

**UNDERSTANDING THE
EUROPEAN UNION'S
UNDERSTANDING ON
COMPUTER AND
RELATED SERVICES**

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Understanding the European Union's Understanding on Computer and Related Services

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ABBREVIATIONS

CARIFORUM	The 15 Caribbean Community states with the Dominican Republic
CPC	Central Product Classification
CPC REV. 2.1	Central Product Classification version 2.1
CPC 84	Central Product Classification 84: Computer and Related Services
EICTA	European Information Communications and Consumer Economics Industry Technology Association
ESF	European Services Forum
EC	European Commission
EU	European Union
FTA	Free Trade Agreement
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
LDC	Least Developed Countries
MFN	Most-favoured-nation treatment
Mode 1	Cross-border supply of a service
Mode 2	Consumption of a service abroad
Mode 3	Commercial establishment of a foreign service supplier
Mode 4	Temporary presence of a natural person to deliver a service
n.c.e.	Not classified elsewhere
TISA	Trade in Services Agreement
TPP	Trans-Pacific Partnership Agreement
TTIP	Trans-Atlantic Trade and Investment Partnership
UNCPCprov	Provisional United Nations Central Product Classification
UNCTAD	United Nations Conference on Trade and Development
US	United States of America
USD	United States dollar
W/120	World Trade Organisation classification list for trade in services schedules
WTO	World Trade Organisation

SUMMARY AND RECOMMENDATIONS

We live in a digital era that encompasses **everything**, from Internet banking, online retailing and multi-modal logistics to automated mining and food production, additive manufacturing (3D printing), smart products and the Internet of Things. Alongside digitisation has come 'servicification' - **everything** in the production and distribution supply chain, except the final commodity, is being redefined as a service.

Most services are now driven by digital technologies that operate through an ecosystem that functions like a human body: data, computer systems, software and algorithms are the brain; telecommunications act as the nerve system; and finance is the blood supply. Those who control the digital brain will wield significant power over the future global economy, society and governance.

Old development asymmetries are embedded in this transformation. If first-mover countries and companies continue to dominate the digital domain, and make the global rules in their interest, then the digital divide among countries will widen even further. That's why the European Union's Understanding on Computer and Related Services matters.

What is the EU proposing?

Since the early 2000s the European Union has been promoting an Understanding on Computer and Related Services (the Understanding) in the World Trade Organisation (WTO) and its free trade agreements (FTAs) with individual countries or regions.

The Understanding is a short legal text that subtly expands the classification of 'computer and related services' in trade in services agreements. These classifications are how governments indicate what they are bringing under the trade in services rules. Agreeing to the EU's open-ended definition of Computer and Related Services would guarantee digital infrastructure firms have virtually unrestricted access into countries and rights to operate there with very limited regulation.

If adopted on a wide scale, the Understanding would consolidate power and control over the digital ecosystem, including of data, in the major powers and more specifically, their corporations. Local firms in developing countries will not be able to compete.

So far, the EU has failed to get the Understanding adopted in the General Agreement on Trade in Services (GATS) in the WTO, but some version of the Understanding is included in almost all the EU's FTAs. The EU is now pushing the Understanding as part of the unmandated electronic commerce negotiations at the WTO.

What is in the Understanding?

It has three elements:

1. Countries agree to make comprehensive high-level commitments on Computer and Related Services (technically, adopting the two-digit classification CPC 84) in their trade in services schedules, including for computer systems, programming including source codes and algorithms, maintaining computer systems and software, and processing and storage of data. Currently, governments can choose whether or not to commit one or more of those sub-services and can limit their coverage.
2. Those commitments are interpreted using a contextual narrative that ensures it applies to **all** computer and related services, including those yet to be invented, and it says the sector **includes** the named sub-services, meaning it is non-exhaustive and can cover more. That future-proofs the scope of computer and related services to include whatever new services and technologies might be developed in the future, but with no criteria for determining what additional elements might fall within its scope.
3. 'Content' services that are delivered through digital technologies are explicitly excluded from Computer and Related Services and classified instead by their subject matter or content, such as advertising, education, or entertainment. This reflects the EU's tripartite distinction between computer and related services, telecommunication services, and computer-enabled services, which allows it to

advance its commercial interests, while quarantining sensitive services, especially audio-visual services and broadcasting.

How does the Understanding go beyond existing agreements?

Countries adopting the Understanding would lose the ability to limit their exposure to Market Access and National Treatment obligations (and associated regulatory disciplines) in relation to the digital ecosystem and pre-commit themselves to apply those rules to unknown and unknowable technologies and innovations into the indefinite future. That is especially far-reaching in the GATS and FTAs, where the obligations apply to government measures that affect the supply of those services.

What could this mean for digital policy?

Full commitments to the Market Access rule would prevent countries from imposing limits on the size or scope of a foreign company's operations, consolidating the market dominance of first movers. National Treatment obligations would strengthen that dominance by impeding the development of local competitors, including start-up firms and secondary service suppliers, for example through subsidies, restricting foreign investment or reserving certain activities for national firms.

For example, full commitments on data services would constrain governments' ability to restrict the size of foreign firms, support local state or private providers to build capacity, require a local presence within the country, and potentially to regulate processing, storage, web-hosting, and database services in crucial ways.

What is the status of the Understanding?

The Understanding was initially proposed as a scheduling option for the GATS 2000 negotiations. WTO Members could choose **whether** to schedule the Understanding (subject to negotiating asymmetries), but if they did they would be opening all existing and future Computer and Related Services. Those negotiations became part of the Doha round and were never finished.

Outside the WTO, the EU has included some form of the Understanding in almost all of its bilateral and inter-regional free trade agreements since the CARIFORUM EC Economic Partnership Agreement in 2008. Although the substantive content has remained reasonably standard, there are some legally significant variations in legal form and it has allowed more flexibility in some agreements. These variations are important for countries that will be negotiating with the EU in the future.

How does the EU's Understanding relate to e-commerce negotiations at the WT

The Understanding on Computer and Related Services could act as a Trojan Horse for the 'e-commerce' rules that many developing countries are resisting in the WTO. Even without an e-commerce agreement, open-ended commitments on Computer and Related Services would cross-fertilise with sectoral commitments in digitally enabled services, ranging from education, health and advertising to mining, agriculture and transportation, in whatever mode of supply, as well as the overlapping categories of financial services and telecommunications.

How does the EU justify the Understanding?

The EU promotes it as a technocratic solution to well-recognised problems in the GATS that current classifications date back to 1991 and the schedules of commitments based on them are obsolete, uncertain and incoherent.

However, the Understanding will not solve any of those problems. Indeed, the classification used in the Understanding has been superseded by a new classification from the UN Statistics Division and is itself obsolete. Many overlaps would continue, especially as the US supports a different way of categorising the digital services, especially telecommunications.

Adopting the Understanding may provide greater certainty and clarity **for the EU**. But it is likely to have the opposite effect for policy-makers and regulators of other countries who adopt it, because they will face uncertain, conflicting, even irreconcilable obligations to other countries in their multiple agreements.

What would adopting the Understanding mean for the Global South?

Adopting these rules and commitments would increase the exposure of developing countries exponentially and in unlimited and uncertain ways. Those that currently have fewer commitments on computer and related services would be accepting a disproportionately high level of new liberalisation. That would greatly reduce the regulatory space available to governments to take full advantage of the opportunities, and address the serious challenges, of the digital age.

In sum, countries that adopt the Understanding in the WTO or FTAs would further disarm themselves in the face of rapid, disruptive and unpredictable technological developments. It would be unwise for any state to surrender their authority over those decisions through the Understanding, but especially for countries of the Global South.

If countries believe there may be development gains from liberalising market access or removing supports for their local suppliers of these services, they should do so unilaterally and preserve the future ability to regulate if circumstances change or liberalisation has unanticipated downsides. Domestic liberalisation should be supported by a clear digital development strategy, and robust competition law with the capacity to enforce it.

At the WTO ...

Members should continue to resist the concept of 'technological neutrality' and insist that their commitments extend only to those services that were clearly foreseeable at the time the commitments were made, consistent with the modalities of the GATS and its development acquis.

In negotiations at the WTO and bilaterally countries should ...

- Resist pressure from the EU to adopt the Understanding or make full commitments on Computer and Related Services at the two-digit level of CPC 84, citing the latest UN classifications (Rev 2.1) to show that the EU's classifications are already outmoded.
- Insist on the freedom to make commitments in whatever sub-sectors of CPC 84, and with whatever limitations they consider appropriate, and to decide how they categorise computer-related services, making their interpretation clear in the headnote or in a footnote to the sectoral entry.
- Explicitly exclude all measures related to digital infrastructure and data from future trade in services obligations in a headnote, as a horizontal entry in a schedule, or by repeating it in every relevant sub-sector, including Computer and Related Services, Telecommunications, Financial Services, Business Services (and many others).

In FTA negotiations ...

- If the EU insists on the inclusion of the Understanding in an FTA, and countries feel they must agree, they should invoke the best precedents in existing FTAs, in order of preference:
 - (i) Not include the Understanding or its equivalent in the text, but allow a party to choose whether and which elements of CPC 84 to adopt within the GATS-style positive list, sub-sectors, modes and rules; the EU can then adopt the Understanding in its schedule if it wishes.
 - (ii) Adopt a substantive article on Consumer and Related Services that allows parties to limit the scope of their commitments by sub-sector, mode and rule.
 - (iii) Restrict application of Computer and Related Services to the specified five elements, with no narrative text that makes it all-inclusive forever, and with no cross-reference to other services.
- Avoid negative list scheduling that would mean open-ended obligations relating to digital infrastructure. If pressure is irresistible, at least insist on a full policy space reservation on future technologies and services, as Japan did in its reservations on 'new services' in the TPP.

