



# Services Meet the Digital Economy: what do we know?

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**6-7 September 2019**



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# Four Messages from this Presentation

- ▶ **SERVICES** are the most important part of our economies and of our trade at present; we live in a “services” world.
- ▶ The **DIGITAL ECONOMY IS ALL ABOUT SERVICES**; services have made the Digitization of our world possible.
- ▶ **TENSIONS** in the digital economy revolving around services are not likely to be resolved soon.
- ▶ Two **PARALLEL AGENDAS** now exist for services trade: the digital agenda and the unfinished liberalization agenda.

# What we will be discussing

- ▶ **PART I: The Services Economy** – How have services become central to everything we do and produce?  
Internationalization of Services
- ▶ **PART II: Services meets the Digital Economy** – What has the digitization of services meant for our economies and for trade?
- ▶ **PART III. Tensions around Services & Digital Trade** – What type of governance are we developing for digital trade?

# Part I. We are in a SERVICES WORLD

- ▶ Services are now the largest contributor to our economies and our trade and essential to our daily lives
- ▶ Services sectors attract the most foreign direct investment
- ▶ Services contribute the most to employment and innovation

## For New Zealand

- ▶ Around 63% of GDP (2018)
- ▶ Roughly 73% of employment (2018)
- ▶ Around 60% of FDI inflows (2018)

# Growth of Services has been rapid for all countries around the globe

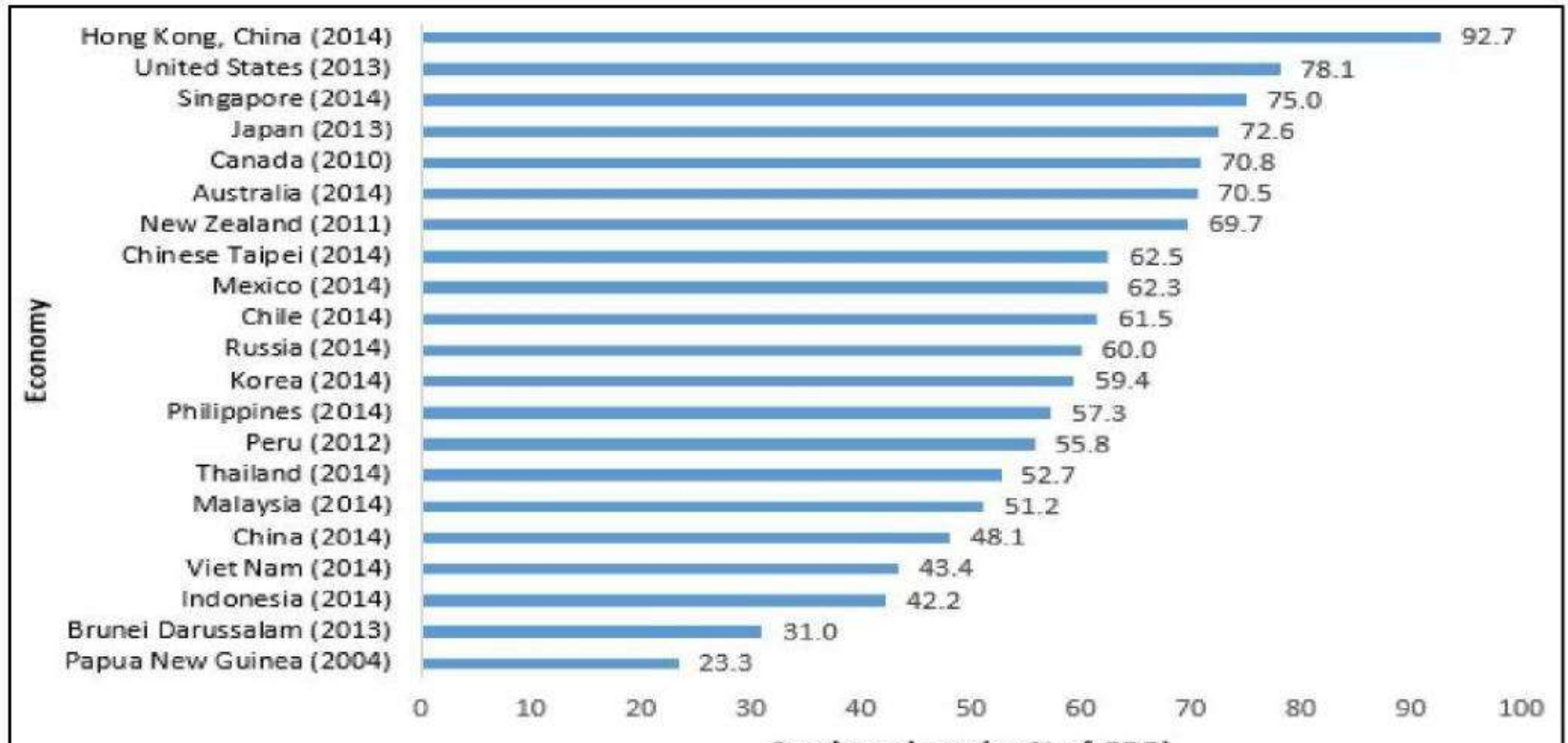


# I.1 Services are now the majority of nearly all APEC economies' GDP

*Share of services in GDP in APEC economies*

Services are 50+ percent of GDP in most developing APEC economies and 70+ percent in developed APEC economies.

The share of employment in services across 14 APEC economies is 60 percent.



