defined. A value chain approach is essential in understanding the critical role of embedded services, especially digital services and the underlying data flows which underpin them, in delivery of environmental outcomes. Box 3.5 illustrates the linkages with digitalization, services competitiveness and structural reform.

Box 3.5: Services, Digitalization and Structural Reform in the Transition to Green Economy

Hydrogen is a core element of the green growth strategies of many economies, but in its production and development, restrictions on services matter for project design (restrictions on engineering and data analysis services) delivery (controls on transport, distribution and storage), functionality (constrained access to infrastructure) and viability (non-competitive market rules in gas and electricity markets). Regulatory measures may also affect the manufacture, trade and sale of the goods and equipment needed to support these activities (product quality and performance requirements, authorization and licensing controls on gas storage containers). Structural reforms can help to remove these barriers. This includes policies to facilitate greater regulatory alignment of standards for testing and certification, such as regional systems for hydrogen trade, and to resolve outdated standards and regulation. Reforms increase business certainty over time, facilitating activities and investments which require long term horizons. Therefore, structural reform is critical for green growth.

Digital services platforms generate the data that is required for understanding risks to make market-based solutions work for green growth. Greater availability of high-quality granular data can provide financiers and investors with better transparency about the carbon content and environmental impact of assets they fund and purchase. Digital services platforms can also empower a wider range of stakeholders to make thematic investments based on sustainability criteria than might otherwise be the case through more traditional finance channels. Digital services platforms such as Sustainfolio and Betterment, for example, help connect green projects to investors. Digitally-enabled services are critical to operationalizing new tools based on sensors to monitor infrastructure performance, allow proactive interventions to prevent downtime and monitor environmental investments.
Digitalization, therefore, is an enabler of green markets

Environmental goods, green investments, and technologies have to be designed, constructed, operated, monitored and maintained. Doing so involves multidisciplinary teams of services providers, such as technical and scientific services, data development and design services, mapping and evaluation, services equipment maintenance services. Renewable technology projects are 'bundled' with services that render technology useless without their support. Many services are also needed to support project delivery – such as logistics, transport, financial services, construction, distribution and digital platforms. Efficient functioning of all these embedded services is key to the environmental outcome, highlighting the need for reforms across the broad range of domestic and cross border regulation involved. Overall, competitive services are key to the green economy

Sources: APEC Market Access Group, Scoping Study on New and Emerging Environmental Goods, December 2021 at < https://www.apec.org/publications/2021/12/scoping-study-on-new-and-emerging-environmental-goods>, ABAC, APEC Framework for Trade and Investment in Renewable Energy Discussion Paper, ABAC SWG Taskforce: The Challenge towards Carbon Neutrality with Renewable Energy and Enhancement of Energy Security and Resilience, 2021, ABAC, Roundtable Report, *Virtual Roundtable Ensuring Sustained Recovery and Growth: The Roles of Macroeconomic and Supply-Side Policies in an Inflationary Post-Pandemic World*, June 2022; Kyvik-Nordas and Steenblik (2021), Mathews, R. (2021) Australia, Indonesia and Climate Change, Lowy Institute, Sydney, accessed at <https://www.lowyinstitute.org/the-interpreter/australia-indonesia-and-climate-change

Chapter 4: Trade Governance and APEC Cooperation

We have identified the linkages between services liberalization and structural reform, alongside the value of continued attention to traditional border barriers. We have noted the value of cooperation among economies to respond to the challenges identified. Our question in this chapter is how well existing institutions are able to respond. In this chapter, we examine various dimensions of systems of the governance of trade, with a focus on WTO. Then follows a discussion of an agenda of work in APEC, which we argue already has important and relevant tools in place: some of the agenda items to which APEC can make a contribution have already been identified and those are summarised in this part as well.

The connections of various trade policy institutions and the digital agenda varies. On the one hand, there is a significant disconnection between the growing digitization of international trade and the dearth of up-to-date rules in the WTO. The only existing WTO rules that relate to digital trade/e-commerce are to be found in the GATS; these generally cover digital services trade/e-commerce in services implicitly rather than by design, and not necessarily sufficiently adapted to address new issues arising relating to digital services trade in a clear and unambiguous manner. These shortcomings include issues specifically related to e-commerce or digital trade facilitation, principles for measures on cross-border data flows, and on data protection such as privacy and cybersecurity.

The first WTO effort to expressly consider these matters delivered the 1998 Declaration on Global Electronic Commerce, establishing a comprehensive work program across many WTO bodies including the Councils for trade in services and in goods, the Council for TRIPS and the Committee on Trade and Development.

WTO Members agreed to a Moratorium on Customs Duties on Electronic Transmissions (Moratorium), which has been extended several times and comes up again for renewal in 2023. For 20 years, digital services trade has consequently benefitted from the absence of tariffs on e-transmissions. The Moratorium allowed business innovation to take place everywhere, at all levels of firm size and in all economies, spurring exports in global services outsourcing and many other types of business services trade. A steadily increasing number of regional governments are committing in RTAs to permanent application of the Moratorium and the matter is under consideration also in the WTO. Extensive economic and anecdotal business evidence points to the importance of the Moratorium for the continued global growth of digital trade (Makiyama and Narayanan, 2019; Andrenelli and Lopez-Gonzalez, 2019).

On the other hand, a growing number of RTAs and Digital Economy Agreements (DEAs) are experimenting with new approaches to e-commerce and digital trade. The WTO reports there are at least 184 RTAs that contain e-commerce provisions designed to facilitate trade in both goods and services, covering issues such as consumer protection, paperless trading, e-authentication and e-signature. Mega RTAs such as CPTPP and RCEP. These have offered templates for negotiations in the multilateral context as various tabled texts of provisions drawn from their RTAs for consideration at the WTO. The DEPA along with Singapore's suite of DEAs offer even more comprehensive models of prospective legal architectures as well as much-needed mechanisms cooperation among the signatories. They encompass dozens of

provisions dealing with digital trust, cross-border data flows, data protection and privacy and a range of regulatory issues on which the parties commit to cooperate, from cybersecurity to standards for the ethics of artificial intelligence. Some governments in the region have expressed an interest in extending and merging these various agreements to start the process of building a regional trade and regulatory framework, while awaiting a progress in the WTO. If the arrangements are consistent with WTO principles, they would complement and co-exist with a possible WTO outcome.

As examined in the next section, the WTO Joint Statement Initiatives (JSIs) offer scope to close some of the disconnection. This chapter then reviews developments associated with mutual recognition and with the application of international standards, and then scope for cooperation including in the WTO on competition policy issues.

WTO Joint Statement Initiatives (JSI)

After 20 years of preparation via the E Commerce Work Program, 86 WTO Members are now engaging in negotiations under a JSI on Trade-related Aspects of E-Commerce launched in 2017. A successful outcome to these negotiations would constitute a significant step forward in filling gaps in international digital services trade governance.

Negotiations under the JSI on e-commerce are expected to cover rulemaking as well as market access. The ruling making efforts, as mentioned above, draw extensively on provisions developed in RTAs. On market access, existing GATS commitments date from a time when digital technologies were much less prevalent so the JSI offers a timely opportunity for improvements to be made specific to digital services. There is much scope for new bindings on digital services, given the considerable liberalization already achieved in many RTAs including for cross border supply (mode 1). Commitments to further open markets for trade in telecommunications, computer-related services, e-payments, logistics, and data processing would make a significant contribution to facilitation and enhanced growth of both trade in digital services and e-commerce for goods.

Domestic regulatory frameworks to govern digital services trade are only just beginning to emerge and their success and shortcomings and costs and benefits are being closely observed. The complexity of these efforts and the limited examples to date of what may represent best practice in digital regulation means that technical assistance is urgently needed for developing economies to help evaluate, create and implement improved and upgraded regulation to address the advance of digitization. Digital regulation like any other services regulation should take basic regulatory principles into account so APEC economies could benefit from giving consideration to joining the WTO JSI on Services Domestic Regulation. Implementation of the initiative's principles for good regulatory practice will help cut trade costs, including for digital services.