INTRODUCTION

We live in a digital era that encompasses **everything**, from Internet banking, online retailing and multi-modal logistics to automated mining and food production, additive manufacturing (3D printing), smart products and the Internet of Things.

Alongside digitisation has come ‘servicification’ - **everything** in the production and distribution supply chain, except the final commodity, is being redefined as a service. Most services are now driven by digital technologies that operate through an ecosystem that functions like a human body: data, computer systems, software and algorithms are the brain; telecommunications act as the nerve system; and finance is the blood supply.

Old asymmetries are embedded within this transformation, with warnings from UNCTAD that the gaping development and digital divides among countries risk widening even further.¹

Yet, this is not just a development issue. New technologies and uses have moved far faster than any government’s understanding of their implications. Regulators are in a perpetual state of catch-up, as existing laws on privacy, industry and labour regulation, and taxation prove inadequate and previously unimagined new challenges emerge, even to the very integrity of the state.

Addressing these visible impacts is important. But so is the systemic problem that the digital infrastructure - the technology, search engines, platforms, and above all the data - is controlled by an oligopoly of transnational corporations. For several decades, their home governments have sought to protect this first-mover advantage and pre-empt effective regulation by the development of new ‘electronic commerce’ or ‘digital trade’ rules, including on trade in services. How those rules allow governments to regulate the digital ecosystem will play a decisive role in shaping our economies and societies in the 21st century.

This paper examines one such initiative: the Understanding on Computer and Related Services (the Understanding), which the European Union has been promoting since negotiations to expand Members’ commitments in the World Trade Organisation (WTO)’s General Agreement on Trade in Services (GATS) were launched in 2000. The Understanding is a short legal text that consolidates and subtly expands the classification of ‘computer and related services’ that countries use to schedule their commitments in trade in services agreements. The EU’s aim is to advance its commercial and strategic interests by securing comprehensive commitments over the digital infrastructure, including data, and future-proofing those commitments for new technologies and services, while protecting its own regulatory capacity in areas of political and social sensitivity, especially culture.

The EU promotes the Understanding as a technocratic solution to the well-recognised problems that the GATS classification of computer and related services is obsolete, uncertain and incoherent. However, even at a technical level, it would fail to address those problems effectively. Many overlaps would remain. The EU’s category of Computer and Related Services has itself become obsolete, being superseded by a new classification from the UN Statistics Division. And the attempt to achieve coherence by sharply differentiating computer and related services from telecommunications and digitally-enabled services conflicts with the US’s long-standing approach, making it unachievable in the WTO. While the EU might insist on the adoption of the Understanding in its own free trade agreements, the other parties could face

¹ Mukhisa Kituyi, ‘The digital divide is impeding development’, UNCTAD, 24 October 2018, <https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1896> (accessed 1 September 2019)

new complexities and potentially conflicting obligations, especially if they have bilateral agreements with the US.

To date the EU has achieved limited uptake for the Understanding, with no success in the WTO and variable outcomes in its free trade agreements. However, renewed attempts to advance it through the unmandated plurilateral negotiations on e-commerce in the WTO have prompted this closer assessment of its legal, economic and development implications.

The first three parts of the report lay the foundations for the analysis that follows. Part A situates the Understanding as an instrument of EU policy and commercial advantage. Part B provides a short but necessary explanation of the framework on trade in services rules, schedules and classifications, and the GATS development acquis. Part C explains the legal description and functional logic of the classification of Computer and Related Services that is the centrepiece of the Understanding, and the extent of WTO Members' commitments on the sector.

The next section of the report interrogates the Understanding as a legal instrument at the WTO and the free trade agreements. Part D traces the EU's attempts to promote the Understanding through various WTO negotiations, so far without success, but having resurfaced as part of the unmandated plurilateral negotiations on e-commerce. Part E shows how the Understanding has taken different forms in various EU FTAs, especially with the Global South, and created new uncertainties and complexities instead of the simplicity and clarity it promised.

The final part of the report critiques the EU's justification for the Understanding and its impacts on policy space and development. Part F examines in more depth the EU's three main rationale for remaking the GATS classification on Computer and Related Services: to overcome obsolescence, to create coherence and remove overlaps, and to create a bright line between computer services, telecommunication services, and services enabled by computer technologies. Part G reflects on how the Understanding may close the regulatory space for governments at a time when they need it most and further marginalising the Global South.

The paper concludes with a number of recommendations.

PART A. THE CONTEXT OF THE EU'S UNDERSTANDING

(i) An overview of the Understanding

The EU's Understanding on Computer and Related Services aims to secure more far-reaching commitments on certain aspects of the digital infrastructure, including data, software and computer programs, than WTO Members and parties to free trade agreements would make under the existing services classifications. If it succeeds, those commitments will constrain countries' regulatory options and digital development strategies, especially for late adopters in the Global South.

The Understanding has three inter-related elements:

- i. Countries agree to make comprehensive commitments on Computer and Related Services in their trade in services schedules, rather than by disaggregated sub-sectors that are subject to limitations;
- ii. Those commitments are interpreted through a contextual narrative that seeks to future-proof the scope of the sector using a non-exhaustive list of covered activities; and
- iii. A bright line is drawn between:
 - *computer and related services*, which covers the storage and processing of data, management of computer systems and programs, and related services; and
 - *computer-enabled services*, which are classified according to the subject matter or content of those services.

In its pure form, countries that agree to the Understanding would adopt an open-ended commitment to apply the core trade in services rules to all 'computer and related services', including whatever new services and technologies might be developed in the future. Put another way, governments would surrender in advance some of their regulatory authority over as-yet unknown aspects of the digital ecosystem without being able to assess their implications. In more recent bilateral agreements, this obligation has been diluted to allow some flexibilities or an alternative approach has been used to achieve a similar outcome.

The three elements of the Understanding have taken various legal forms: an annex to a model schedule for the GATS, a substantive article in EU free trade agreements, and a headnote to countries' FTA schedules.² Not all refer explicitly to the Central Product Classification (CPC) for Computer and Related Services CPC 84. These variations are discussed in detail in Part E.

(ii) The EU's commercial objectives

Very little has been written about the origins of the Understanding.³ The proposal is consistent with the EU's Global Europe strategy in the 2000s,⁴ which espoused coherence between its internal commercial and regulatory regime and its trade and other external policies. A stated goal of the strategy was to expand technology exports to rapidly growing markets, especially in Asia.

² Use of a negative list of non-conforming measures in place of a positive list of sectors committed to the cross-border services rules achieves a similar outcome in some other FTAs.

³ The main academic papers that discuss the Understanding do not address this question. For example, Sacha Wunsch-Vincent, *WTO, E-Commerce and Information Technologies: From the Uruguay Round through to the Doha Development Agenda*, Markle Foundation, 2004, pp. 113-121; R V Anuradha, *Technological Neutrality: Implications for Services Commitments and Discussions on E-Commerce*, Centre for WTO Studies, CWS/WP/200/51, New Delhi, October 2018, <http://wtocentre.iift.ac.in/workingpaper/WorkingPaper51.pdf> (accessed 1 September 2019).

⁴ European Commission, *Global Europe; Competing in the World. A Contribution to the EU's Jobs and Growth Strategy*, 4 October 2006, COM (2006) 567

Figure 1
Major Exporters and Importers of Computer Services, 2006 (US\$ millions and percentages)

Rank	Exporters	Value	Share in 15 economies	Annual percentage change	Rank	Importers	Value	Share in 15 economies	Annual percentage change
1	EU (27) Extra-EU (27) exports	60398 22225	59.5 21.9	14 27	1	EU (27) Extra-EU (27) imports	32439 11081	61.7 21.1	14 14
2	India a	21061	20.7	...	2	United States b	10522	20.0	24
3	United States b	6208	6.1	8	3	India	1979	3.8	61
4	Israel	5289	5.2	17	4	Brazil	1947	3.7	18
5	Canada	3583	3.5	3	5	Canada	1401	2.7	11
6	Norway	1376	1.4	53	6	Norway	1268	2.4	26
7	Australia	1040	1.0	19	7	Australia	915	1.7	16
8	Russian Federation	576	0.6	54	8	Malaysia	518	1.0	37
9	Malaysia	572	0.6	31	9	Russian Federation	476	0.9	26
10	Costa Rica	371	0.4	46	10	Korea, Republic of	311	0.6	...
11	Argentina	342	0.3	48	11	Hong Kong, China	310	0.6	-16
12	Hong Kong, China	301	0.3	45	12	Argentina	206	0.4	13
13	Korea, Republic of	182	0.2	...	13	Colombia	132	0.3	20
14	Uruguay	122	0.1	47	14	Syrian Arab Republic	95	0.2	-5
15	Sri Lanka	98	0.1	19	15	Philippines	67	0.1	8
	Above 15	101520	100.0	-		Above 15	52585	100.0	-

a Secretariat estimate.

b Includes affiliated information services transactions

Note: Based on information available to the Secretariat. As certain major traders in computer and information services do not report the item 'computer services' separately, they may not appear in the list.