Source: APEC Services Competitiveness Roadmap Implementation Plan 2016-2025



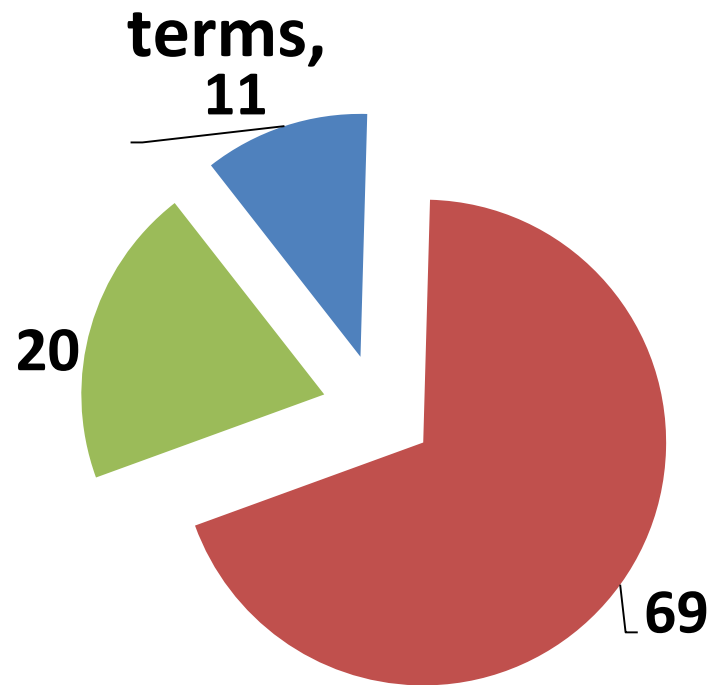
## 1.2 “Servicification” in production & trade – and throughout our economies

- ▶ Noticeable trend towards “**servicification**” of **production** – a rising share of the value-added embedded in a product reflecting services. This particularly true in manufacturing where 25 to 49 percent of the value of all inputs is accounted for by services.
- ▶ **Same is true for trade**: Now more than 50 percent of global exports is accounted for by services when measured on a value-added basis! Share of services more than doubles!



## I.3 Services now represent the majority of Trade when measured on a Value-Added Basis

Structure of world exports in gross terms,

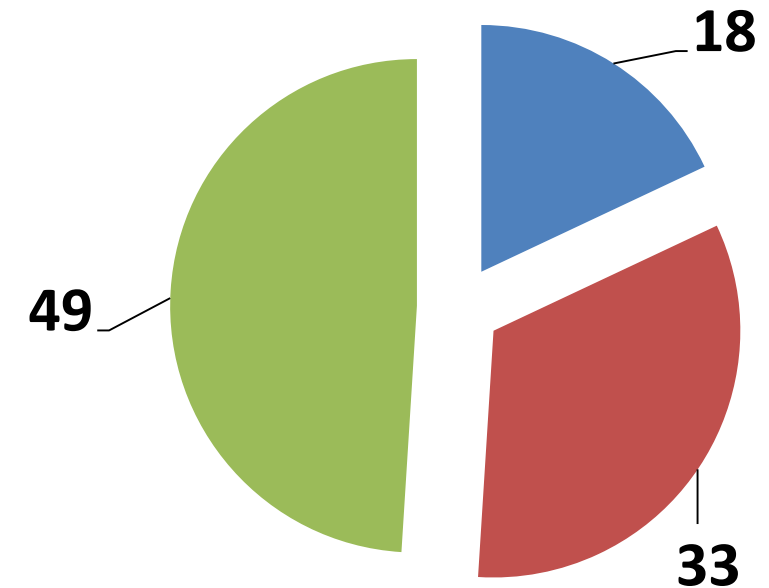


Primary

Manufacturing

Services

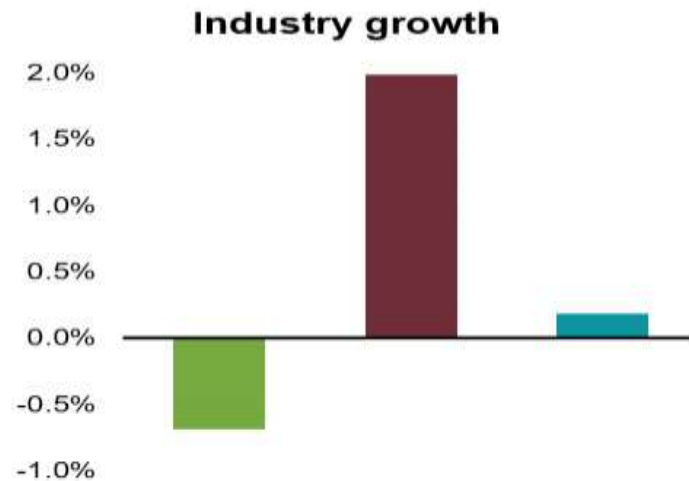
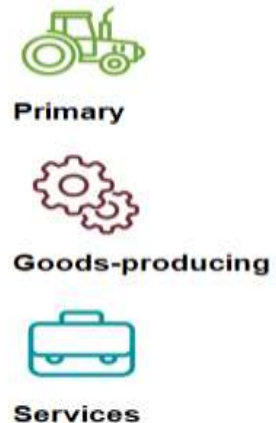
Structure of world exports in VA terms, 2011



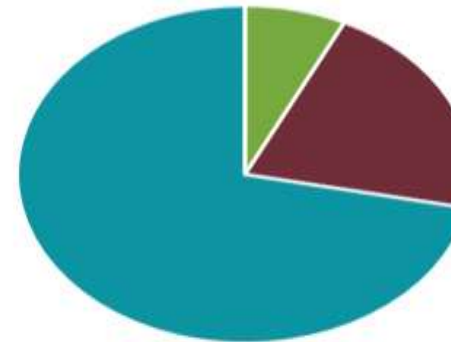
# I.4 Services represent the large majority of GDP for New Zealand as well (2019)

## Gross domestic product, industry growth and contribution to growth, March 2019 quarter

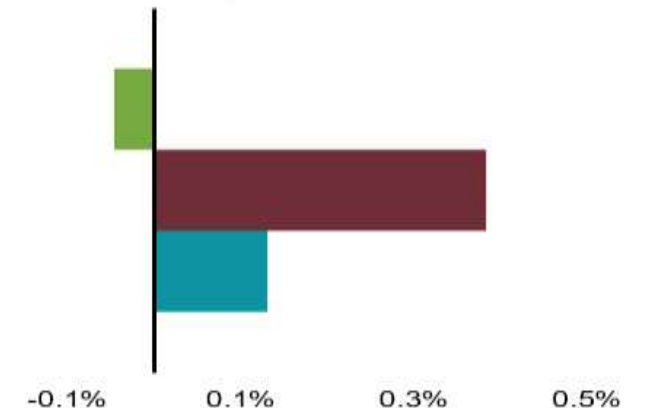
GDP grew 0.6% in the March 2019 quarter



**Share of the economy**



**Contribution to GDP growth**



Source: Stats NZ

## 1.5 Shift to SERVICES in the Global Economy

- ▶ Now the largest sector of global economic activity, accounting for more than 70% of world GDP (including construction and the utilities) -
- ▶ The dominant driver of global economic growth, making the strongest contribution to delivering GDP growth and poverty reduction –
- ▶ The largest and the fastest-growing employer; employment in services surpassed employment in agriculture over a decade ago – services account for just over half of total global employment in 2017 and three-quarters in high-income countries