Mutual Recognition Agreements (MRAs)

As digitization progresses, and services shift over time to online delivery via e-commerce, the temporary movement of individual services providers nevertheless remains fundamentally important. For digital services such as computer services, the cross-border movement of human expertise remains critical, including for training and consultancy inter-firm collaboration. Movement of the service suppliers' personnel also remains critical to a

company's ability to attend, for example, trade fairs to secure export opportunities and to negotiate face-to-face the details of contracts, even if the service may ultimately be supplied digitally cross-border. Temporary movement of natural persons (mode 4 supply of services) tends, however, to be highly restricted across most jurisdictions. The barriers are generally of a horizontal nature and apply across all services sectors.

Typically, for high value-added professional services, additional specific layers of domestic regulation apply with respect to recognition of qualifications and associated licensing. In this arena, regulatory harmonization has generally proved unrealistic except in cases of economies with similar regulatory and legal traditions (Kyvik Nordås, 2016). Traditionally, MRAs have been the key mechanism by which economies recognize each other's regulatory regimes for professional services as being equivalent, thereby enabling reciprocal market access. Traditionally, without an MRA in place, professional services providers have not been able to travel temporarily to other jurisdictions (mode 4) or establish independent commercial presence (mode 3), including as a complementary adjunct support to mode 1 operations (ADB AEIR, 2022 and Drake-Brockman et al, 2021).

Negotiation and implementation of MRAs is typically slow, including when undertaken in a plurilateral context. And unless accompanied by domestic reforms across all parties' typically closed professional services markets, the outcomes have not necessarily facilitated growth in international trade. ASEAN MRAs covering nurses, doctors, dentists, accountants, surveyors, architects and engineers are big steps forward, for example, but remain a work in progress with some way to go to deliver market access gains.

Professional services have been among the slowest of the services sectors to globalize. This is partly the result of traditional client preferences for face-to-face interaction with local services providers, especially in the medical professions. It is also a result of the oligopolistic nature of the professions themselves. Professional services have been among the more relatively closed sectors even to domestic competition, chiefly via qualification requirements and certification processes, backed by monitoring and accreditation, by the professions themselves, of the tertiary education curricula and quotas on institutions' student intake.

Like most regulation, a legitimate public policy objective is involved, namely consumer protection, and in this case with good economic justification, namely asymmetry of information between services providers and clients. When clients are unable to check the quality of the services before consumption, regulation is required for quality assurance purposes. Dental patients, for example, want to know in advance of the procedure, that the dentist is qualified and licensed to provide a quality service.

As noted earlier, digital enablement of professional services is now profoundly changing the business models. Professional services value chains more generally are now fragmenting fairly quickly. Architecture and landscape architecture are stand-out examples. Consumers who have experienced for the first time, as a result of the global health pandemic, the benefits of remote tele-health appointments and e-prescriptions for medicines will naturally find resumption of regulatory requirements for face-to-face medical appointments to be an inconvenience. But as professional services providers, as a consequence of opportunity and of customer preferences, shift from mode 4 to mode 1, they will push up hard against existing regulatory systems, to the point where a global rethink may be required to facilitate recognition of offshore professional services qualifications embedded in professional services

software and intellectual property (IP). Domestic regulators that impede client access to world's best practice expertise will come under increasing pressure to improve regulatory efficiency.

To reduce trade costs, many RTAs have included provisions designed to facilitate MRAs. More recent RTAs include provisions on regulatory cooperation more broadly, including in the digital sphere. There is a discernible shift, from a focus on regulatory coherence and best regulatory practice to attempts to build more deliberate mechanisms to achieve regulatory equivalence and to collaborate on development of international digital standards. For all digital services, there is focus on determinations of "adequacy", that is the extent to which regulations in other parties' jurisdictions are adequate to meet domestic public policy objectives. The key objective for the professions will be to ensure that determinations of 'adequacy' continue to be arrived at on a mutual not a unilateral basis. For all digital services, a higher degree of regulatory convergence is becoming essential. This calls for designing MRAs in an open and transparent manner, on a potentially plurilateral basis, offering due process guarantees to any party wishing to apply to join.

WTO negotiations, meanwhile, have delivered a very low level of market access commitments in professional services, both in quality and in quantity - from well under half the WTO membership. In the relatively open engineering sector, for example, the Uruguay Round only delivered commitments from 45 WTO Members, another 28 were subsequently delivered via WTO accession processes and the Doha Development Agenda saw 29 offers (Roy, 2019). Many of the common restrictions in engineering services relate to mode 4, but as explained recognition of foreign qualifications may still impact also on mode 1.

When the services are not "like" in the eye of the regulator, regulatory discretion is likely to continue to lead to discriminatory barriers to international trade. Future uncertainties aside, it seems clear that domestic regulatory regimes governing qualifications and licensing will have the potential to negatively affect the take up and use of professional services automation software – and cross-border online trade in professional services. It is important that efforts to improve professional recognition adapt rapidly to online realities. A very first step is to promote the adoption of digital credentialing for professionals.

Digital credentials are secure, immutable data records that can be shared, accessed, verified, and published online. They can immensely reduce the cost and improve efficiency in the implementation of MRAs provided that there are agreed international standards for the credentials, privacy concerns related to the cross-border flow of personal data can be addressed, and ownership of the credentials can be assigned.

International Digital Standards

Irrespective of formal trade negotiations, it is becoming important for digital services trading partners to engage more intensively in regulatory dialogue aimed at facilitating interoperability of divergent digital regulatory approaches. Interoperability requires recognition of regulatory outcomes, preferably mutually rather than unilaterally and preferably minimizing the risk of discrimination.

Reference to international standards, principles, guidelines, and criteria is similarly essential. As is the case for the traditional economy, the development and adoption of consistent international standards, through collaborative technical input of both governments and the

private sector, will be fundamental to enabling digital services trade. Indeed, in the modern hyper-connected digital economy, it has never been more critical that component parts and software that support digital technologies be able to "talk to each other" using a common language. It has also never been more necessary that the security of data and information is protected (Standards Australia, 2022). Standards that set specifications and requirements for products, services and systems are key to this interoperability and security. They provide internationally agreed-upon principles and processes that allow consistency and innovation and establish the tools and ways of doing things to support security.

Widespread adoption of international standards in ICT has already demonstrably increased interoperability and security across technology platforms, decreased barriers to trade, ensured quality and built greater public and user trust in digital services. By adopting common standards, economies can avoid technical duplication, achieve a higher level of interoperability and lower trade costs. It is vital for inclusive growth across the region that regional governments support the multilateral standardization system and standards development bodies. Developing APEC economies will need capacity building assistance to align digital regulatory regimes with international standards.

International standards generate major benefits for businesses: reducing compliance costs and standardizing compliance, enabling access to larger markets, and enhancing economies of scale and productivity. From a regulatory standpoint, international standards help align rules and processes across economies and reduce regulatory uncertainty. A report by the British Standards Institute found that standards contribute over 37 percent of annual productivity growth in the UK, directly contributing to both increased GDP and exports (TPRC, 2020).

Use of international standards also contributes significantly to interoperability and connectivity in digital services trade: by spreading fixed infrastructure costs across a higher level of output, generating a fall in unit costs, and by facilitating interconnections at the level of business processes and methods. Interoperable systems and software then enable seamless movement of data across different networks/sectors, increase their reach/accessibility and reduce the digital divide. Benefits trickle down to consumers with widespread adoption of and access to digital technologies and applications.

International standards play a central role in digitalizing the supply chain, which in turn enhances the scope, speed and scale of digital delivery of services. Digitalizing GVCs requires the adoption of multiple standards in a widespread and consistent manner across trading partners, including those related to e-payments, e-invoicing, QR codes, cross-border logistics and last mile delivery, wireless communication, digital identities, cross-border data flows and data portability. This is particularly critical for emerging technologies built on Big Data and AI. For example, ubiquitous adoption of 5G technologies requires adoption of common 5G standards to ensure compatibility across jurisdictions. Aligning 5G standards can reduce infrastructure costs and lower the barriers to data-intensive information exchange for digital delivery of services.