Source: WTO, Council for Trade in Services, 'Computer and Related Services. Background Note by the Secretariat', S/C/W/300, 22 June 2009, Table A.2, p.16

The WTO's analysis of major exporters and importers of Computer Services in 2006 - the time when the Understanding was being promoted actively in the GATS 2000 round - shows the EU was the highest exporter and importer of this configuration of digital activities with a 21.9% overall share, with India at 20.7% and the United States only 6.1% (Figure 1).⁵ The EU's share of imports from 14 economies outside the region (at 21.1%) was around the same proportion as its exports, but the net surplus for its exports by value was US\$11 billion.

⁵ WTO, Council for Trade in Services, 'Computer and Related Services. Background Note by the Secretariat', S/C/W/300, 22 June 2009, Table A2, p.16. There is no breakdown of the component services and it is difficult to update those figures because the source cited is 'information available to the Secretariat'.

Clearly, deep liberalisation of the services covered by CPC 83 would benefit Europe's major technology firms like the German conglomerate Siemens (Box 1).

Box 1
Siemens AG

The company Siemens AG dates back to 1847. By 2018 its reported global revenue was 83 billion Euros, making it Europe's largest industrial manufacturer. Already a market-leader in automation technology, Siemens began expanding its computer manufacturing and systems business in the 1990s to eventually span telecommunications, defence, transportation, energy, finance, industrial processes and automotive production, and more. Medical technologies and health-care have become its second most profitable division. Recent innovations include Mindsphere, an operating system for the Internet of Things that entirely underpins Singapore's ambitions to become a 'smart nation'. Siemens also runs a Remote Service Platform that provides monitoring and maintenance for clients globally, research and development operations and training for clients.

In other words, Siemens operations span all five elements of CPC 84, as well as specific services sectors. The company would benefit enormously from an open-ended guarantee of market access, national treatment and other regulatory constraints, whether it operates across the border, through foreign investment, or by moving its personnel and consultants around the world. Concerns about ethics and corporate responsibility when a corporation wields that degree of global market power is particularly pertinent for Siemens, given the company's history of intimate collaboration with the Nazi regime, and recent convictions for multiple international bribery scandals.

Source: Christoph Wegener and Johannes von Karczewski, *Shaping the Future. Qualities that set Siemens apart – after 170 years*, Siemens Historical Institute, 2017.
<https://assets.new.siemens.com/siemens/assets/public/1506341881.38754e5ae3933ce8038e2d78293aa98317335cea.094-shi-siemens-at-170-years-the-siemens-narrative-2017-e.pdf>

Siemens and its health technology subsidiary Siemens Healthineers are active lobbyists of the European Commission (EC)'s trade directorate and the European Parliament on EU trade policy and free trade agreements.⁶ However, there is no direct evidence to link this lobbying to the Understanding.

Indeed, there is little evidence of any corporate lobbying specifically for the Understanding. The two most relevant European lobby groups, DigitalEurope and the European Services Forum, have been vocal proponents of rules to restrict the regulation of electronic commerce and to expand the liberalisation of services. DigitalEurope describes itself as the 'voice of digitally transforming industries';⁷ but the Understanding has not featured on its wish-list for trade rules.⁸

⁶ In the October 2017-September 2018 year Siemens had more than 12 full-time equivalent lobbyists and spent more than 3.5 million Euros lobbying – a low compared to some earlier years. 'Siemens AG' and 'Siemens Healthineers AG', LobbyFacts.eu, <https://lobbyfacts.eu/representative/5c775146d1c44aa4ba43505d379d1cde/siemens-ag> and <https://lobbyfacts.eu/representative/bc5271cf446243d99e2dd91e02169635/siemens-healthineers-ag> (accessed 1 September 2019)

⁷ Established in 1999 as the European Information and Communications Technology Industry Association (EICTA), its 60 corporate members and 37 trade industry groups reflect a broad-based transnational membership, including many US-domiciled corporations. <https://www.digitaleurope.org/>

⁸ The Association's positions on TiSA and the US-EU Trans-Atlantic Trade and Investment Partnership (TTIP) favoured a TPP-style approach, which has no equivalent of the Understanding, and seemed more concerned with goods, intellectual property and e-commerce rather than trade in services. Eg. DigitalEurope, 'Assessment of TPP provisions. Our recommendations for the Transatlantic Trade and Investment Partnership (TTIP) and the Trade in Services Agreement (TiSA)', 15 January 2016, <https://www.digitaleurope.org/resources/digitaleurope-assessment-of-tpp-provisions-our->

The European Services Forum (ESF) acts on behalf of many of the IT, telecommunications and finance firms and played an active role in the US-initiated lobby group Team TiSA, which included a very large proportion of tech companies.⁹ The ESF's brief to the incoming European Commission and Parliament in May 2019 focused broadly on cross-border data flows, telecommunications, duties on electronic transmissions, and customs duties.¹⁰ However, its position statement on e-commerce negotiations in the WTO calls for 'a common understanding/definition on the coverage of computer services' and expansion of non-discriminatory market access in IT and computer and related services.¹¹

The lack of direct industry pressure suggests the determination with which the EU has pursued the Understanding in trade in services negotiations is being driven by the Commission, while the technology lobby views it as part of the broader raft of rules it wants to secure.

[recommendations-for-the-transatlantic-trade-and-investment-partnership-ttip-and-the-trade-in-services-agreement-tisa/](https://www.digitaleurope.org/wp/wp-content/uploads/2019/05/May9JointIndustryG20Recommendations.pdf): The policy paper that EICTA prepared for the G20 meeting in Japan in June 2019, which featured a special ministerial meeting on digital trade, reiterated the industry's common demands for guaranteed rights in relation to data and protection of source codes and algorithms, while promoting 'global, consensus-based, industry-led standards' for regulation. DigitalEurope, '2019 G20 Ministerial Meeting on Trade and Digital Economy Recommendations for Promoting Innovation, Digital Technologies, and Trade', 16 May 2019, <https://www.digitaleurope.org/wp/wp-content/uploads/2019/05/May9JointIndustryG20Recommendations.pdf>

⁹ The Forum's call for a high-ambition TiSA was very general, seeking: GATS-plus commitments; an improvement of existing commitments in commercially-valuable traded services; minimisation of policy space reservations, with countries relying on the general exceptions; and 'quality' Mode 4 commitments.

¹⁰ European Services Forum, 'Recommendations for Incoming Parliament and Commission related to the future EU Trade and Investment Policy', May 2019, pp.7-8, <http://www.esf.be/new/wp-content/uploads/2019/05/ESF-Recommendations-for-incoming-European-Parliament-and-Commission-related-to-the-future-EU-Trade-Policy-May-2019-Final.pdf>

¹¹ Signatories included British Telecom, Deutsche Telecom, DigitalEurope, European Public Telecom Network, IBM Europe, Inmarsat, Microsoft Europe, Oracle Europe, Orange, Vodafone, among other sectors, such as finance, and confederations. European Services Forum, 'ESF Position Paper on the WTO Joint Statement Initiative towards launching negotiations for an International Agreement on E-Commerce', January 2019, <http://www.esf.be/new/wp-content/uploads/2019/01/ESF-Position-Paper-on-the-WTO-Joint-Statement-Initiative-towards-launching-negotiations-for-a-International-Agreement-on-E-Commerce-Final.pdf>

PART B. BASICS OF THE GATS

The Understanding was principally designed as a means to update the General Agreement on Trade in Services, which was negotiated during the Uruguay round of multilateral trade negotiations from 1986 to 1994 and sits within the World Trade Organisation. The GATS and subsequent trade in services agreements cover a very expansive range of government laws, policies, decisions and actions. This Part provides a short explanation of the relevant rules and scheduling structure of the GATS for those who are not familiar with them.

(i) Core GATS rules

The core rules commit countries to liberalise their services sectors and constrain how their governments can regulate those services in two main ways:¹²

- Market Access opens a country's services to unfettered competition, whether domestic or foreign;¹³ and
- National Treatment prohibits more favourable treatment of 'like' domestic services and suppliers.¹⁴

These rules capture a very broad range of government activities at all levels of government.¹⁵

Moreover, they apply to all (1) 'measures' (2) that 'affect' (3) the 'supply' of the service. All three terms are defined in Article XXVIII:

- 1) 'supply of a service' includes the *production, distribution, marketing, sale and delivery* of that service.
- 2) a 'measure' can take the form of a *'law, regulation, rule, procedure, decision, administrative action, or any other form'*;
- 3) 'affecting' the supply of a service has been interpreted as equivalent to measures that *'have an effect on'*¹⁶.

Measures affecting the supply of a service explicitly include the *'purchase, payment or use of a service; the access to and use of, in connection with the supply of a service, services which are required by those Members to be offered to the public generally'*; and *'the presence, including the commercial presence, of persons of a Member for the supply of the service in the territory of another Member'*.

(ii) Schedules of commitments

Under the positive list approach used in the GATS (and many FTAs), each Member could choose which services sectors it would commit to each of the market access and national treatment rules. These entries were disaggregated according to 12 services categories, with over 160 sub-sectors. The sector or sub-sector, such as Computer and Related Services, was inscribed in the left-hand column of the schedule (Figure 2).

¹² These core rules are of particular importance for scheduling. Additional important constraints, such as those involving transfers and payments (Article XI) and monopolies and exclusive service suppliers (Art VIII), are not addressed in this paper.

¹³ GATS Article XVI

¹⁴ GATS Article XVII. Examples of the application of these rules are provided below.

¹⁵ Under GATS Article 1.3(a) central government must take such measures as are reasonably available to it to ensure compliance by regional and local governments and authorities and non-government bodies exercising delegated authority.