## 1.6 Shift to SERVICES in the Global Economy

- ▶ The fastest growing contributor to female participation in the workforce and relatively higher female wage growth –
- ▶ The dominant destination for FDI flows: the services share of global FDI stock is more than double that of manufacturing
- ▶ Significant contributor to productivity growth – multifactor productivity is increasingly understood as services innovation –

## 1.7 Shift to SERVICES in the Global Economy

- ▶ Services are the largest component of global trade, now over 50% when measured on a value-added basis.
- ▶ The share of global services trade is growing relative to goods trade.
- ▶ Digitization has meant that virtually every service can be traded through being digitally enabled; there are no commercial services these days that can strictly be considered “non-tradable”.

## 1.8 Services are a huge part of the Manufacturing Sector

- ▶ **As Inputs:** Manufacturing firms in sophisticated products may easily use up to 50 percent of services inputs.
- ▶ **As Employment:** A 2017 OECD survey found that “Across countries between 25% and 60 % of employment in manufacturing firms is found in service functions such as R&D, engineering, transport, logistics, distribution, marketing, sales, after-sales service, IT, management and back office support.”
- ▶ **As part of manufactured Exports:** APEC database shows that on average services represent 20% of manufactured exports from the region on a Value-Added basis

## I.9 Services are a huge part of the Manufacturing Sector: Automobiles

- ▶ The automobile is no longer just a physical piece of machinery. While engineering, quality control and R&D have long been part of manufacturing activity, the services component in physical output has been increasing over time.
- ▶ **Over 50 percent of the average cost of manufacturing a modern automobile is comprised of services, including engineering, quality assessment, R & D and many others.**



## I.10 Services are a huge part of the Manufacturing Sector: Electronics

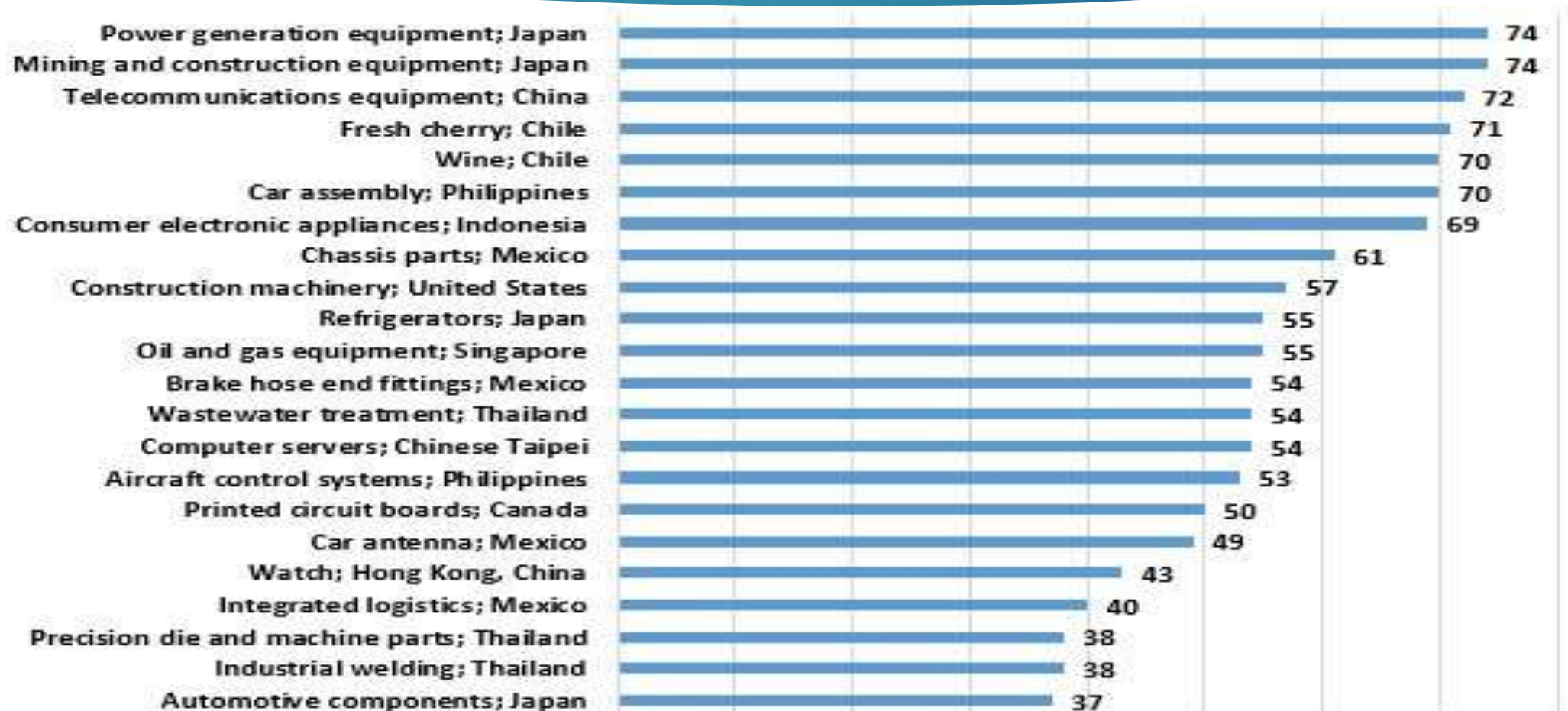
- ▶ Many electronic products are essentially services in a hard cover wrapping although they continue to be marketed and recorded as goods.
- ▶ More than 50% of the iPod's value has nothing to do with **merchandise components but rather services activities**. For the iPhone physical components represent less than one third of the total value of the final product, while services account for two thirds, including R&D, design, software development, engineering, marketing, transport, packaging, retail, distribution and after sales.

## I.11 Results from a 22 industry case study project in APEC on Services in Manufacturing

- ▶ Showed that the number and range of services entering the manufacturing value chain is considerable, ranging from around 40 in the case of automotive components to 74 in the case of power plant equipment.
- ▶ Estimated share of total value (cost) accounted for by these services ranged anywhere from 30 to 90 percent.
- ▶ For most of these 22 manufacturing firms services represented on average most of their product's value.