Competition Policy

The digital economy, in contrast, was born global and forward-looking regulatory convergence is both possible and necessary. Thus, the International Telecommunications Union (ITU) provides guidelines for a regulatory framework adapted to the maturity, capacity and technology applied in each economy. Until recently, pro-competitive asymmetric regulation that prevents dominant firms from abusing their position was the principal task for regulators[24]. In this setting, best practice regulation is based on a clear definition of markets, clear criteria and processes leading to interventions, and clear regulatory goals. The ultimate objective is to facilitate entry and competition.

In the telecommunications sector new challenges have emerged for regulators. Digital transition has permitted mobile and Internet-based telecommunications to compete directly with traditional wireline networks. As pointed out by the ITU (2020), the markets are harder to define, dominance more difficult to identify and the standards for what constitutes anti-competitive behaviour because these technologies complement some telecoms services and substitute for others.

Approaches to regulatory intervention are in transition. Authorities must now, in addition to determining what constitutes dominance and how (e.g., number of users, control over advertising or dominant position in data collection?), reconsider what constitutes abuse of market power. Exclusionary pricing, exclusive contracts, bundling of products and mergers and acquisitions are still important parameters for deciding whether intervention is needed. Yet, network effects and the complexity of multi-sided markets integral of the platform business model may impact consumer welfare in ways that are still not well understood (Julien and Sand-Zantman, 2021).

Data constitute the core of the digital economy. Accumulated data are an asset and a knowledge base while data flows support and drive operations and communications within and across borders. Following the digital transition, data governance has become another multifaceted regulatory challenge comprising innovation, intellectual property rights, competition, security, and privacy to mention but a few concerns. One regulatory dilemma is a possible trade-off between privacy and competition. Thus, mandating the sharing of data could foster competition, but it may also raise privacy concerns. Another dilemma relates to competition and innovation. Huge amounts of data are needed for innovation, notably for the development of artificial intelligence applications such as image recognition, computer vision, speech recognition, language translation and reasoning. At the same time huge amounts of data can be the source of market power and an advantage for targeting consumers with advertising and customizing products to consumer preferences.

The safe transition to digital services markets within and across international boundaries requires fundamental forward-looking regulatory reforms establishing which activities should

[24] Dominant suppliers are also coined suppliers with significant market power (SMP) in trade agreements and legislation. Pro-competitive ex ante regulation faces a possible trade-off between competition in the long and the short run, a trade-off that relates to the competition versus innovation nexus where there is a u-shaped relation between innovation and competition (Aghion et al. 2005). In telecommunications innovation also generates new products and processes that challenge the market position of the incumbent and contributes to the convergence of telecommunications and internet services (Vogelsang, 2017).

be regulated, how and by whom[25]. This is a common challenge facing all economies in the world and a unique opportunity to find solutions to ensure connectivity, interoperability, and free and secure flow of data, knowledge, and technology to the benefit of all.

Competition policy is a fundamental element of structural reform. It is also a significant element in services trade governance. Telecommunications regulatory policies were among the first to be adapted as the sector transitioned to competitive markets. Digital platforms made possible by innovation unleased by telecommunications reform are also contributing to a transition in competition policy. Unlike telecommunications, platforms evolved in a competitive environment, but how to regulate growing dominance of some players in the digital space has posed challenges.

The Annex on Telecommunications (1995) and the Paper on telecommunications regulatory principles (1997) were the first multilaterally negotiated binding provisions on competition policy in the WTO. Pro-competitive rules-based regulation was necessary to secure effective commitments for services reliant on telecommunications (the Annex) and for protect market access for competitors in newly open telecommunications markets in the heydays of telecommunications incumbents with significant market power (the Reference Paper). Annex 3 explains the treatment of competition policy issues in the GATS.

Today markets are vastly more competitive and telecommunications regulation has become more light-handed and integrated with ICT regulation. Given this trend, governments have wondered whether some adjustments to the Reference Paper might be useful. One such proposal has arisen in talks under the WTO JSI on E-Commerce. More details are provided in Annex 3 where it is argued that expanding the coverage of the Reference Paper in certain respects could indeed be useful, with attention to value added, the internet and the nature of 'public services'.

Intermediary platforms made possible by advanced ICT services have already posed challenges for regulators with regard to evaluating and establishing the existence of market power. Now, platforms are also raising several new competition policy issues (Chanda et al, 2022). The business model of digital platforms heavily relies on data. Massive levels of data collection, storage, processing and use, and data-driven network effects coupled with a degree of consumer inertia and potential switching costs enable the platforms to capture a significant amount of data. This feedback loop helps platforms improve their services and attract more users and advertisers. But it also confers market power on a small number of big digital platforms with the greatest caches of data and hampers the prospects for new entrants. It also increases concerns about data privacy and consumer protection, as users are often unaware of actions to protect their privacy. As explained in the Annex, it is unclear, however, to what extent a revised Telecommunications Reference Paper would extend to platform intermediary services in which the competitive concerns have arisen, so long as the focus of the principles remains telecommunications.

[25] A large body of research on the rationale as well as the impact and regulatory measures exists and is nicely summarized in OECD (2022b).

There is room, in this context, for APEC work on principles for best practice competition policy design and enforcement in the ICT sectors. APEC work of this nature would be timely and useful, given proposals in the JSI to reconsider and expand coverage of the Reference Paper.

Cooperation in APEC

Already there is evident value in cooperation among economies in APEC because of their shared agenda in a range of policy changes associated with the enablers identified in Chapter 2. These include

- Close skills gaps relevant to digital services and design strategies for 'upskilling with attention to services competitiveness
- Give attention to barriers to, and opportunities for, services sector innovation and consider ways in which the development of entrepreneurial ecosystems support services competitiveness.
- Consider how the competition policy regime applied to telecommunications, now supporting other digital services, might evolve and how other domestic regimes might adapt. This includes considering how competition policy regimes apply to sectors in which there have been programs of SOE reform (many such sectors are important for the infrastructure in which digital services are produced and delivered), in particular the application of principles of competitive neutrality
- Reduce trade costs associated with regulatory differences among trading partners (with attention to the increasingly apparent issues in digital transactions) and explore ways of promoting an inter-agency or 'holistic' approach to domestic regulatory reform
- Continue efforts to reduce impediments to services trade at the border, including those to commercial presence, which remains an important mode of supply, and promote the recognition of professional qualifications and people movement

Furthermore, there are additional benefits from cooperation among members.

- Structural reform is complex and uncertain, as noted in Chapter 1: often many measures are involved and the appropriate scope of action may not be immediately clear. A holistic view is important. There is considerable value in sharing the experience in the application of Good Regulatory Practice in this situation.
- Another reason for explicit cooperation is to lower the transactions costs involved in cross border trade and investment. As we discussed above, reducing the differences in regulatory regimes can significantly reduce the costs of international business. Furthermore, some policy issues are beyond the scope of individual ecomomies to resolve – for example, competition policy issues related to the operation of global digital platforms.

At the next level, there is the matter of cooperation among programs within APEC. We have illustrated in this report how structural reform is a key contributor to the growth of services competitiveness. We have shown how structural reform removes impediments to the adoption of digital technology and how the latter calls for new agendas for structural reform. It is also clear from material in this report that digitalization is a driver of services competitiveness, which in turn facilitates economy-wide adoption of digital technology. There is a virtuous circle among the three elements Because of the linkages between digitalization,

structural reform and services competitivenss (see Figure 1.4), the value of APEC's work on each item will be enhanced by coordination across the areas of work.

Both ABAC and the PSU in their contributions to the MTR of ASCR called for greater cross-fora collaboration. As noted in Chapter 1, the key findings of the Review were endorsed by the APEC Ministers Meeting in November 2021. They were to leverage cross-fora collaboration, ensuring greater synergy among initiatives, specifically between ASCR and EAASR, and to seek greater engagement with the private sector. The follow up action was to be designed to make services regulation and policy reform in favour of openness a central focus of APEC's structural reform agenda, including in relation to: consistency with the APEC Non-binding Principles for Domestic Regulation of the Services Sector; regulatory challenges dealing with digitalization and automation; and regulatory inefficiency and obstacles to establishing a commercial presence.