¹⁶ EU – Bananas, *European Communities. Regime for the Importation, Sale and Distribution of Bananas*, Appellate Body Report, WT/DS27/AB/R 9 September 1997, para 220

Figure 2
Standard format for a positive list GATS schedule

Sector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
Horizontal	1) 2) 3) 4)	1) 2) 3) 4)	
Computer and Related Services (CPC84)	1) 2) 3) 4)	1) 2) 3) 4)	

Any restrictions on the Member's commitment on a specific sub-sector to the Market Access rule was recorded as 'limitations' in the second column, and to the National Treatment rule in the third column. Each of these entries was further differentiated by four ways of supplying a service: Mode 1: across the border, Mode 2: consuming the service abroad, Mode 3: establishing a commercial presence, usually as foreign direct investment, and Mode 4: the temporary presence of a natural person to deliver the service.¹⁷

(iii) Services classifications

This architecture was designed to maximise countries' flexibility, while providing certainty about the extent of their obligations. To enhance certainty and consistency, the guidelines for negotiations recommended the use of a Services Sectoral Classification List,¹⁸ known as W/120. While it was not mandatory to use W/120 for scheduling, most countries did.

The list divides services into 11 main categories, with a further catch-all for other services not included elsewhere.¹⁹ Circulated in July 1991, W/120 drew on a provisional Central Product Classification (UNCPCprov) that the United Nations was then developing to cover both goods and services. Each of the 11 categories corresponds to a Central Product Classification (CPC) digit. Sub-sectors of those sectors describe the commercial activities they cover, in some cases to a five-digit level of specificity.²⁰

¹⁷ Article XVIII. 'Additional commitments' on measures other than Market Access and National Treatment, including licensing or technical standards, could be listed on a sectoral basis in a fourth column. There are few such entries and they relate mainly to the adoption of additional voluntary restrictions on regulation of basic telecommunications and financial services. In the future, long-running negotiations to adopt disciplines on licensing, qualifications and technical standards for the supply of services could result in more extensive regulatory constraints on services that a Member has committed in its schedule. The existing discipline in Art VI:5 requires the complainant to prove that an expected benefit has been nullified or impaired in a manner that could not have been predicted when the schedule was made, which is very difficult. The most recent draft text by the group of WTO Members that is advancing plurilateral negotiations is 'Reference Paper on Services Domestic Regulation', 12 July 2019.

¹⁸ WTO, 'Services Sectoral Classification List', MTN.GNS/W/120, 10 July 1991

¹⁹ 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; 9. Tourism and Travel Related Services; 10. Recreational, Cultural and Sporting Services; Transportation Services; 12. Other

²⁰ The UNCPCprov list was searchable using a click-through menu to identify the detailed descriptions. The UN website has stopped hosting UNCPCprov and the WTO does not provide equivalent access through its own website. Interpretation currently requires cumbersome searches of a pdf file.

Cross-referencing to CPCs was intended to ensure that a country understood the scope of a commitment that another country was requesting during the negotiations and that it could frame its response with an appropriate level of specificity. Other Members, as well as commercial interests, regulators and others, would also be able to identify that country's obligations clearly.

The list drafted in 1991 is seriously out of date, especially for the category of Computer and Related Services. Updating its scope, without radically revising the CPC classification itself, is the main focus of the EU's Understanding.

(iv) The GATS development acquis

During the Uruguay round negotiations, developing countries were concerned that the GATS would entrench the global dominance of transnational services companies and deepen the existing North-South asymmetries. They insisted on a cautious approach that would ensure they could limit the extent to which they subjected their services to these rules. Commitments would be made only on services sectors that were specified by the country in its schedule. These commitments would be negotiated bilaterally through request and offer bargaining and recorded in positive list schedules that clearly specified the extent of a country's obligations. These bilaterally negotiated commitments would apply multilaterally across all WTO Members. The 'progressive liberalisation' of a country's schedule of commitments would be negotiated in a similar way through future rounds.²¹

Developing countries also secured a number of mandatory development flexibilities:

- Developed country Members promised to make commitments in activities of commercial interest to developing countries, with special attention to least-developed countries (LDCs);²²
- There would be particular sensitivity to the serious difficulty of LDCs in 'accepting negotiated specific commitments in view of their special economic situation and their development, trade and financial needs';²³
- New commitments in regional trade agreements would be calibrated according to the parties' level of development;²⁴ and
- Members would exercise restraint in seeking market access concessions from acceding LDCs.²⁵

²¹ GATS Article XIX

²² GATS Article IV

²³ GATS Article IV.3 and Article XIX.3. That instruction was reinforced by Paragraph 26 of the Hong Kong Ministerial Declaration in 2005, which acknowledged that LDCs are not expected to undertake new commitments in the Doha round.

²⁴ GATS Article V

²⁵ WTO General Council, 'Accession of Least-Developed Countries. Decision of 25 July 2012', WT/L/508/Add.1, 30 July 2012; See also 'An Analysis of the WTO Accession Guidelines for Least Developed Countries. Information Note', ICTSD, November 2012, <https://www.ictsd.org/sites/default/files/downloads/2012/11/an-analysis-of-the-wto-accession-guidelines-for-least-developed-countries.pdf>, p.10

PART C. DIGITAL SERVICES, CLASSIFICATIONS & SCHEDULES

Most services that are delivered across the border (mode 1) are now supplied by the Internet. Foreign firms located in a country (mode 3) also commonly supply their services digitally. People can buy direct from each other on digital marketplaces, without knowing where the service provider is located. Banking, travel bookings, entertainment, training courses, and retail are increasingly provided on-line, as are business-to-business transactions through supply chains.

The Understanding is concerned with the part of those transactions that involve the non-telecommunications infrastructure, or 'computer and related services'. This Part elaborates on that classification and explains the extent of WTO Members' original GATS commitments.

(i) Computer and Related Services in W/120

The first category of the W/120 list that is used to identify services for scheduling is headed BUSINESS SERVICES. Paragraph B. of that category is Computer and Related Services. The W/120 list identifies the CPC digits that correspond to each sub-sector of that category:

1. BUSINESS SERVICES ...

B.	<u>Computer and Related Services</u>	(CPC)
a.	Consultancy services related to the installation of computer hardware	841
b.	Software implementation services	842
c.	Data processing services	843
d.	Data base services	844
e.	Other	845+849

The 1991 UN classification series known as UNCPProv, on which W/120 is based, provides a separate detailed description of each of these three-digit sub-sectors (Figure 3).

(ii) The functional logic of CPC 84

The various elements of the Computer and Related Services category are overlapping, cumulative and mutually reinforcing.

Computer systems (CPC 841, 842, 8439) combine the computer hardware with the software that enables the hardware to be used. The two are integrally linked and the lines are increasingly blurred. Corporations like Hewlett Packard, IBM, Apple, Microsoft, Verizon and Oracle use strong intellectual property rights, brand name recognition and marketing strategies to secure their first-mover status and neutralise competition, unless governments regulate to support local competitors.

Programming (CPC 8424, 8425) is what makes computer systems operative. Designing and developing programs involves writing the source code - programs that are readable by the programmers that are converted into binary code. Algorithms, which are the part of the digital brain that processes mass data into patterns and predictions, are implemented in computer programs. Algorithms decide what we see when we search a website, inform risks assessments and profiling, and can even manipulate the result of an election.

Figure 3

Computer and Related Services: GATS Classification List Entries and CPC Descriptions

UN CPC	W/ 120 B. Computer and Related Services	
841	a. Consultancy services related to the installation of computer hardware	
842	b. Software implementation services	
843	c. Data processing services	
844	d. Data base services	
845+849	e. Other	
W/ 120	UN CPC	UNCPC description
Ba	841	<u>Consultancy services related to the installation of computer hardware</u> : assistance services to the clients in the installation of computer hardware and computer networks.
Bb	842	<u>Software implementation services</u> : all services involving consultancy on, development and implementation of software, and defines 'software' as the sets of instructions required to make computers work and communicate, which may include a number of different programs developed for specific applications (application software) and situations in which the customer may have a choice of ready-made off-the-shelf programs (packaged software), specifically developed programs for its requirements (customised software) or a combination of the two. The sub-categories are:
	8421	<u>Systems and software consulting services</u> : services of a general nature prior to the development of data processing systems and applications. It might be management services, project planning services, etc.
	8422	<u>Systems analysis services</u> : include analysing the clients' needs, defining functional specification, and setting up the team, as well as project management, technical coordination and integration and definition of the systems architecture
	8423	<u>Systems design services</u> : include technical solutions, with respect to methodology, quality-assurance, choice of equipment software packages or new technologies, etc.
	8424	<u>Programming services</u> : the implementation phase, i.e. writing and debugging programs, conducting tests, and editing documentation
	8425	<u>Systems maintenance services</u> : consulting and technical assistance services of software products in use, rewriting or changing existing programs or systems, and maintaining up-to-date software documentation and manuals and specialist work, such as conversions
Bc	843/ 8431	<u>Data processing services</u> : or 'input preparation services' include data recording services such as key punching, optical scanning or other methods for data entry
	8432	<u>Data-processing and tabulation services</u> consisting of services such as data processing and tabulation services, computer calculating services, and rental of computer time
	8433	<u>Time-sharing services</u> : UNCPC states that there is no clear distinction between 8432 and 8433, noting that computer time only is bought; if it is bought from the customer's premises, telecommunications services are also bought. Data processing or tabulation services may also be bought from a service bureau.
	8439	<u>Other data processing services</u> : consisting of services which manage the full operations of a customer's facilities under contract: computer-room environmental quality control services; management services of in-place computer equipment combinations; and management services of computer work flows and distributions
Bd	844	<u>Data base services</u> : all services provided from primarily structured databases through a communication network. The UNCPC specifically excludes 'data and message transmission services' which it classifies under telecommunications services (as 7523) and excludes documentation retrieval services classified as library services (as 96311)
Be	849	<u>Other computer services</u> : services for which UNCPC lists two sub-categories
	8491	<u>Data preparation services</u> : services for clients not involving data processing services
	8499	<u>Other computer services n.e.c.</u> : training staff of clients and other professional services

Source: WTO, S/C/W/300, Figure A.1, p.13

Updating, adaptation, maintenance, support and repair for computers, computer systems and software (CPC 8425) are part of a package that locks the consumer, government, business or household into a particular brand, often as a condition of sale or a feature of the hardware and software. *Training services* (CPC 8499) for captive clients complete the package.