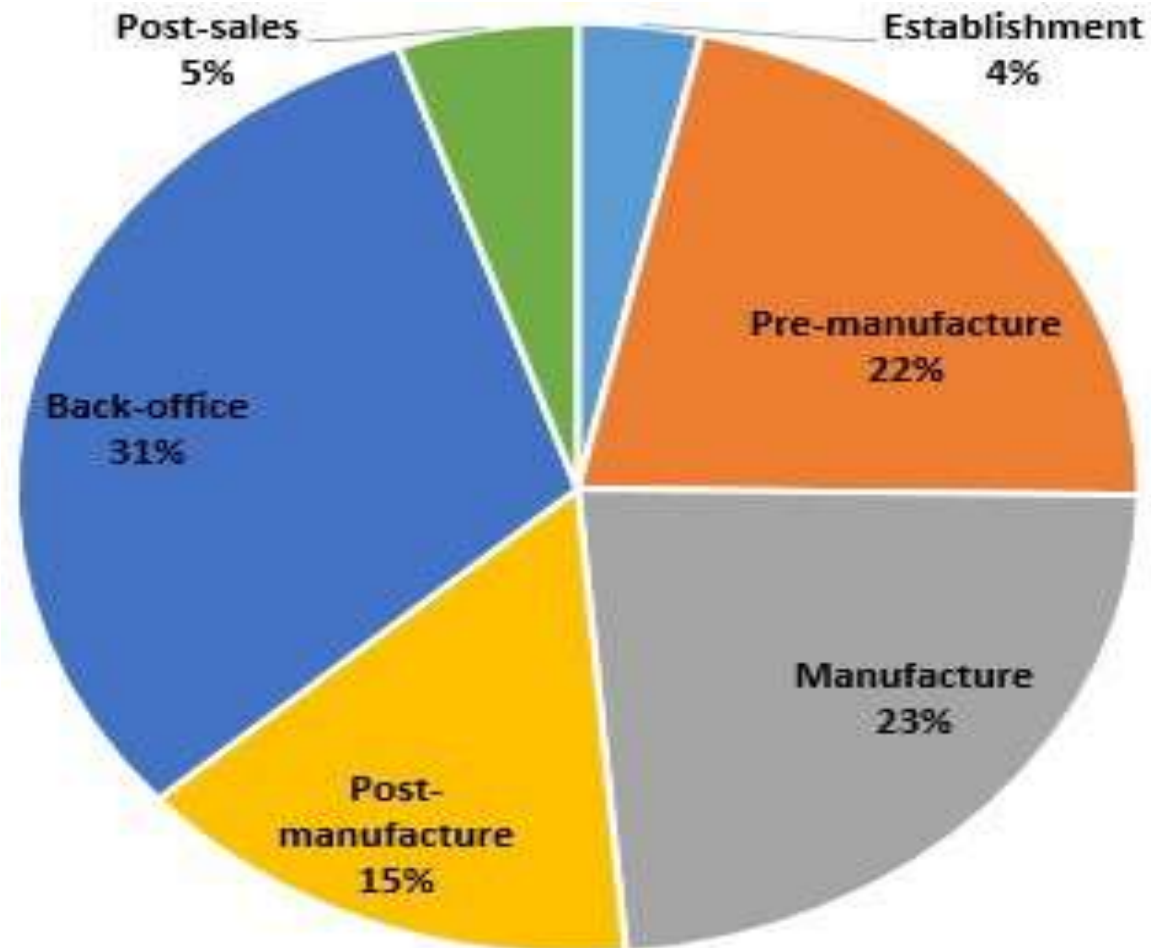
**Source:** APEC, 2015, *Services in Global Value Chains: Manufacturing-Related Services*, edited by Patrick Low and Gloria O. Pasadilla, at [http://publications.apec.org/publication-detail.php?pub\\_id=1677](http://publications.apec.org/publication-detail.php?pub_id=1677)

## 2 I.13 Number of services in the manufacturing process for 22 industries in the APEC region



Source:

## 1.13 Services are inputs in all stages of the production process for these 22 industries



## I.14 Services constitute considerable profits for the Manufacturing Sector

- ▶ When the **average profitability of 80 multinational manufacturing companies** ranging from aerospace and defense and automotive to high technology and diversified manufacturing was studied, **services was shown to represent 25 percent of revenue for these companies (on average), but as much as 46 percent of the profits**
- ▶ The service businesses surveyed in these companies was shown to be more than **75 percent higher** than overall business unit profitability.

**Source: Deloitte Research Global Manufacturing Study, 2006, The Service Revolution in Global Manufacturing Industries,**

## I.15 Some firms have shifted their focus almost entirely to services: IBM

- ▶ IBM moved away from manufacturing and towards **computer software and services** in the 1990s. Sold its “Think-Pad” in 2005 to focus on the “ideation” services end of the value chain.
- ▶ Now **IBM’s focus is on its services research, activity and applications** (including artificial intelligence), the Internet of things, and other services innovations.
- ▶ IBM is sponsoring the current U.S. Open: “Watson” will analyze over 500 million data points to provide live stats and highlights! “Digital re-invention of tennis”!

<https://www.ibm.com/us-en/?ar=1> - show video



## I.16 Some firms have shifted their focus almost entirely to services: Boeing

- ▶ Boeing has said that it would like to be viewed as a 'services company', given that services are by far the most important part of its operations.
- ▶ Computerized design and digital processes used at every stage of the production/manufacture phase, with the data requirements huge in order to combine and assemble successfully the upwards of four million parts that are involved in building each airplane and the 65 million parts that go through its factories each month. All data on each part are retained for the life of each airplane, between 40 and 50 years. **Source: Russ Benson, Vice President for IT, Boeing**



## I.17 So why are we not focusing more on services?

### ▶ **HARD TO RECONCILE WITH ITS ECONOMIC IMPORTANCE**

- ▶ WTO has made little progress on services since initial GATS commitments in 1994 and Understandings on Financial Services and Telecommunications in 1997 ; rules are the same
- ▶ Services still only partially included in many RTAs
- ▶ Little focus on services in public policy announcements

### ▶ **BUT..... THE DIGITAL DISCUSSION MAY CHANGE THIS**

- ▶ Why? Because Services are the heart of digital trade

## Part II. SERVICES AND DIGITAL TRADE

- ▶ **FIRST: WHAT EXACTLY IS DIGITAL TRADE? Challenging**
  - ▶ USITC (2016) .... **Digital trade is** domestic commerce and international trade in which the Internet and Internet-based technologies play a significant role in ordering, producing or delivering products & services”.
  - ▶ Australia DFAIT (2017).... **Digital trade and electronic commerce** refer to the **trade** of goods and services using the Internet, ***including the transmission of information and data across borders.*** ...