As also noted in Chapter 1, implementing this call by Ministers demands substantive interaction and collaboration between the structural reform agenda, and the services, and digital economy roadmaps. The DESG has said that stronger APEC collaboration would bring significant results in most areas of "low-hanging fruit". In particular, the trade and investment perspective of the GOS would help identify impediments to investments in digital infrastructure, remove impediments to data flows and provide insights to appropriate performance metrics. The trade perspective of reform was noted in Chapter 3 to be an important element of Good Regulatory Practice. The EC therefore also has common interests in topics discussed here across various APEC forums, including the GOS and the DESG. In addition, the utilization of innovations is a key driver of services competitiveness, and innovation and digitalization is one of the four pillars of EAASR.

The following section outlines options for the application of existing APEC tools and processes to mobilise the collaboration which Ministers expect.

Engaging the Tools of APEC

Adding value to existing tools

The work of the GOS with respect to the tools of the APEC Index and the Non-Binding Principles was noted above.

EC and GOS have joint interests in acting on the findings of the APEC Index, via both unilateral and concerted opening up and reduction of regulatory differences and identifying and sharing their consequences. This includes the forms of quantitative work discussed in Chapter 4 and designed to meet the 'political headwinds' to structural reform. EC and GOS could undertake joint work to put in place monitoring and reporting systems on how structural reforms in economies (whether identified in IAPs or not) are helping to advance the ASCR and services openness. They could promote updates of IAPs for tracking changes over time and their contribution to the competitiveness of services sectors in APEC economies.

Privacy with respect to personal data flows has been argued to be an important driver of confidence in the development of digital services. In 2011, APEC Leaders endorsed a set of Cross-Border Privacy Rules (CBPR) in relation to data flows. Some APEC member economies acted to implement the CBPR via an agreed process of data privacy certification whereby businesses could demonstrate compliance with internationally recognized data privacy protections. Businesses are required to be compliant with domestic regulations in their home

jurisdiction that are aligned with the 9 principles of the APEC Privacy Framework; the 'accountability agent' is a private sector body but endorsed by APEC. The distributed nature of the system was expected to economize on its costs. So far only 9 APEC members have signed on and only 6 have implemented. Only a small number of companies are consequently listed as compliant[26].

There is scope to explore the CBPR experience as a case study of the drivers of and impediments to implementation of the endorsed principles. Unless economies join, for example, businesses cannot. And with limited membership, the incentives for business to join, and incur the set up costs, are reduced[27]. Limited business interest reduces pressure on economies to join, reinforcing the situation. Transparency and reporting on progress in APEC can help break that cycle. Persistent differences in approaches to the management of cross-border data flows, are complicating the outcomes in this area. There is also a question of whether the principles of the APEC policy framework need to be revisited, considering the evolution of domestic regimes in some economies, sometimes to a higher set of expectations.

Better Reporting

Associated with the EAASR is a commitment by member economics to report their contributions in IAPs. A gap remains in this reporting. Only two of the EAASR IAPs mention services explicitly: this outcome demonstrates that a gap remains in the understanding of how structural reforms benefit services sectors. Also many IAPs refer industries that go unrecognised as services, such as the cultural and creative sector.

That this gap remains means that expectations created when the ASCR was endorsed have not been met. When undertaking a mid-term review of the predecessor to EAASR (called the Renewed APEC Agenda for Structural Reform (RAASR)) in 2018 the PSU noted that

> While RAASR is primarily an EC initiative, the importance of structural reform is such that RAASR has been mentioned in other work undertaken by APEC. For example, the APEC Services Competitiveness Roadmap (ASCR) indicates implementation of RAASR as one of its APEC-wide actions. Moreover, the ASCR encourages economies to implement unilateral reforms aimed at further improving the services sector as part of their structural reform action plans under RAASR[28].

Indeed, the ASCR says that

> Meeting the targets and enabling factors set out in this Roadmap will require significant unilateral action on the part of individual economies to implement structural reform in individual services sectors, as well as across the economy as a whole. Given the importance of unilateral reform, we encourage economies to implement unilateral reforms aimed at further improving the services sector, as part of their structural reform action plans under the RAASR.

The task is now to make more explicit these linkages of ASCR with EAASR. The three working areas of APEC in Figure 5.2 all contribute to the Aotearoa Plan of Action (APA) which is

[26] http://cbprs.org/compliance-directory/cbpr-system/ APEC (sign-on) CBPR system economies: US, Mexico, Japan, Canada, Singapore, the Republic of Korea, Australia, Chinese Taipei and the Philippines

[27] A group of members are now building the CBPR into a global model, https://www.commerce.gov/global-cross-border-privacy-rules-declaration

[28] https://www.apec.org/docs/default-source/publications/2018/8/raasr-mid-term-review-report/218_psu_raasr-mid-term-review-report.pdf?sfvrsn=affe2dc6_1

designed to meet the Putrajaya Vision 2040. Both are organized around three pillars of trade and investment; innovation and digitalization; and strong, balanced, secure, sustainable and inclusive growth. Closer alignment of goals, and reporting to, these pillars by the Roadmaps and by EAASR would assist Senior Officials in their task of monitoring progress. Indeed, there is an expectation that:

> APEC fora and sub-fora will make provision for implementing the APEC Putrajaya Vision 2040, including through this Aotearoa Plan of Action, in their terms of reference, work plans and strategic plans.

At the same time, working to a common external vision is an important tool for coordination among specialised work programs like the Roadmaps and EAASR.

New sets of non-binding principles

Chapter 4 of this report included a discussion of the developments in competition policy issues associated with the emergence of DIPs. The discussion there concluded with respect to a role for APEC. It argued that features of these platforms raised concerns about market power, and concerns about data privacy and consumer protection. There is room, it was argued, for APEC work on principles for best practice competition policy design in the ICT sectors.

Cooperation in multilateral fora

Another area of cooperation is that where strong interlinkages exist between trade initiatives at APEC level and processes in multilateral fora such as the WTO, APEC economies can benefit by working in concert to help build critical mass for multilateral outcomes. It is important that all APEC economies participate in the WTO JSIs, all of which are pertinent to the Roadmap action items. The case for participating in the JSIs on E-Commerce and Services Domestic Regulation was made earlier in this Chapter. The work proposed above on new principles on competition policy with respect to platforms would be timely and useful in the context of this work in the WTO. The regional business community reported in a recent Trade Policy Dialogue that it was pleased to see APEC economies joining the JSI on Investment Facilitation for Development. As the work evolves, others of interest are the JSIs for Structured Discussions on MSMEs and on Trade and Sustainability.

Specification of models of regulatory cooperation

With respect to recognition, it was pointed out in Chapter 3 that the emergence of new models of digital delivery in professional services were creating new issues in recognition of qualifications (in building design and construction, for example) but also the scope to economize on efforts to establish credentials through the use of digital technology. There is already an inventory of all known MRAs on licensing, qualifications and accreditation of professionals and skilled service providers in APEC economies[29]. Discussions on how to develop digital platforms that support more efficient mutual recognition practices have been organised. There is value in continuing this work to identify best practice models, in the context of developments identified in this report.

As explained in Chapter 3, economies also differ in their approach to regulation. The example offered there was the difference between a focus on regulation of professions involved in

[29] https://www.apec.org.au/mra-online-course

construction, versus application of regulation at the point of building, via codes for example. As noted there, 'Mutual recognition of licenses or qualifications may not work if one trading partner requires a license and the other does not, for instance.' These situations demand new forms of cooperation in regulatory reform. The consequences of regulatory divergences, for example in relation to the movement of data across borders, and the value of cooperation to resolve them was also discussed in Chapter 3.

One model often proposed of how to proceed with these questions is forums of regulators. But it was argued in Chapter 3 that there is value in engaging a wider set of participants, in a public private structural reform platform. These include businesses impacted by regulatory operations, as well as other stakeholders, including those with a public policy perspective. One way of defining the scope of activities for such a constellation of actors is to take the perspective of a global value chain. This also introduces a trade perspective to the consideration of regulatory options and illustrates how costs of regulatory differences can accumulate along a chain in the absence of that perspective.