A separate, but increasingly crucial, element is the *processing and storage of data* (CPC 843, 844, 8491), especially who controls it, where and by whom it is 'hosted' (and hence on what terms and under whose laws), and whose rules determine how it can be utilised.

A full commitment to Computer and Related Services at the two-digit level of CPC 84, as the EU proposed in the Understanding, would span all these elements and enable incumbents to cement their market dominance over the digital infrastructure. While the rationale for the GATS Market Access rule is to ensure competition in particular services, and appears neutral across suppliers, it would have the effect of consolidating the market dominance of the mega-corporations who already control the digital infrastructure by preventing countries from imposing limits on the size or scope of a company's operations. Commitments to National Treatment would strengthen the dominance achieved through market access by restricting support for the development of local competitors, including start-up firms and secondary service suppliers, through measures like subsidies or reserving activities for local firms.

Application of these rules to 'measures affecting the supply' of these services across modes 1, 2 and 3 would further expand the power of the first-movers and tie the hands of developing countries. In particular, the combination of full commitments on Market Access and National Treatment for data services would potentially constrain the ability of governments to restrict the size of foreign firms, support local state or private providers to build capacity, require a local presence within the country, and potentially to regulate processing, storage, web-hosting, and database services in crucial ways.

(iii) GATS commitments on Computer & Related Services

In 1998 the WTO Secretariat prepared a background note on Computer and Related Services, including an analysis of commitments in Members' schedules (Figure 4).²⁶ These commitments were spread relatively evenly across the CPC 84 sub-sectors, except for 'other' (CPC 845 and CPC 849) which had fewer.

The Secretariat updated this analysis in 2009, which largely reflected accessions by new WTO Members.²⁷ The 2009 review showed that 94 countries had taken market access commitments for some aspects of CPC 84 Computer and Related Services in 83 schedules.²⁸ The spread was much the same as in 1998, with 60 countries listing all five sub-sectors and another 17 committed four sectors excluding 'other'.

²⁶ WTO, 'Computer and Related Services. Background Note by the Secretariat', S/C/W/45, 14 July 1998, para 34-35

²⁷ S/C/W/300, para 19-21 (note 5)

²⁸ The discrepancy reflects the EU's single schedule covering its Member States.

Figure 4
Analysis of Market-access commitments on Computer and Related Services
in GATS 1994 Schedules
(by mode of supply, as percentages of the number of schedules
including each sub-sector)

	No. of Schedules*	Cross-border			Consumption Abroad			Commercial Presence			Natural Persons		
		F	P	N	F	P	N	F	P	N	F	P	N
Commitments on CPC84	62												
a. Consultancy related to the installation of computer hardware	52	63	13	23	73	12	15	77	21	2	6	90	4
b. Software implementation services	57	60	21	19	70	19	11	68	30	2	7	88	5
c. Data processing services	55	60	20	20	71	18	11	69	29	2	5	89	5
d. Data base services	49	63	14	22	76	14	10	71	27	2	4	92	4
e. Other	30	53	40	7	57	37	7	53	47	0	0	97	3

F: Full commitment (indicated by 'none' in the market access column of the Schedule)

P: Partial commitment (limitations inscribed in the market access column of the Schedule)

N: No commitment (indicated by 'unbound' in the market access column of the Schedule)

* The total counts the EU as 1 schedule. However, numbers of commitments per sub-sector are based on EU Member States.

Note: *The figures in this table reflect only those entries inscribed under the computer services commitments in the schedules. It should, however, be borne in mind that entries made in the horizontal section of the Schedule relate to commitments made in this and all other scheduled sectors. Percentages may not add up to 100 due to rounding*

Source: Adapted from WTO, 'Computer and Related Services. Background Note by the Secretariat', S/C/W/45, 14 July 1998, p.13, Table 5

A significant number of original GATS schedules listed no limitations on those commitments, which the WTO Secretariat attributed to the relatively unregulated nature of these services at the time. Its 1998 analysis shows limitations were most often entered for Mode 3 to preserve the ability to require a particular legal form of commercial presence, rather than for cross-border supply (Figure 5).

Significantly, however, developing countries had been more cautious in scheduling computer and related services, especially on cross-border database services (CPC 844) and consultancy related to installation of hardware (CPC 841).³¹ A more comprehensive classification at the two-digit level of CPC 84 would therefore have a disproportionately large impact on developing countries because they would be adopting a far higher level of new commitments than their developed country counterparts.

³¹S/C/W/300 para 20 and Appendix Table A1 (note 5)

Figure 5

**Analysis of the Types of Measures Listed as Limitations on Market Access
in the 62 GATS 1994 Schedules
Containing Commitments on Computer and Related Services
(in number of measures, by type of measure and mode of supply)**

Sectors and Sub-sectors	Mode	Type of Measure			
		No of natural persons	Type of legal entity	Participation of foreign capital	Other market access measure
a. Consultancy services related to the installation of computer	1	-	-	-	3
	2	-	-	-	2
	3		3	3	1
	4	4	-	-	4
b. Software implementation services	1	-	-	-	3
	2	-	-	-	2
	3	-	3	3	5
	4	3	-	-	4
c. Data processing services	1	-	-	-	3
	2	-	-	-	1
	3	-	1	2	4
	4	1	-	-	2
d. Data base services	1	-	-	-	2
	2	-	-	-	-
	3	-	2	3	4
	4	2	-	-	2
e. Other	1	-	1	-	1
	2	-	-	-	-
	3	-	2	1	1
	4	-	-	-	-

Source: Adapted from WTO, Background Note by the Secretariat. Computer and Related Services, S/C/W/45, 14 July 1998, p.14, Table 6

PART D. GATS 2000 & DEVELOPING THE EU'S UNDERSTANDING

All Members (aside from later acceding countries) signed off their GATS schedules in 1994, when information and communication technologies were embryonic, computers were large and clunky, and there was no World Wide Web. The major industrial powers and their business lobbies soon complained that the GATS did not go far enough.³² They said countries' commitments were fragmented and incoherent, and the system for classifying services developed in 1991 was out of date. They were particularly concerned that the agreement would not require the liberalisation of rapidly emerging new technologies and related services or impose constraints on new regulation of them. This Part reviews those developments and the context, content and fortunes of the EU's proposed Understanding at the multilateral level.

(i) Technical problems with GATS 1994

As early as 1999 discussions on electronic commerce in the WTO's Council for Trade in Services identified a raft of technical problems relating to electronically traded services.³³ These include:

- whether commitments on specific services apply to the electronic delivery of them;
- whether GATS commitments on Market Access and National Treatment apply irrespective of the technology used to deliver them, including through new technologies (technological neutrality);
- difficulty distinguishing between Mode 1 (cross-border) and Mode 2 (consumption abroad) where services are supplied electronically from outside the country;
- determining whether digital and non-digital services are 'like' for the application of the non-discrimination rules (Most-Favoured-Nation (MFN) and National Treatment);
- whether new competition rules on telecommunications should be developed for the Internet and related services; and
- whether electronically delivered products should be classified as goods and therefore subject to the General Agreement on Tariffs and Trade (GATT), rather than the GATS.

A radical reworking of the GATS was unrealistic. There was unlikely to be a consensus among Members to change the original text or the structure of schedules in future rounds of GATS negotiations, or to adopt a formal means of reconciling the GATS 1994 and new schedules that use a different modality. Most WTO-related initiatives sought instead to address these issues by adapting the original GATS structure, rules, and schedules. The Understanding is amongst the most specific examples of this approach: it targets only the classification that countries use to make commitments on Computer and Related Services and adapts the original structure and content of that classification.

³² Sacha Wunsch-Vincent, 'WTO, E-Commerce, and Information Technologies: From the Uruguay Round through the Doha Development Agenda', Markle Foundation, New York, 2004

³³ WTO Council for Trade in Services, 'Work Programme on Electronic Commerce. Progress report to the General Council. Adopted by the Council for Trade in Services on 19 July 1999', 27 July 1999, S/L/74. This paper built on 'Work Programme on Electronic Commerce. Adopted by the General Council on 25 September 1998', 30 September 1998, WT/L/274, para. 2.1, and Council for Trade in Services, 'Work Programme on Electronic Commerce. Interim Report to the General Council', 31 March 1999, S/C/8, para 5.

(ii) The GATS 2000 negotiations

Article XIX of the GATS provides for progressive liberalisation of services through greater market access, with 'appropriate flexibilities' for developing countries and LDCs.³⁴ New negotiations would begin within five years of GATS coming into force, and periodically thereafter. The first, and only, such round was launched in January 2000, after several years of preparation. As with the original GATS, new commitments would be agreed after a request-and-offer negotiating process and be inscribed in a positive list schedule that applied multilaterally.³⁵ The process of further liberalisation in the GATS 2000 round could be advanced through bilateral, plurilateral or multilateral negotiations,³⁶ something the EU relied on to promote the Understanding.