## II.1 Digital Trade is broader than E-Commerce

### ▶ **DIGITAL TRADE IS BROADER**

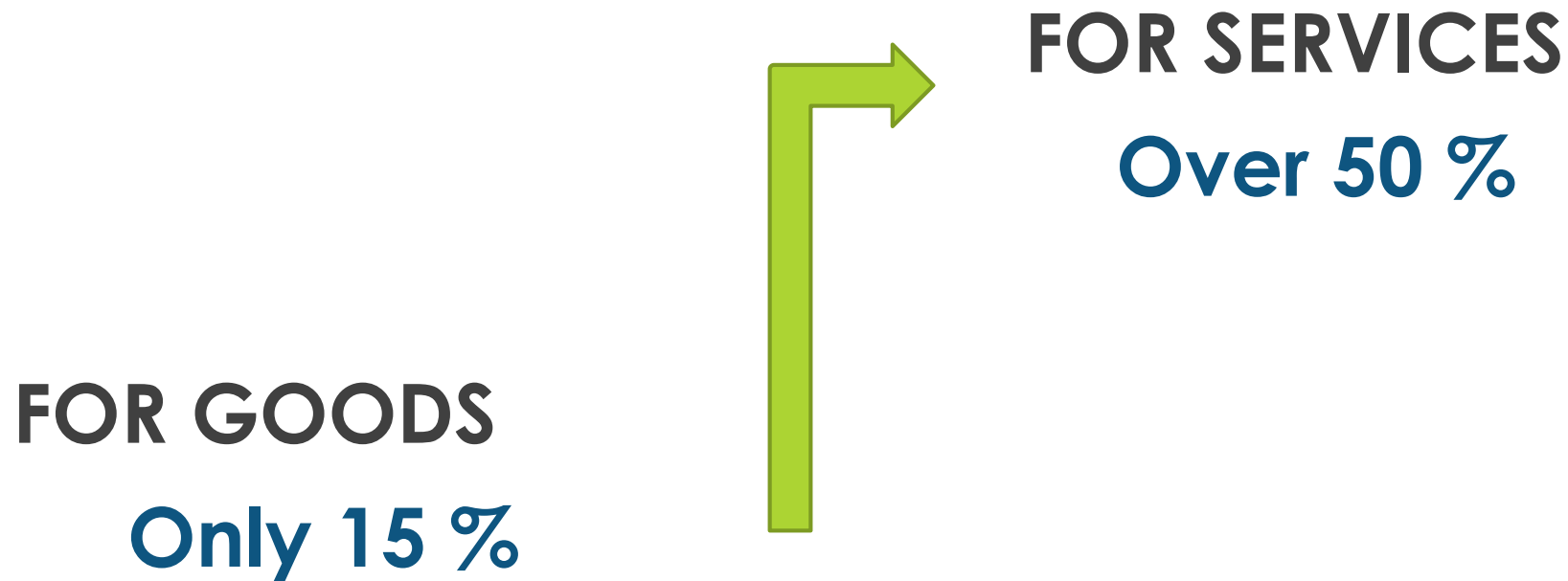
- ▶ Electronic **commerce** (**e-commerce**) is the sale and purchase of goods and services through the use of Internet platforms (used by over 95% of firms in OECD countries for sales).
- ▶ **Digital trade encompasses e-commerce AS WELL AS the transmission of information and data across borders.**
  - ▶ Data flows are not necessarily accompanied by the electronic sale / purchase of goods or services.

## II.2 Can we Measure Digitally Enabled Trade?

- ▶ **Virtually no official statistics exist on value of cross-border e-commerce or digital trade;** few countries publish official estimates of such transactions UNCTAD estimate (2015) is around \$190 billion for cross-border BtoC e-commerce and \$25 trillion for total e-commerce (domestic & cross-border).
- ▶ **Measurement challenge makes evidence-based policy formulation in digital trade issues difficult. Existing data from private sources are not comparable across countries, and are subject to variation in definitions and collection methods.**

## II.3 More Services Digitally Enabled than Goods

### ► How much of trade is Digitally Enabled?



Source: McKinsey Global Institute, Report 2016

## II.4 Many different types of Digital Services

### ► Digital services support numerous activities

Digitally enabled *knowledge intensive services*, software and technology are connecting businesses with customers around the world, including through **digital platforms** and **internet services, communications** and **transportation networks, cloud computing** and storage, **artificial intelligence, machine learning** and **social media**.