Data and evidence strategy

Key to success in all these will be the evidence base available for analysis as well as monitoring and evaluation of progress. A common collection of relevant statistical information is needed across all areas of work, to measure progress, or lack of it, and to contribute to a deeper analysis of outcomes. APEC is making considerable progress in this respect in cooperation with multilateral agencies to measure the domestic regulatory environment for services and progress with opening up to trade. There has been work in APEC on data on trade in value added[30]. There has also been work under the auspices of the GOS with respect to data on trade in services via establishment (mode 3)[31].

The task now is to go further in gathering 'services data and statistics' in the context of digitalization: earlier PSU work on ASCR indicators could usefully be updated in this direction. As the ASCR MTR recommended, the task is to:

> (improve) the state of services data and statistics in the region (to) assist in monitoring the roadmap implementation, and in better equipping policymakers to plan and make evidence-based decisions[32].

Also worth consideration is the creation of leading indicators. It is often the case that when evaluating policies, statistics are used that are in some way outdated. It would be good to use the available data to designate several guiding indicators for the future and thus to let them play a role in supporting future-oriented policy or at least a discussion about the evolution of trade, investment and technology in the short and medium term.

Development of New Models of Dialogue

APEC has a long history of the application of models such as Trade Policy Dialogues or Public Private Dialogues to exchange information about policy mechanisms and to help set priorities.

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[30] https://www.apectivagvc.org/tivaFront/#/home

[31] https://www.apec.org/publications/2022/03/apec-best-practices-on-developing-services-related-statistics-in-mode-3

[32] One question for APEC members to consider is whether sufficient actions have been taken to ameliorate this situation, and whether timely statistics can now be collected and reported on digitally enabled cross-border trade in goods and services, and more broadly the process of digitalization of economic activity and the resilience of different modes of supplying services to exogenous shocks.

These are important tools, however as ABAC argued in its submission on the MTR, their application has diminished in recent years. They can be revived to promote understanding of the issues identify here. They can also be developed in new directions. The next step in their evolution is to move past a process of tabling information and to make these meetings a) more oriented to solving a specific problem and b) doing so in a creative and cooperative manner and in 'real time'. Examples are to refine some of the proposals tabled here, such as the specification of structural reform platforms, the design and use of leading indicators, the approaches to measurement and analysis of data on digital services trade, the development of MRAs relevant to digital services delivery, the specification of new sets of competition principles for digital markets, the design of SOE reform programs, lessons from the experience of the CBPR and case studies of adding to the effectiveness of the IAPs.

Ministerial Mandate

To implement the Ministerial mandate, cross-fora collaboration within APEC needs to 'ramp up' and to do so visibly. It is important and urgent to make services regulation and policy reform, a central focus of APEC's structural reform agenda in order to tackle intensifying regulatory divergence and leverage regional cooperation to help achieve the goals of the ASCR. In this chapter of the report, a number of specific initiatives in the APEC process have been suggested. There is value for their promotion, their execution, their reporting and their impact to have direction from Ministers. A Ministerial Declaration on the importance of services in digital transformation, and the importance of a structural reform agenda geared to promoting services competitiveness for digital growth, as well as clear expectations of regular and transparent reporting, would help drive this work.

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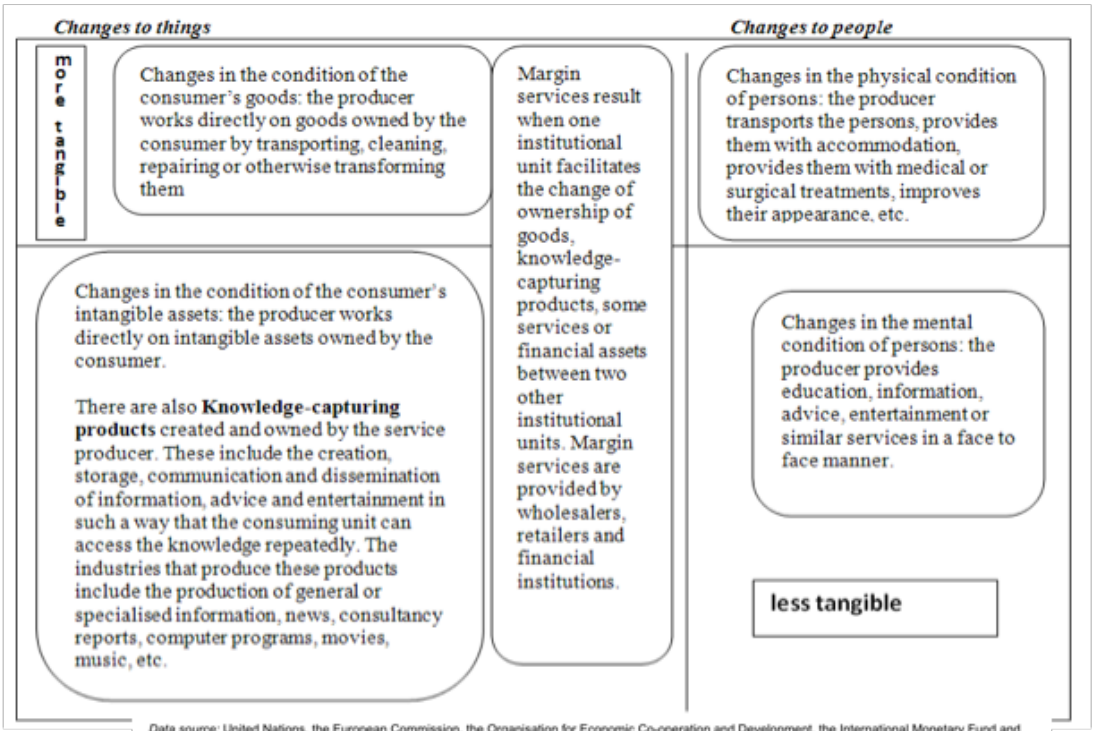
Annex 1: Defining Trade in Services and Measuring Digital Trade

What are services?

The System of National Accounts (SNA 2008) defines Goods as "physical, produced objects for which a demand exists, over which ownership rights can be established and whose ownership can be transferred from one institutional unit to another by engaging in transactions on markets. Services (including knowledge-capturing products) are defined as "the result of a production activity that changes the conditions of the consuming units (things, people or intangible assets), or facilitates the exchange of products or financial assets".

Figure 1: SNA Definition of Services



Each APEC economy elaborates the SNA services categories in a different degree of detail. The Australian National Accounts[33], for example, categorizes services industries, for its *Labour Force* collection, as follows

[33] ABS (*Australian System of National Accounts, 2019-20*, Cat. no. 5204, table 5; *Labour Force, Australia*, Cat no. 6291.0.55.001, table 4.

Transport, postal and warehousing
Information media and telecommunications
Retail trade
Wholesale trade
Professional, scientific and technical services
Financial and insurance services
Rental, hiring and real estate services
Administrative and support services
Accommodation and food services
Arts and recreation services
Other services
Electricity, gas, water and waste services
Construction
Education and training
Public administration and safety
Health care and social assistance

In all APEC economies, the aggregated services sector makes up the majority of both employment and GDP. In addition to constituting an industry vertical in its own right, services activities add value horizontally across all sectors of the economy. Services also provide the critical ICT, transport and logistics linkages which ensure the functioning of global value chains.

How are services traded?

The standard services components in the Balance of Payments are:

1. Manufacturing services on physical inputs owned by others.
2. Maintenance and repair services not included elsewhere (n.i.e.).
3. Transport.
4. Travel.
5. Construction.
6. Insurance and pension services.
7. Financial services.
8. Charges for the use of intellectual property (n.i.e.).
9. Telecommunications, computer and information services.
10. Other business services.
11. Personal, cultural and recreational services.
12. Government goods and services (n.i.e.).

These largely correspond to the 12 categories in the GATS/WTO classification.[34]

1. Business services.
2. Communication services.
3. Construction and related engineering services.
4. Distribution services.
5. Educational services.
6. Environmental services.
7. Financial services.
8. Health-related and social services.