Telecommunications, computer services and cross-border delivery of services featured prominently in the sectoral requests, consistent with their growing significance in a broad range of commercial activities. While there was a high-level common interest among the major players, there were also important differences of approach that reflected their commercial interests and their existing regulatory regimes.

The interests and position of the US and EU largely coincided. Like the EU, the US complained that the W/120 classification was obsolete and inadequate in the face of new technologies, and that commitments in countries' schedules were imprecise, incomplete, inconsistent and incoherent.³⁷ When preparing for the GATS 2000 round, the US argued for greater liberalisation of computer and related sub-sectors, claiming that would foster competition and help countries expand and find new export markets.³⁸ Among areas it tagged for further work were the coverage of Computer and Related Services and in particular, finding out why countries had not made commitments in the sector and why others believed they needed to regulate the kind of entities that have a commercial presence. Using its own regulatory regime as the exemplar, the US said countries should continue not to regulate these services, especially when they were supplied across the border.

(iii) The EU's Understanding and Model Schedule

The EU's first proposals for an Understanding on Computer and Related Services ('the Understanding') were tabled in 2002.³⁹ Successive papers cited the sector's growing importance and the speed of technological development. Because services were now combining different sub-sectors of CPC 84, the distinctions between the sub-sectors were less meaningful and the existing classifications created the potential for misunderstanding. (Similar problems in differentiating between Computer and Related Services and Telecommunications were addressed in a parallel proposal, discussed in Part F.)

³⁴ GATS Article XIX

³⁵ WTO, 'Guidelines and Procedures for Negotiations on Trade in Services', S/L/93, 29 March 2001

³⁶ Based on GATS Article XIX.4 and the Uruguay round negotiating guidelines 'Scheduling of Initial Commitments on Trade in Services. Explanatory Note', MTN.GNS/W/164, 3 September 1993.

³⁷ WTO General Council, 'Preparations for the 1999 Ministerial Conference. Further Negotiations as Mandated by the General Agreement on Trade in Services (GATS). Communication from the United States', WT/GC/W/295, 5 August 1999

³⁸ WTO Council on Trade in Services Special Session, 'Communication from the United States. Computer and Related Services', S/C/W/81, 9 December 1998

³⁹ WTO Council for Trade in Services. Special Session. Committee on Specific Commitments, 'Communication from the European Communities and their Member States, 'Coverage of CPC84 – Computer and Related Services', TN/S/W/6, S/CSC/W/35, 24 October 2002 and Council for Trade in Services, Special Session, 'Communication from the European Communities and their Member States. GATS 2000: Computer and Related Services (CPC84). Addendum', S/CSS/W/34/Add.1, 15 July 2002. The latter paper was an addendum to a paper on GATS 2000: Business Services, S/CSS/W/34, circulated on behalf of the EU on 22 December 2000, which set out modal requests for business services, including computer and related services.

The EU stressed that it was not proposing a reclassification of computer and related services nor a sector-specific Annex, both of which might themselves become obsolete. Instead, it proposed a common understanding that would provide a functional definition of CPC 84 Computer and Related Services. Scheduling these services at the highest possible two-digit level would, it said, minimise the risk of obsolescence and confusion. Likewise, making commitments on both Mode 1 (cross-border supply) and Mode 2 (consumption abroad) would allow Members to avoid the problem of determining which mode applied to the electronic delivery of a service. The EU's papers drew analogies with the Annex on Financial Services that sets out the services it covers rather than relying on W/120. A footnote to that paper distinguished Computer and Related Services from the content or core service that was being delivered.⁴⁰

The Declaration from the 6th WTO Ministerial Conference in Hong Kong in 2005 controversially required Members to consider any plurilateral requests they received.⁴¹ Those requests included the model schedule on computer and related services that the EU had been developing (Figure 6).⁴² A Member would record in the left-hand column on Sector: 'subscribes to the Understanding on the scope of coverage of Computer Services (CPC 84) attached in an Annex', which referred to an interpretive annex that set out the Understanding. The columns on Market Access and National Treatment would record 'none' for modes 1, 2 and 3, indicating no limitation on full commitments for each of those rules in all three modes. Mode 4 would be 'unbound' for both rules (meaning no commitment), except as provided in the Member's horizontal section.⁴³

In addition to the model schedule, an EU working document listed countries that were already '*heavily committed*' on Computer and Related Services,⁴⁴ those with '*partial commitments*',⁴⁵ and those with '*no commitments*',⁴⁶ and the priority target countries its industry had identified.⁴⁷ A second list identified which countries the EU had, or planned to, negotiate FTAs with, which signalled its intention to pursue a similar approach at the bilateral level. The EU prepared a similar document for telecommunications.⁴⁸

⁴⁰ WTO Council for Trade in Services. Special Session, 'GATS 2000: Computer and Related Services (CPC84). Addendum', S/CSS/W/34/Add.1 fn 4, 15 July 2002

⁴¹ This was taken as agreed despite explicit dissent from Venezuela and Cuba. Jane Kelsey, *Serving Whose Interests? The Political Economic of Trade in Services*, Routledge, London, 2007, p.48.

⁴² WTO, European Communities, 'Model Schedule. Computer and Related Services', undated (on file with author)

⁴³ Horizontal entries in Mode 4 usually provided terms and conditions of access for senior management, skills personnel, and independent professionals.

⁴⁴ Argentina, South Korea, Mexico, New Zealand, Peru, Chinese Taipei, Switzerland

⁴⁵ Bahrain, Brazil (not data processing and other); China; Chile; Egypt; Hong Kong; Malaysia, Philippines, Singapore Thailand; Pakistan

⁴⁶ Indonesia

⁴⁷ WTO, 'European Communities, Critical Mass – Computer Services', undated (on file with author)

⁴⁸ WTO, 'European Communities, Model Schedule. Telecommunications Services', undated (on file with author)

Figure 6
MODEL SCHEDULE
COMPUTER AND RELATED SERVICES

Modes of Supply:

(1) Cross border (2) Consumption abroad (3) Commercial presence (4) Presence of Natural Persons

Sector of Sub-sector	Limitations on Market Access	Limitations on National treatment	Additional Commitments
<p>B. Computer and Related Services (CPC84)</p> <p>WTO Member X subscribes to the 'Understanding on the scope of Coverage of Computer Services – (CPC84)' attached in Annex</p>	<p>1) - [None] - [None as of 1 January [year X].]</p> <p>2) - [None] - [None as of 1 January [year X].]</p> <p>3. None</p> <p>4) Unbound except as indicated in the horizontal section for [Business Visitors, Contractual Service Suppliers and Independent Professionals]</p>	<p>1) - [None] - [None as of 1 January [year X].]</p> <p>2) - [None] - [None as of 1 January [year X].]</p> <p>3) None</p> <p>4) Unbound except as indicated in the horizontal section for [Business Visitors, Contractual Service Suppliers and Independent Professionals]</p>	

Annex to the Schedule

Understanding on the scope of coverage of CPC 84 – Computer and Related Services

CPC 84 covers the basic functions used to provide all computer and related services: computer programs defined as the sets of instructions required to make computers work and communicate (including their development and implementation), data processing and storage, and related services, such as consultancy and training services for staff of clients. Technological developments have led to the increased offering of these services as a bundle or package of related services that can include some or all of these basic functions. For example, services such as web or domain hosting, data mining services and grid computing consist of a combination of basic computer services functions.

Computer and related services, regardless of whether they are delivered via a network, including the Internet, include all services that provide:

- *consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, adaptation, maintenance, support, technical assistance, or management of or for computers or computer systems; or*
- *computer programs defined as the sets of instructions required to make computers work and communicate (in and of themselves), plus consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, adaptation, maintenance, support, technical assistance, management or use of or for computer programs; or*
- *data processing, data storage, data hosting or database services; or*
- *maintenance and repair services for office machinery and equipment, including computers; or*
- *training services for staff of clients, related to computer programs, computers or computer systems, and not elsewhere classified.*

Computer and related services enable the provision of other services (e.g., banking) by both electronic and other means. However, there is an important distinction between the enabling service (e.g., web-hosting or application hosting) and the content or core service that is being delivered electronically (e.g., banking). In such cases, the content or core service is not covered by CPC 84.

(iv) The GATS plurilateral Understanding 2007

In 2006 the EU secured support from a group of 16 Members for an almost identical model schedule.⁵⁴ There was one significant difference: while it required full commitments in all modes except Mode 4, it did not inscribe the Understanding, with its application to **all** computer and related services and **inclusive** language, in the sector column.

However, a largely similar group circulated a separate paper in January 2007 that endorsed ‘our common understanding’ on the scope of CPC 84.⁵⁵ A majority of the 19 sponsors were developed countries, again including the US,⁵⁶ along with a minority of developing countries.⁵⁷ Their paper reiterated that the W/120 list of three-digit headings - consultancy, software implementation data processing services, database services, other computer services – was being retained⁵⁸ and the UNCPProv descriptions would not be altered. **This 2007 version (Figure 7) has become the main reference document for the Understanding (referred to as the ‘2007 Understanding’).**

The Understanding was offered as a scheduling option, allowing Members a choice **whether** to schedule the Understanding (subject to the reality of negotiating asymmetries); but those who chose to adopt it would commit to open the entire sector. At first glance, this simply involved a commitment to all five sub-sectors of CPC 84. However, the combination of paragraph 1, which asserts that CPC 84 is comprehensive coverage of **all** computer and related services, and the non-exhaustive **inclusive** list of services in paragraph 3, expanded the commitment beyond a mere aggregate of the specific sub-sectors.