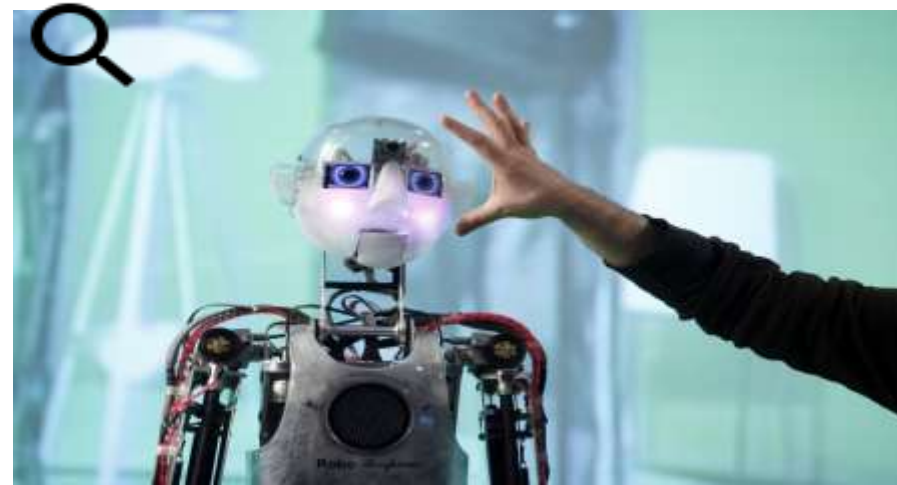
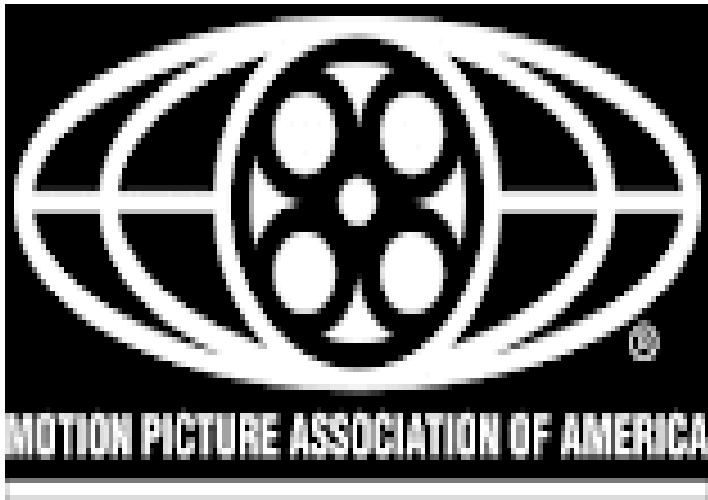
## II.5 The “Globalization” of Digitized Services has exploded in past two decades

Application of ICT technology has transformed services.

- Now **knowledge intensive services** can be “packaged” in digital form, ownership can be established, production can be scaled up, units can be stored and exchanged separately from production via the internet.
- **These “knowledge intensive services” are increasingly vital inputs to competitiveness in all industry sectors.** They no longer need to be performed in-house and can be unbundled into their higher and lower value-added segments.



## II.6 Examples of some “knowledge intensive services” that are digitized



## II.7 Digitization of Services has led to their Outsourcing and Offshoring

- ▶ **All firms are now using digitized “knowledge intensive business services” as intermediate inputs.**

Outsourcing and offshoring of services have increased their globalization: there is a constant quest at present in the services sector to segment out any business function where the services expertise can be digitalized and traded cross-border via the internet to lower cost providers.

- ▶ **Services outsourcing trebled from 2005 to 2010** and ICT-enabled business services intermediates have become one of the fastest-growing components of world trade today.

## 11.8 What roles do digitally enabled services play?

### ► Roles of Digitally Enabled Services

- ***For industry***: manage global supply chains, provide logistics, financial functions; enable collaborative R & D, etc
- ***For consumers***: facilitate online education, provide health services, entertainment, etc.

## 11.9 Using digitally enabled services in our everyday lives – all online

- ▶ **Send text & email messages** [gmail; Whatsapp, Instagram; WeChat, etc.]
- ▶ **Make airline reservations** [UA.com; AirNZ.com, etc.]
- ▶ **Shop online** [Ebay, Etsy, Alibaba, etc.]
- ▶ **Stream movies** [Netflix; Roku, AmazonPrime]
- ▶ **Play video games** [Atari, Arika, Arcane Kids, LucasArts, ndCube, etc, etc.]

## II.10 Services and Digital Technology increase the productivity of other sectors

### ► **MANUFACTURING**

**AUTOMOBILES** are now moving  
To driverless vehicles through the  
application of digital technology,  
software and services.

**Pictured: a Tesla model car**





## II.11 Services and Digital Technology increase the productivity of other sectors

### ► AGRICULTURE

**FARM EQUIPMENT** now incorporate smart technology, software and services into their products for more efficient farming methods. Every machine that John Deere makes now incorporates a 4G LTE model, Wi-fi and Bluetooth.

**Pictured: A crop sprayer.**



## II.12 The Services Economy is underpinned by Data Flows

► **DATA FLOWS** account for a larger share of GDP growth than global trade in goods. Remarkable, given these were nascent 15 years ago.

- *From 2005 and 2017, the amount of cross-border bandwidth in use grew 148 times larger! (McKinsey)*
- *Cross-border data flows grew by 45 times between 2005 and 2015 and raised world GDP by 10% over what would have been in a world without cross-border flows*



## II.13 Data flows are the bloodline of digitally enabled services

- ▶ **ROUGHLY HALF OF GLOBAL TRADE IN SERVICES DEPENDS ON ACCESS TO CROSS-BORDER DATA FLOWS**
- ▶ **The global nature of digitized services industries makes global data management, processing, transfer and storage imperative, together with unimpeded access to cross-border data.**

## **PART III: Tensions around Services and the Digital Economy**

**Barriers to digital trade appear to already be numerous and quite widespread.**

**Business statements and lobbying in the area of e-commerce represents an important guide to where frictions and issues lie.**

[Sources: ECIPE; CRS; USTR; Business Europe]

## III.1 Barriers to Digital Services Trade

- ▶ **Data Localization Requirements:** obligation to store data or locate computing facilities locally
- ▶ **Bans on Cross-border Data Flows**
- ▶ **Technology Barriers:** requirements to meet unnecessary security standards and disclose encryption algorithms or source codes.
- ▶ **Barriers to Internet Use:** issues like electronic authentication & signatures, internet domain names, electronic payment platforms.

## III.2 Differing Domestic Regulation also Impedes Digital Services Trade

- ▶ Differing domestic regulations for services is also a big irritant to services trade
- ▶ Domestic licensing procedures
- ▶ Recognition of requirements and qualifications
- ▶ Recognition of the equivalence of safety training and standards      Visa procedures

***Regulatory disconnects and fragmentation are huge irritants in services trade. Seamless interoperability across jurisdictions is what firms are looking for in trade.***

### III:3 Do WTO rules cover Digital Services Trade?

**In principle, WTO rules for services trade are technologically neutral.**

- GATS does not specifically reference digital trade or e-commerce. But its disciplines (MFN, National Treatment) as well as its general disciplines are viewed as applying to Mode 1, or cross-border trade,
- Digitally-enabled services trade viewed as one form of Mode 1.
- **However, market access for digital services only covered as far as existing commitments on Mode 1 ; these are missing for many WTO Members for many sectors.**

## III.4 Several aspects of digital trade missing from the WTO GATS Rules

- ▶ The GATS entered into force before cell phones and when less than 2% of the world' population had access to the Internet and data flows were practically non-existent. This was another era of history!
- ▶ Several aspects of digitally enabled trade are missing from the governance of the GATS.
  - ▶ DATA FLOWS AND DATA LOCALIZATION
  - ▶ TECHNICAL ASPECTS RELATING TO DIGITAL TRADE, INCLUDING SOURCE CODE, ELECTRONIC CONTRACTS, etc.