[34] Document No. MTN.GNS/W/120, "Services Sectoral Classification List"

9. Tourism and travel-related services.
10. Recreational, cultural, and sporting services.
11. Transport services.
12. Other services not included elsewhere.

Trade in services assumes many forms, commonly broken down into four Modes of supply.

Mode 1: Cross-border supply. A provider delivers services to a customer in another economy without any movement of persons or commercial presence. This includes digital delivery to a customer abroad.

Mode 2: Consumption abroad. The customer obtains services after traveling to the provider's place of residence. This includes services provided to visiting foreign tourists, patients and students.

Mode 3: Commercial Presence. These are services provided via a commercial presence in the consumer's place of residence, usually be establishing a local subsidiary or affiliate company.

Mode 4: Movement of Natural Persons. Services supply involves the travel of a services provider to the consumer's place of residence.

The Balance of Payments covers Modes 1, 2 and 4. FDI data are used as a proxy for Mode 3. The new WTO dataset on Trade in Services by Mode of Supply (TiMoS) provides pre-pandemic estimates for 2017 showing Mode 3 as dominant with 59 percent of trade in services followed by 28 percent for Mode 1, 10 percent for Mode 2 and 3 percent for Mode 4.

What do we mean by digital services?

Digitalization is now everywhere but still remains very opaque in official statistics of trade and indeed, more broadly, GDP. A first definition of the concept of digital trade is provided in the new international Handbook on Measurement of Digital Trade (OECD, WTO, IMF, 2019) as 'all trade that is **digitally-ordered** and/or **digitally-delivered'**.[35]

Unlike the traditional statistical concepts that focus on *who* is doing the production and *what* is being produced, the concepts applied in the Handbook for measurement purposes relate to the way in which digitalization is transforming the manner in which the *what* is being *purchased* and *delivered*. As defined in the Handbook, only services (not goods) can be digitally-delivered. So digital trade/e-commerce includes:

1. Goods that are **digitally-ordered** on-line over computer networks (e commerce for goods)
2. Services that are **digitally-ordered** on-line, and increasingly also **digitally-delivered** remotely in an electronic format, using computers and communications networks (e commerce for services ie digital services)
3. The underlying commercial cross-border data flows (also categorized as services)

Digital services constitute by far the larger of the first two components above.

To measure digital delivery, the Handbook takes as a starting point the scope of services covered in the closely related notion of trade in ICT-enabled services:

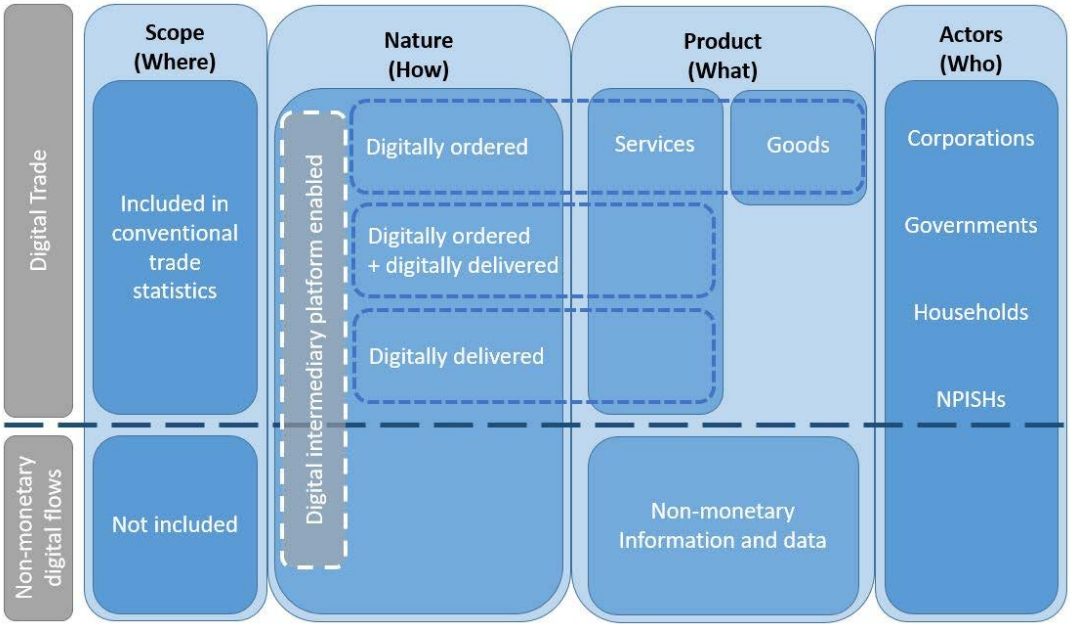
1. Insurance and pension services
2. Financial services

[35] https://www.oecd.org/sdd/its/Handbook-on-Measuring-Digital-Trade-Version-1.pdf

3. Charges for the use of intellectual property n.i.e.
4. Telecommunications, computer, and information services
5. Research and development services
6. Professional and management consulting services
7. Architectural, engineering, scientific and other technical services
8. Other business services n.i.e.
9. Audio-visual and related services
10. Health services
11. Education services
12. Heritage and recreational services

An important characteristic of digitalization is the increasing role of firms such as Airbnb, Alibaba, Amazon, Booking.com, eBay, Uber, and Tencent that facilitate transactions in goods and services. These Digital Intermediation Platforms (DIPs)[36] nearly always have an electronic ordering component and, typically, the goods and services advertised can only be paid for electronically. The Handbook recommends that estimates of trade in DIPS include aspects of transport, travel, trade, and financial services.

Figure 2: Conceptual Framework for Digital Trade



Source: OECD-WTO-IMF Handbook on measuring digital trade

Note: GATS defines modes of supply according to the residence of the services supplier relative to the client, while the digital distinction hinges on 'how' the service is delivered. By definition, all digitally-delivered cross-border services transactions are mode 1 and measured by balance of payments statistics. Some Mode 2 transactions can also be delivered digitally eg when a non-resident traveler uses a local sim card. For sub-sectors such as communications and computer services, the balance of payments provides reasonable upper bound estimates of digital delivery. For business services and personal services, balance of payments statistics will likely currently include a significant component of non-digital transactions; the non-digital component is considered to account for a relatively minor (and declining) share of the total.

Annex 2: Mandates for Key APEC Workstreams

[36] DIPs are defined as 'online, fee-based, intermediation services enabling transactions between multiple buyers and multiple sellers, without the intermediation platform taking economic ownership of the goods or rendering services that are being sold (intermediated).

APEC Vision, Plan and Tools

Our Vision is an open, dynamic, resilient and peaceful Asia-Pacific community by 2040, for the prosperity of all our people and future generations.

APEC Putrajaya Vision 2040

In 2020 Leaders proclaimed the APEC Putrajaya Vision 2040, a new vision that primarily charts the future of the region. Leaders asked Senior Officials to complete a comprehensive implementation plan for consideration in 2021. Remaining committed to APEC's mission and its voluntary, non-binding and consensus-building principles, Leaders said they would achieve this vision by pursuing three economic drivers: trade and investment; innovation and digitalisation; and strong, balanced, secure, sustainable and inclusive growth.

Aotearoa Plan of Action (APA)

In 2021, the 21 APEC member economies developed the Aotearoa Plan of Action, (APA) a plan for implementing the Putrajaya Vision 2040, building on APEC's founding documents, including the 1994 Bogor Goals and the 1995 Osaka Action Agenda. The APA sets out individual and collective actions towards achieving our Vision, along with how we will evaluate our progress. Economies will review and adapt the Aotearoa Plan of Action over time to ensure it remains comprehensive, balanced and relevant across all elements of the Putrajaya Vision. It is intended to be a living document. The APA does not preclude other APEC work to implement the APEC Putrajaya Vision 2040. The APA refers to the same three economic drivers: trade and investment; innovation and digitalization; and strong, balanced, secure, sustainable and inclusive growth.