The aim and effect were to future-proof the classification by capturing all existing and future services that might be deemed computer and related services, with no criteria for determining what additional elements might fall within its scope. Countries adopting the Understanding would pre-commit themselves to apply the market access and national treatment obligations (and associated regulatory disciplines) to unknowable technologies and innovations into the indefinite future, without any explicit right to schedule any limitations. The effect would be more far-reaching than the contested concept of ‘technological neutrality’ (discussed further in Part F), which was tied to a country’s commitments on each of the sub-sectors, or even a negative list approach to scheduling used in some FTAs, which covers all services unless the schedule explicitly preserves the existing level of regulation or full policy space.

The other feature of the Understanding, in paragraph 4, was the explicit exclusion of ‘content’ services from CPC 84, whether or not they were enabled by digital technologies. At first glance, this offered some useful clarity. However, as discussed in Part F, the legal and practical boundaries are much more porous than this suggests and the EU has itself undermined the distinction in several recent FTAs.

⁵⁴ The US was not associated with the request on Mode 4. The EU and its Member States counted as one. WTO ‘Plurilateral request for Computer and Related Services’, circulated by Chile in March 2006 from Australia, Canada, Chile, The European Communities, Hong Kong China, India, Japan, South Korea, Mexico, New Zealand, Norway, Pakistan, Peru, Singapore, The Separate Customs Territory of Taiwan Penghu, Kinmen and Matsu, and the United States (on file with author).

⁵⁵ WTO, Council on Trade in Services. Special Session. Committee on Specific Commitments, ‘Understanding on the scope of coverage of CPC84 – Computer and Related Services’, TN/S/W/60 S/CSC/W/51, 26 January 2007.

⁵⁶ The US was presumably comfortable with the Understanding as its main conflict with the EU was over value-added telecommunications rather than digitally-enabled computer services.

⁵⁷ Communication from Albania, Australia, Canada, Costa Rica, Chile, Colombia, Croatia, The European Communities, Hong Kong China, Israel, Japan, Mexico, New Zealand, Norway, Peru, Singapore, The Separate Customs Territory of Taiwan Penghu, Kinmen and Matsu, Turkey and the United States.

⁵⁸ The descriptions of these CPCs were detailed in an annex that replicated CPC 84, as per Figure 3.

Figure 7
The GATS Plurilateral 'Understanding' 2007

<p>ANNEX</p> <p><u>Understanding on the scope of coverage of CPC 84 - Computer and Related Services</u></p> <p>1. CPC 84 covers all computer and related services.</p> <p>2. Technological developments have led to the increased offering of these services as a bundle or package of related services that can include some or all of the basic functions listed in paragraph 3. For example, services such as web or domain hosting, data mining services and grid computing each consist of a combination of basic computer services functions.</p> <p>3. Computer and related services, regardless of whether they are delivered via a network, including the Internet, include all services that provide any of the following or any combination thereof:</p> <ul style="list-style-type: none">• consulting, adaptation, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, support, technical assistance, or management of or for computers or computer systems;• consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, adaptation, maintenance, support, technical assistance, management or use of or for software²;• data processing, data storage, data hosting or database services;• maintenance and repair services for office machinery and equipment, including computers and• training services for staff of clients, related to software, computers or computer systems, and not elsewhere classified. <p>4. In many cases, computer and related services enable the provision of other services³ by both electronic and other means. However, in such cases, there is an important distinction between the computer and related service (<i>e.g.</i>, web-hosting or application hosting) and the other service³ enabled by the computer and related service. The other service, regardless of whether it is enabled by a computer and related service, is not covered by CPC 84.</p> <p>³ E.g., W/120.1.A.b. (accounting, auditing and bookkeeping services), W/120.1.A.d. (architectural services), W/120/2/D (audiovisual services), W/120.5 (educational services).</p>

Source: 'Understanding on the scope of coverage of CPC84 – Computer and Related Services', TN/S/W/60 S/CSC/W/51, 26 January 2007 (emphasis added)

(v) The Trade in Services Agreement (TiSA)

The GATS 2000 negotiations became integrated into the Doha round and have never concluded. In March 2013, many of the plurilateral proposals developed in the GATS 2000 round resurfaced in negotiations for a plurilateral Trade in Services Agreement (TiSA), conducted on the margins of the WTO. The proposed format comprised the core GATS text, schedules of commitments, and a number of new sectoral, modal or rule-specific annexes, including on electronic commerce. However, the US and EU were promoting different models for digital services.

The TiSA Annex on Electronic Commerce⁵⁹ was based on the recently-concluded chapter on electronic commerce in the US-led Trans-Pacific Partnership Agreement (TPP),⁶⁰ which was in turn based on the US tech industry's demands.⁶¹ Many of the provisions in the draft annex on e-commerce involved measures affecting trade in computer and related services and/or telecommunications. But there was no reference to the Understanding. Instead, the EU asked participating countries to make a comprehensive commitment to Computer and Related Services and to reference the Understanding in their TiSA schedules.

Leaked bilateral requests from TiSA from June 2016 show the EU asked countries that had not already made full commitments on CPC 84 to do so and cross-reference to the Understanding.⁶² Several were asked to remove their 'policy space' reservations,⁶³ for example to support local small and medium scale service providers.⁶⁴ The EU's own TiSA offer inscribed the reference to the Understanding in the Sectoral column with no limitations for Market Access in modes 1, 2 or 3 (which followed a positive list approach), and no reservations on National Treatment (which followed a negative list approach).⁶⁵ However, the EU entered significant limitations for Mode 4, mainly for Member States that apply an economic needs test to foreign workers.

After four years, the TiSA talks were informally suspended and are unlikely to resume. Once again, the EU's ambitions for the Understanding in the WTO were unfulfilled.

(vi) The WTO plurilateral negotiations on electronic commerce

In 2016 the Understanding on Computer and Related Services re-appeared on the WTO agenda as part of a concerted move by a number of Members⁶⁶ to negotiate an agreement on electronic commerce, albeit without a formal mandate.

⁵⁹ There were multiple leaks of the Annex. The first was TiSA, Annex on [Electronic Commerce], April 2015, https://wikileaks.org/tisa/document/201505_Annex-on-Electronic-Commerce/ (accessed 1 September 2019).

⁶⁰ Chapter 14 of the Trans-Pacific Partnership Agreement, signed in February 2016. After the US withdrew from the TPP that text was carried over unchanged into the Comprehensive Agreement for Trans-Pacific Partnership, which entered into force in February 2019.

⁶¹ US Trade Representative, 'The Digital 2 Dozen', 13 April 2016, <https://ustr.gov/about-us/policy-offices/press-office/reports-and-publications/2016/digital-2-dozen> (accessed 1 September 2019); Jane Kelsey, 'The development implications of TPP-style e-commerce rules for the GATS acquis', 2018, 21:2 *Journal of International Economic Law* 273-295, at 279—280.

⁶² The most recent requests were dated June 2016. Subjects of known requests were Chile, Chinese Taipei, Colombia, Costa Rica, Hong Kong, Israel, Japan, South Korea, Mauritius, Mexico, Pakistan, Panama, Peru, Switzerland, Turkey, United States. 'TiSA Bilateral Market Access Requests by the European Union', June 2016, https://wikileaks.org/tisa/document/20160701_TiSA_Bilateral-Market-Access-Request/ (accessed 1 September 2019).

⁶³ EU Request to Turkey

⁶⁴ EU Request to Pakistan

⁶⁵ Trade in Services Agreement, 'European Union – Schedule of Specific Commitments', 2nd revised offer, Submitted 27 October 2016, http://trade.ec.europa.eu/doclib/docs/2016/november/tradoc_155091.docx.pdf (accessed 1 September 2019)

⁶⁶ Despite the rubric of 'electronic commerce for development', this was an initiative led by the US, Japan and a number of other developed countries.

The WTO had established a Work Programme on Electronic Commerce in 1998 with terms of reference that were limited to examining all trade-related issues related to global electronic commerce.⁶⁷ Much of the early discussion occurred in the Council for Trade in Services, but it lost momentum. In mid-2016, in parallel to TiSA, the US,⁶⁸ EU and a number of other Members began to push for a full negotiating mandate on e-commerce. In August 2016 the EU and several other countries presented a comprehensive paper to the WTO which asked Members to consider detailed clusters of relevant elements. Items listed under the heading 'Open Markets: Liberalisation' included a commitment to computer services, especially for mode 1, and adopting the Understanding to 'clarify sectoral coverage of service commitments'.⁶⁹

When the WTO Ministerial Conference in Buenos Aires in December 2017 denied them a mandate and instead extended the 1998 Work Programme, the EU and others issued a joint declaration of intent to negotiate a plurilateral agreement on e-commerce in the WTO.⁷⁰ As part of those talks, the EU tabled another paper that asked all Members to make full commitments on Computer and Related Services at a two-digit level (CPC 84) for modes 1 to 3 and no more restrictive than their horizontal limitations for mode 4, especially for intra-corporate transferees.⁷¹ Further, they should commit to the plurilateral proposal on the Understanding, circulated in 2007.⁷²

The legal status of the WTO e-commerce negotiations remains contested. Whether these negotiations will conclude, and if so what their status will be, remains unclear. It is equally unclear whether the EU will have any greater success in securing support for the Understanding from those engaged in the negotiations, especially given its experience with TiSA.