## III.5 Positions of the Major Players Differ on Digital Services Trade

THREE LARGE PLAYERS AT PRESENT IN THE INTERNATIONAL DIGITAL SPACE – EACH ONE WITH DIFFERENT OBJECTIVES AND EACH ONE COMING FROM A POSITION IT HAS ACQUIRED OVER THE PAST 25 YEARS

-- UNITED STATES --EUROPEAN UNION --CHINA

*World is now witnessing an intensive strategic trade rivalry, much of it centered on differing approaches to digital trade with services at its center*

## III.6 U.S. Approach to Digitally Enabled Trade

### UNITED STATES

- ❖ **Large first mover advantage** with very large firms having exploited initial economies of scale which are extreme in the tech sector as marginal costs of serving additional customers fall to effectively zero, which can lead to near total market dominance (Google, Microsoft, Amazon, Facebook, etc.)
- ❖ **Seeks maximum openness to exploit the benefits and lock in competitive advantage of US giants in digital trade**



## III.7 EU Approach to Digitally Enabled Trade

### EUROPE (EU)

- ❖ EU has added data flows to list of traditional four freedoms for trade in its DSM Strategy (2017)
- ❖ Seeks to minimize the adjustment costs and risks of the digital transformation
- ❖ **Has become the regulatory champion** – large number of EU-wide laws have been passed on digital trade, especially on privacy as well as on competition
- ❖ Seeks to curb excessive market power of U.S. firms through anti-trust action

## III.8 China's Approach to Digitally Enabled Trade

### CHINA

- ❖ Is playing "catch-up" but has the advantage of market size and is exploiting that to accelerate progress
- ❖ Does not share commitment to open digital borders; claims sovereignty over its cyberspace – Great Firewall
- ❖ **New Cybersecurity Law (2017)**: physical data must be stored in China; mandatory security inspections of equipment; requirements for data retention
- ❖ Has created a technologically sophisticated "parallel universe" – with highly successful firms (Alibaba, Baidu, WeChat, etc) and ambitious AI objectives



## III.9 Other areas of Tension around Digital Trade

In addition to the areas of tension mentioned earlier, there are other areas in which the strategic rivalry around digital trade is manifested.

1. Privacy Concerns
2. Net Neutrality and Competition
3. Taxation of Internet Companies
4. Censorship and Digital Content

## III.10 Privacy Concerns

### ISSUE: Tension around data localization and privacy concerns

- **US approach** : requires free cross-border data flows; no national law on privacy protection & no federal regulation to regulate use of personal data; piecemeal approach based on voluntary industry initiatives –
- **EU approach**: strong approach to privacy protection; clear guidelines for all member states; new General Data Protection Regulation (GDPR) implemented in 2018; data flows allowed but certain privacy safeguards must be respected
- **Chinese approach**: does not allow for free flow of data on various grounds, including political

## III.11 Net Neutrality

### ISSUE: Neutrality of the Internet; Competition policy for the web and online services

- **US approach** : “net neutrality” eliminated by the FCC in the U.S.; firms can use Internet to obtain preferential access for their information; major Internet platforms (Google, Facebook) have obtained a huge market concentration but are not regulated like telecom providers
- **EU approach**: “net neutrality” is an official doctrine in the EU; uses competition policy actively to try and curb dominant practices of US IT giant firms: note recent fines on Google and Facebook
- **Chinese approach**: unclear how it regulates its own Internet firms within China and whether any competition law imposed



## III.12 Taxation of IT Firms

### ISSUE: Tax on providers of online services

- **US approach** : Taxation of online services should be non-discriminatory and should not undermine the growth of digitally enabled services; digital taxation questions should be resolved within the OECD as part of international tax agreements ; opposes the new digital services tax put in place by France
- **EU approach**: Unclear on position of EU as a whole; new DST applied by France and Hungary to revenue earned on digital sales above a certain amount by companies in France (effectively only applicable to U.S. firms). other EU members considering same thing.
- **Chinese approach**: Unclear

## III.13 Censorship & Digital Content

**ISSUE: Freedom of expression on the Internet, including to sell products**

- **US approach** : freedom of speech is guaranteed under the First Amendment of the Constitution; hate speech can be banned only if it is intended to incite violence – now Facebook is taking down such entries with respect to white nationalism but action is voluntary
- **EU approach**: many EU members do not allow certain types of speech inciting hatred or crime but no EU-wide directive as of yet. Example: Germany's 'Network Enforcement Law' of 2017
- **Chinese approach**: censorship of the Internet is commonplace



## III.14 WTO has now moved to negotiations on E-commerce as of January 2019

**Declaration on E-Commerce at WTO MC11** in Buenos Aires – December 2017 (WP on E-Commerce in WTO exists since 1998 but little progress made on substantive issues; Moratorium on imposing duties on electronic transmission extended until MC12 – June 2020)

**Decision by 77 countries (50 WTO Members) at WEF Davos Meeting in January 2019 to begin E-COMMERCE**

**NEGOTIATIONS (JSI) in WTO:** 6 Focus Groups created : Talks began in March ; sessions have been held each month since then; talks open to all interested WTO members

## III.15 Do the tensions around digital have a chance of being resolved?

**PROSPECTS in WTO: Fairly good for more technical issues**

- ❖ **Recognizing validity of electronic signatures**
- ❖ **Ensuring validity of electronic contracts**
- ❖ **Protecting consumer from online fraudulent practices**
- ❖ **Limiting unsolicited digitally generated contacts**

**BUT.....PROSPECTS Not very positive for the issues discussed previously (data flows; data localization; privacy; taxation; source code, etc....)**

## III.16 Where else to discuss Digital Trade issues?

### **APEC Services and E-Commerce work have intensified**

- **APEC Services Cooperation Framework 2015**
- **APEC Services Competitiveness Roadmap 2016-2025**  
with specific goals in accompanying Implementation Plan
- **APEC E-Commerce Steering Committee**
- **APEC Cross-Border Privacy Rules 2011**
- **APEC Privacy Framework 2015**