Enhanced APEC Agenda for Structural Reform (EAASR)

Ministers endorsed the EAASR in 2021. It will guide APEC's work on structural reform until 2025.

APEC economies will continue to focus on recovering from the adverse economic and social impacts of the COVID-19 pandemic, preparing for future economic shocks, and making joint efforts to implement the APEC Putrajaya Vision 2040. This new structural reform agenda presents an opportunity for revitalizing and rebuilding economies, collaborating, supporting recovery and building back stronger. The EAASR sets out new direction for growth-focused structural reform that is designed to be inclusive, sustainable and innovation-friendly, in line with the APEC Putrajaya Vision 2040.

The EAASR encourages economies to undertake robust, comprehensive, and ambitious structural reforms to stimulate growth, remove undue burdens on investors and businesses in their economies, achieve greater economic resilience and promote well-being, so as to ensure that the Asia-Pacific remains the world's most dynamic and interconnected regional economy.

Pillars of the EAASR

The EAASR seeks to contribute to APEC's overarching goal to promote strong, balanced, inclusive, innovative and sustainable growth, through measures in line with the following pillars:

1. Creating an enabling environment for open, transparent, and competitive markets;
2. Boosting business recovery and resilience against future shocks;
3. Ensuring that all groups in society have equal access to opportunities for more inclusive, sustainable growth, and greater well-being; and
4. Harnessing innovation, new technology, and skills development to boost productivity and digitalization.

The four pillars are interrelated and therefore some reforms will apply to multiple pillars.

Approaches

The EAASR encourages economies to adopt the following three approaches to promote structural reform for inclusive growth, as outlined in the 2018 "Structural Reforms for Inclusive Growth: Three Approaches", namely:

1. Delivering the six core structural reforms (competition policy and law; strengthening economic and legal infrastructure; ease of doing business; regulatory reform; public sector governance; corporate law and governance) to improve market functioning and transparency;
2. Implementing specific market reforms to improve innovation and competitiveness of business and achieve pro-inclusion benefits; and
3. Adopting a holistic approach to structural reform which combines core reforms, specific market reforms and broader policies to boost productivity and economic resilience.

Actions

The EAASR invited economies to submit individual action plans as soon as possible, and no later than the end of 2021 that outlines their structural reform initiatives through to 2025. Economies are encouraged to nominate reform actions under all pillars and across all sectors, particularly services, to ensure individual action plans are suitably ambitious and comprehensive, together with quantitative and qualitative indicators to enable future monitoring and review. In addition, the EC would work on an implementation plan and a set of indicators. A mid-term review is due to be undertaken in 2023.

APEC Services Competitiveness Roadmap (ASCR)

In the APEC Services Cooperation Framework of 2015, Leaders committed to "develop a strategic and long-term APEC Services Competitiveness Roadmap in 2016 with the adoption of a concerted set of actions and mutually agreed targets to be achieved by 2025." The Roadmap was one of the main deliverables of APEC for 2016 and adopted by APEC Leaders in November that year.

The key objective is to enable concrete action towards agreed targets both at the economy and regional level to promote growth and job creation across APEC economies. The ASCR focuses on enhancing the competitiveness of the services sector by:

1. Promoting good regulatory practices, international regulatory cooperation and sound competition policy frameworks and institutions;
2. Ensuring more open services markets;

3. Ensuring an adequate supply of skills in a rapidly changing economy;
4. Facilitating effective and inclusive financial markets.

Through the APEC Services Competitiveness Roadmap Implementation Plan (2016-2025) relevant APEC fora (including the EC) implement 19 APEC-wide actions to improve the competitiveness of the services sector. For each action, there is a plan for implementation and benchmark data against which to measure progress towards the Roadmap targets.

The GOS is responsible for monitoring progress on each APEC-wide initiative under the Roadmap and reporting on progress to Senior Officials and Ministers. A Mid-term Review of the ASCR was carried out by the PSU in 2021 to ensure that APEC-wide and individual actions are in place to complete achievement of the objectives of the Roadmap by 2025. A Summary Report of the ASCR Mid-Term Review was welcomed by Ministers at the 2021 APEC Ministerial Meeting. The findings of the Review are discussed in the body of this report.

APEC Internet and Digital Economy Roadmap (AIDER)

In 2017, APEC Leaders pledged to work together to realize the potential of the internet and digital economy and welcomed the adoption of the APEC Internet and Digital Economy Roadmap (AIDER). AIDER is a framework that provides guidance on key areas and actions to facilitate technological and policy exchanges among member economies and to promote innovative, inclusive and sustainable growth, as well as to bridge the digital divide in the APEC region. It lays out eleven key focus areas of work:

1. Development of digital infrastructure
2. Promotion of Interoperability
3. Achievement of universal broadband access
4. Development of holistic government policy frameworks for the Internet and Digital Economy
5. Promoting coherence and cooperation of regulatory approaches affecting the Internet and Digital Economy
6. Promoting innovation and adoption of enabling technologies and services
7. Enhancing trust and security in the use of ICTs
8. Facilitating the free flow of information and data for the development of the Internet and Digital Economy, while respecting applicable domestic laws and regulations
9. Improvement of baseline Internet and Digital Economy measurements
10. Enhancing inclusiveness of Internet and Digital Economy
11. Facilitation of E-commerce and Advancing Cooperation on Digital Trade

In 2018, the creation of the Digital Economy Steering Group (DESG) was agreed upon at the Concluding Senior Officials Meeting (CSOM) in Port Moresby. The DESG aims to facilitate the development of the internet and digital economy, including e-commerce and digital trade. The DESG advises Senior Officials on a comprehensive and regular basis on implementation of AIDER giving full recognition to the Roadmap's broad scope. The DESG continues to report to the Committee on Trade and Investment (CTI) on matters of the ECSG's work program on e-commerce and trade-related digital economy issues.

Annex 3: GATS Telecom Rules Empower Regulators to Promote Healthy Competition

GATS provisions on telecommunications

The GATS provisions on telecommunications were among the first attempts at a multilateral level to help regulators adapt to an evolving landscape in communications. These provisions, in the Annex on Telecommunications and the Reference Paper, require pro-competitive regulatory solutions to be applied to a sector as it transformed from monopoly to competitive supply. Designed to reinforce GATS market access commitments on trade in telecommunications and ICT-enabled services, the rules have had a more far-reaching impact. Generally seen as "best practice", they not only provide a blueprint for sustainable telecom sector reform but also were suggested by trade negotiators as a model for other key sectors, such as postal and courier and energy-related services where governments sought to introduce greater competition.

The Annex on Telecommunications was part of the original GATS text in 1995. In a stroke of foresight anticipating digital trade, the text recognizes telecommunications as a means of transport for transmission of other economic activities. In a stroke of foresight anticipating digital trade/e-commerce, in services, the text recognizes telecommunications as an "underlying transport means for other economic activities". Although all GATS provisions generally apply to this and every other sector, the Annex supplements GATS disciplines of Article VI on domestic regulation, Article VIII on monopoly and exclusive suppliers and Article IX on business practices to better address the prevalence of monopoly and dominant power in the sector.

The core obligations of the Annex are found in a Section 5 on access and use (Tuthill, 1996). The lead paragraph of that section requires that "each Member shall ensure that any service supplier of any other Member is accorded access to and use of public telecommunications transport networks (PTTNS) and services on reasonable and non-discriminatory terms and conditions, for the supply of a service included in its Schedule" (italics added). Subsequent paragraphs of the section outline what is to be ensured and how. As such, the Annex obligates domestic authorities to guard against anticompetitive behavior of suppliers of PTTNS regarding access and use. Trade negotiators saw this as essential to provide a level playing field for all committed services and their suppliers, whether accountancy firms, IT companies, value-added telecommunications, or distance learning services.[3] Finally, the Annex, like the GATS, applies to all WTO Members and is neutral as whether or not a Member has committed to open markets for PTTNS.