## III.17 Where else to discuss Digital Trade?

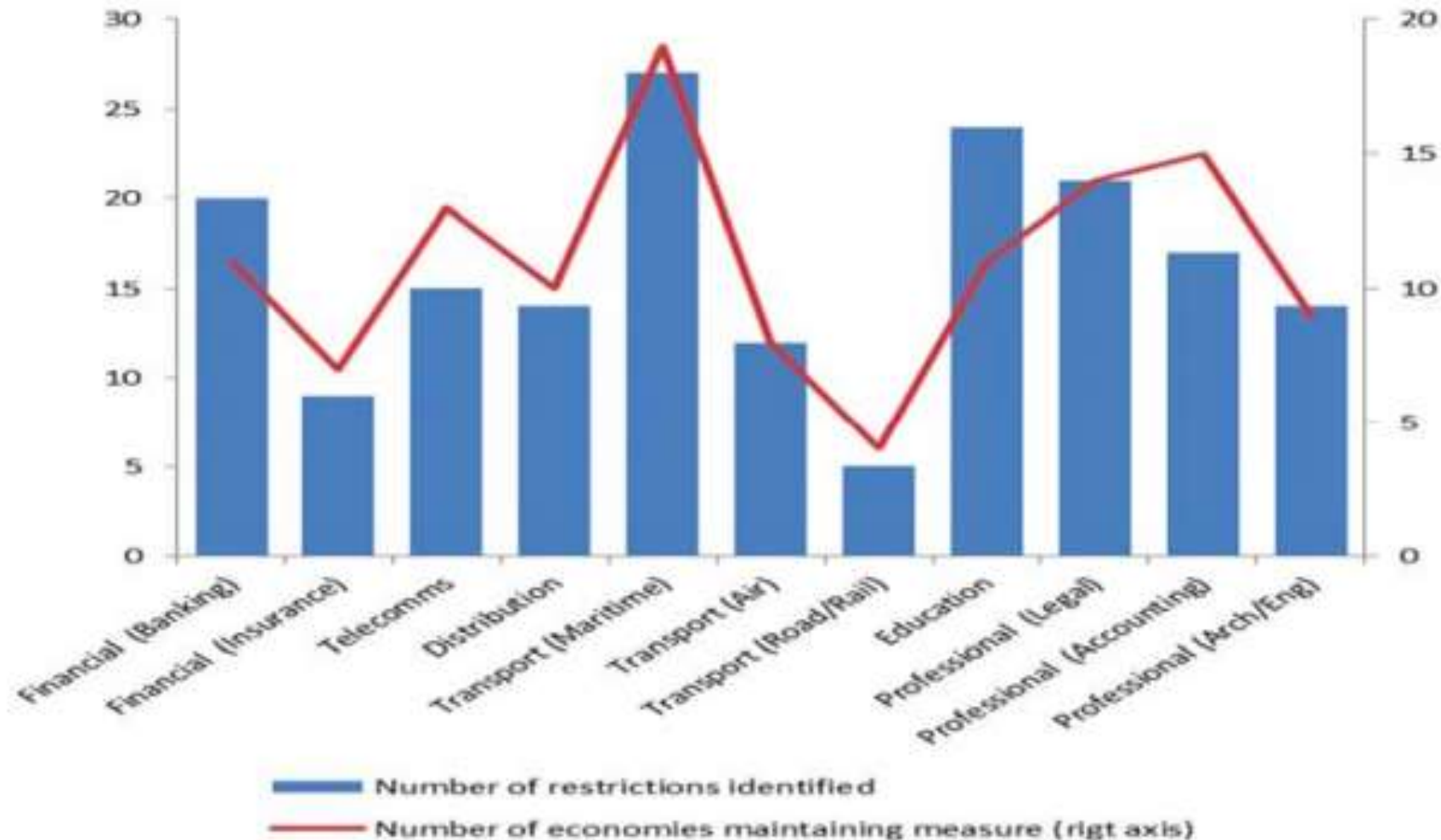
### Recent RTAs have included rules on Digital Trade

- ❖ **Chapter on E-Commerce in CPTPP (2018)** contains rules on data localization and data flows when these are required for the conduct of business
- ❖ **Chapter on Digital Trade in USMCA** with similar rules
- ❖ **Proposed Chapter on Digital Trade in EU-Australia FTA (under negotiation)** -

## III.18 But.... The Traditional Services Agenda is still with us – Services Restrictions in APEC 2016

Restrictions  
on Services  
by Sector and  
Number of  
Economies in  
APEC

From APEC  
ASCR  
Document,  
2016



## III.19 Most Restrictive Service Sectors in APEC Economics based on STRI (2016)

Table 1. OECD STRI most and least restrictive services sectors in APEC, 2016

Economies	Most Restrictive Sector	Least Restrictive Sector
Australia	Courier and postal services	Engineering services
Canada	Air transport	Road freight transport
Chile	Courier and postal services	Accounting and auditing services
China	Courier and postal services	Engineering services
Indonesia	Legal services	Sound recording
Japan	Air transport	Sound recording
Korea	Accounting and auditing services; and Rail freight transport	Distribution services
Mexico	Logistics customs brokerage	Accounting and auditing services
New Zealand	Air transport	Computer services
Russia	Logistics storage and warehouse	Distribution services
United States	Air transport	Telecommunication

For NEW ZEALAND – Most restricted sector is Air Transport

**Source:**  
Calculated from OECD STRI Database, found in APEC ASCR Document, 2016



## TO CONCLUDE -1

- We are living through tremendous changes in our world occurring driven by digital technology.
- Services are the mainstay of our economies and our trade; services are also the heart of the digital economy; over 50% of services are already digitally traded.
- Services are where the productivity growth is occurring; our future jobs will be driven by services innovation and by outsourcing and offshoring of digitally enabled services.

## TO CONCLUDE - 2

- **Given the divergence of policy stances among the three main players, it will be challenging to reach agreement on rules for a digital economy at the multilateral level.**
- **There are now two parallel agendas for services: the digital agenda and the ongoing liberalization agenda.**
- **A greater focus on services – both digital and unfinished issues – is needed to make progress on both.**





# Thank You

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