The Reference Paper resulted from the GATS negotiations on basic telecommunications that culminated in 1997. It lays out legally binding regulatory principles for the liberalized sector Unlike the Annex, the Reference Paper binds only to Members who attach the principles to their schedules of services commitments, although many governments undertaking sector reform often adopt similar regulatory frameworks. Like those of the Telecom Annex, the core principles of the Reference Paper relate to thwarting anticompetitive practices, underlining the conviction of negotiators that they would impede trade in services. Unlike the Annex, whose provisions apply to all PTTNS for the supply of all committed services the Reference

Paper ambit is narrower. It obliges governments to safeguard against anticompetitive practices of dominant suppliers[6] of PTTNS, rather than all suppliers of PTTNS. Moreover, it requires governments only to ensure such practices are not exercised against all committed basic telecommunications services (see footnote defining basic) and their suppliers, rather than all committed services. Designed to preserve the value of GATS commitments to opening the sector, the narrower scope includes stronger, more detailed obligations designed to allow competition take hold. Most relevant to healthy competition policy are the document's very broad provision on general competition safeguards, the highly technical interconnection guarantees and the requirement to have an independent regulator.

Understanding the scope of both documents is essential to their implementation. First, neither the Annex nor the Reference Paper require governments to take either ex-ante or ex-post measures or to employ a heavier handed versus light-handed approach to sector regulation. This feature not only leaves such decisions to individual governments based on prevailing situation in their market, but also provides significant leeway for adapting the regulatory framework over time – a form of future proofing the obligations as competition becomes more effective in achieving the goals.

Second, neither text specifies that a telecommunications regulator or telecommunications law are answerable for implementation. This was implicit yet deliberate. Granted, GATS obligations and commitments apply to governments as a whole, rather than to particular government agencies. However, drafters recognized that depending on the domestic legal regime or state of sector reform, other bodies such as competition authorities, judicial bodies, or any ministries dealing with communications policy and competition laws could exercise legal competence. This also provide a degree of future proofing of the disciplines.

Third, it must be emphasized that the scope of both provisions differs with respect to the targets of the regulation versus the beneficiaries. The Annex obliges governments to act against anticompetitive behavior of PTTNS, to the benefit of all committed services and their suppliers. Meanwhile, the Reference Paper obliges governments to safeguard competition and guarantee interconnection with dominant suppliers of PTTNS, but for the benefit only of competing basic telecommunications services and suppliers.

Recent Developments and Possible Revisions

Trade officials have continued to target their concern about the intersection of telecommunications regulation, competition policy and trade in the negotiation of RTAs. Most of telecommunication provisions of RTAs draw extensively on text of the Annex and Reference Paper. Many add additional specificity regarding regulatory practices. While useful, some of the provisions on, for example, regulating number portability or requiring local loop unbundling address practices whose anticompetitive effects would presumably fall within the scope of the competition safeguards of the Reference Paper.

One of the innovations found in FTAs include in the coverage of value-added telecommunications services as beneficiaries not only of provisions drawn from the Annex but also of some aspects of their Reference Paper provisions. Certainly, the remit of the Reference Paper negotiations was basic telecommunications, but the upshot is an anomaly whereby a supplier of value-added telecommunications services would have resort only to

the Annex, and not to the stronger disciplines of the Reference Paper, were it to experience anticompetitive behavior or an interconnection problem in relation to PTTNS.

More recently, in e-commerce/ trade segments of FTA's have also included provisions that cover telecommunications, particularly as relates to the Internet access. This is not surprising as the Internet has today become one of the most ubiquitous means of delivery, enabling cross-border trade to flourish. Although trade negotiators have never doubted that the Internet access was a telecommunications service, whether it is value-added or basic service (and, if so, PTTNS) is a long simmering debate. Its classification has enormous bearing on the possible relevance of the Annex and Reference Paper to digital trade. On the one hand Internet access services could already benefit from Annex provisions to the extent that they are considered a committed service, whether basic or value-added. However, schedules and services classifications used in schedules are unclear on where Internet access fits. On the other hand, were Internet access services, or some elements thereof, considered to be PTTNS, they would be also be subject to the obligations of the Annex and Reference Paper obligations regulating behaviour of PTTNS.

The discussion in the JSI on E-Commerce on possible revisions to the Reference Paper centre on a text proposed by the European Unio.. If the discussions progress, it will likely be the only opportunity available for many years to make adjustments. This argues for early dialogue among APEC economies to consider the issues in detail.

Expanding the coverage of the Reference Paper in certain respects would be useful. At a minimum, expanding scope of beneficiaries of the obligations to include value-added services (which in many cases encompass online computer services) makes sense, especially for provisions on competition safeguards and interconnection, would greatly benefit an extremely significant sector of digital services. There may also be a case for imposing obligations on some value-added services that gain a dominant position in important markets. Moreover, clarification of how Internet is covered by the Reference Paper obligations would provide stronger support for the digital economy by enhancing competition which has proven to be challenging for the digital economy. Finally, as regards PTTNS, the regulatory obligation of "public" service availability has become less common in the sector as competition has ensured services will be widely provided. Nevertheless, abuse by dominant suppliers not officially subject to this designation can still arise. The current draft Reference Paper proposal seeks to modernize the definition of public, which may help sustain the relevance of the most important obligations.

Other topics discussed in Chapter 4 are the competition policy issues associated with Digital Intermediation Platforms. It is unclear, however, that a revised Telecommunications Reference Paper would extend to platform intermediary services in which the competitive concerns have arisen, so long as the focus of the principles remains telecommunications. Although a distinction between basic and value added have much less relevance today than they once were, the concept of services which provide a means of transmission as an essential service remains valid and would not necessarily cover platforms. Most platform services are users of telecommunications, rather than suppliers, with perhaps a few exceptions for distinct services such as Amazon Web Services or Google's fibre optic cable ventures. E-commerce and IT platforms are gaining prominence as enablers of digital trade, but they do not necessarily provide telecommunications, per se. The Reference Paper might serve as a model for disciplines needed where platform dominance poses obstacles to digital transformation.

There is room, in this context, for APEC work on principles for best practice competition policy design in the ICT sectors. APEC work of this nature would be timely and useful, given proposals in the JSI to reconsider and expand coverage of the Reference Paper, even if covering Internet access, may not extend so broadly as to cover most digital platforms.

Platforms have also been the subject of taxation initiatives arising out of concern for competition and fairness in the global activities of the largest players. Unilateral measures proliferated in recent years to capture tax revenue associated with cross-border delivery of digital services. These unilateral measures tend to diverge from established international tax norms and have been argued to be inconsistent with WTO non-discrimination principles. Recently, OECD/G20 made progress towards a common framework for taxation of cross-border digital services revenue. The frameworks involve new jurisdiction principles and profit allocation rules that allow taxing rights to extend beyond physical presence.

Also, governments have begun to extend to digital services their indirect Value Added Taxes (VAT) and Goods and Services Taxes (GST). Imposing these schemes is less problematic from the perspective of taxation and WTO principles. Under these measures, states impose non-discriminatory indirect taxes on all goods and services supplied in their territory, for example internet advertising and digital intermediation services. International guidelines have been developed for governments who wish to make digital platforms liable for assessing, collecting and remitting the VAT/GST due for online sales.

Economies with potentially discriminatory digital services taxation measures already in place, for example requiring firms to establish commercial presence, will need to roll these measures back. Economies with aspirations as digital services exporters should avoid potentially discriminatory digital taxation which could generate trade disputes.

Notes

- PTTNS are defined in the Annex by three definitions, the composite of which is 1) the transmission and reception of signals by any electromagnetic means to supply 2) any transport service typically involving the real-time transmission of customer-supplied information between two or more points without any end-to-end change in the form or content of the customer's information and 3) required, explicitly or in effect to be offered to the public generally.
- The WTO dispute settlement panel for the US-Mexico Telecommunications case affirmed that, once committed, the Annex also applies to basic telecommunications.
- The term “basic telecommunications” refers to telecommunications transport networks and services (TTNS) both publicly available as well as non-public, such as niche market or private network services.
- The Reference Paper uses the term “major” suppliers to refer to monopoly and dominant entities. “Major suppliers” is defined drawing on classic competition law concepts of control over essential facilities or market share. For further details on the Reference Paper, see Tuthill, 1997.