⁶⁷ WTO, Work Programme on Electronic Commerce, Adopted by the General Council on 25 September 1998, WT/L/274, 30 September 1998

⁶⁸ WTO, Work Programme on Electronic Commerce. Non-paper from the United States, JOB/GC/94, 4 July 2016

⁶⁹ WTO, Work Programme on Electronic Commerce. Trade Policy, the WTO and the Digital Economy. Communication from Canada, Chile, Colombo, Cote d'Ivoire, the European Union, the Republic of Korea, Mexico, Montenegro, Paraguay, Singapore and Turkey, 1 August 2016, JOB/GC/97, para 15-16

⁷⁰ WTO, Ministerial Conference, Eleventh Session, Buenos Aires, 10-13 December 2017, Joint Statement on Electronic Commerce, WT/MIN(17)/60, 13 December 2017

⁷¹ WTO, Joint Statement on Electronic Commerce, 'EU proposal for WTO disciplines and commitments relating to electronic commerce', INF/ECOM/22, 26 April 2019, para 4.2

⁷² Referring to S/CSC/W/51 (note 48)

PART E. THE UNDERSTANDING IN EU FREE TRADE AGREEMENTS

In parallel to these initiatives at the multilateral level, the EU began including the Understanding in its bilateral and inter-regional free trade agreements. The smaller number of parties and frequent negotiating asymmetries gave the EU more control over the content of FTAs with a better prospect of its adoption. Today, the Understanding is found in (almost) all the EU's agreements adopted since 2008.⁷³ However, there are some significant deviations from the WTO template. This Part reviews these developments, including a comparison of texts from recent FTAs, and discusses the implications of these differences. Irrespective of what happens in the WTO, these variations are important for any country that is negotiating an FTA with the EU.

(i) The Understanding in Free Trade Agreements

The CARIFORUM⁷⁴ EC Economic Partnership Agreement was the first to effectively incorporate the Understanding through a stand-alone Article on Computer and Related Services. Those negotiations were launched in 2004 and the agreement was signed in 2008, a period that coincided with the GATS 2000 plurilaterals. The second negotiation, with South Korea, began in 2007 and the agreement was signed in 2010. As of mid-2019, some version of the Understanding has been included in nine bilateral or inter-regional agreements and is proposed for at least four more under negotiation. However, there are important variations in legal form and effect.

The EU's agreements with Canada and Japan make no reference to Computer and Related Services at all. That is presumably because the trade in services chapters of these agreements use negative list schedules that commit all existing and future services and technologies unless a party explicitly preserves the right to adopt or maintain a non-conforming measure. Neither Japan nor Canada listed any reservations for computer and related services or a similar activity, an outcome that approximates the Understanding.

As Figure 8 shows, the Understanding has taken several legal forms in the bilateral and inter-regional agreements. The most common reflects the its unique format for FTAs: a Part or Chapter on Trade in Services, Establishment and Electronic Commerce, within which there is a Section on Domestic Regulation, which includes a short Chapter or Sub-section on Computer Services. In agreements that do not follow that format a truncated version of the Understanding may appear in the headnote to the parties' schedules.

⁷³ EU, 'Negotiations and Agreements', <https://ec.europa.eu/trade/policy/countries-and-regions/negotiations-and-agreements/>

⁷⁴ Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines, Suriname, Trinidad and Tobago.

Figure 8

Coverage of the Understanding on Computer and Related Services in EU FTAs post-2008

Parties to the Agreement	Date signed	In force [^]	Reference to Understanding or equivalent	Location in the FTA text (excluding Mode 4#)	GATS commitments* on CPC84 by the non-EU parties	Sub-sectors of CPC 84 not committed in GATS* by the non-EU parties
EU New Zealand	in negtn		√	Digital Trade Chapter, proposes a common headnote to negative list reservations	4	B.e
EU Australia	in negtn		√	Digital Trade Chapter, proposes a common headnote to negative list reservations	4	B.d
EU Indonesia	in negtn		√	Digital trade chapter, proposal July 2017, Article X.12	2	B.c,d,e
EU India	in negtn			Text is unavailable	5	
EU Mercosur	Agreed in principle 2019		√	Chapter XXX, Trade in Services and Establishment, Section 3: Regulatory Framework, Sub-section 6: E-commerce, Article 51	5 Arg, Ur, Vzla; 0 Brazil, Par	B.a,b,c,d,e
EU Mexico	Agreed in principle 2018			EU schedule subscribes to Understanding. Mx schedule commits to CPC84 [except mode 4 as per separate chapter]	1	B.a,b,d,e
EU Singapore			√	Section E Regulatory Framework, Sub-section 3 Computer Services, Article 8.21	3	B.a, e
EU Japan	2018	√		[Negative list schedule makes no relevant reservations]	5	
Armenia EU	2017		√	Chapter 5: Trade in Services, Establishment and Electronic Commerce, Section E Regulatory Framework, Sub-section III Computer Services, Art 163	5	
Canada EU	2016			[Negative list schedule makes no relevant reservations]	5	
EU Kazakhstan	2015			[Only reference is for mode 4]	0	
EU Georgia	2014	√	√	Chapter 5 Regulatory Framework, Sub-section 3 Computer Services, Article 98	5	
EU Moldova	2014	√	√	Section 5 Regulatory Framework, Sub-section 3 Computer Services, Article 224	5	
EU Ukraine	2014	√	√	Section 5 Regulatory Framework, Sub-section 3 Computer Services, Article 108	5	
Central America EU	2012	√	√	Chapter 5 Regulatory Framework Section B	5 Panama 4 Nic 4 CR	B.d B.e

Parties to the Agreement	Date signed	In force [^]	Reference to Understanding or equivalent	Location in the FTA text (excluding Mode 4#)	GATS commitments* on CPC84 by the non-EU parties	Sub-sectors of CPC 84 not committed in GATS* by the non-EU parties
				Computer Services, Article 180	2 Guat, Hond 1 El Sal	B,a,d,e B,a,b,d,e
EU Vietnam	Agreed July 2018		√	Chapter V Regulatory Framework, Section III Computer Services, Article 822	5	
Colombia-Ecuador-EU-Peru	2012	√	√	Chapter 5 Regulatory Framework, Section 2 Computer Services, Article 132	4 Col, Ec 0 Peru	B,e B.a, b, c, d, e
EU Iraq	2012	√		[Only for government procurement]	0	
EU Korea	2011	√	√	Section E Regulatory Framework, Sub-section B Computer Services, Article 7.25	5	
CARIFORUM EC	2008	√		Chapter 5 Regulatory Framework, Section 2 Computer Services, Article 88	5 DR 3 A&B, Jam 2 T&T 1 Barb	B,a, e B,a, d, e B.a, c, d, e

B.a Consultancy Services Related to the Installation of Computer Hardware

B.b Software Implementation Services

B.c Data Processing Services

B.d Data Base Services

B.e Other

[^] For ease of viewing a blank space indicates the negative.

Movement of Natural Persons is often covered in a separate chapter or section with its own schedules and is not included in this description.

* This refers to GATS commitments in Market Access or National Treatment.

Source: Compiled by author from WTO, Council for Trade in Services, 'Computer and Related Services', Background Note by the Secretariat, 22 June 2009, WTO S/C/W/300 pp. 14-15 and official EU FTA texts.

(ii) Legal variations in FTA texts

Figure 9 compares the texts of different FTAs. There have been some formatting changes over time. Unlike the 2007 Understanding, the five elements of Computer and Related Services are listed by alphabetised paragraphs, which facilitates scheduling of partial commitments. There has also been some streamlining of the text.

Although the substantive content has remained reasonably standard, there are some legally significant variations.

1. *The degree of liberalisation required.* None of the EU's FTAs explicitly requires parties to commit fully to CPC 84. What they agree to is the meaning of computer and related services with or without a reference to CPC 84. However, different language across the agreements may affect the nature and extent of the parties' obligation to liberalise. The following interpretations of these differences are necessarily speculative without access to the negotiating history.

The CARIFORUM and Vietnam agreements appear to give the parties flexibility in scheduling computer and related services. Both apply the Understanding ‘to the extent’ the services are liberalised.⁷⁵ That wording suggests a party may be able to choose whether to liberalise all or only some of those sub-sectors, and/or whether to inscribe any limitations. In that case, the extent of commitments would become a matter for the parties’ relative bargaining power, sectoral interests, and strategic trade-offs. The schedules in those agreements appear to support this interpretation: the CARIFORUM states adopted widely varying commitments on each of the CPC 84 sub-sectors, while Vietnam took a two-digit commitment with limitations on National Treatment in Mode 3.

The proposed headnotes in the agreements under negotiation with Australia and New Zealand do not refer to liberalisation at all, which again appears to leave their scheduling options open.⁷⁶

The EU’s agreements with South Korea, and proposals for Mercosur and Indonesia, seem less flexible, using the phrases ‘in liberalising’ or ‘for the purposes of liberalising’.⁷⁷

The Singapore text ‘in respect of computer services liberalised’ could be read either way.⁷⁸

2. *Adjustments to the content.* In the longer five-paragraph texts the coverage of CPC 84 follows the 2007 Understanding, but it became progressively shorter in later agreements. The lengthy reference to *computer programs and how they are defined* in the CARIFORUM and South Korea texts from 2008 and 2009 has gone by the Vietnam and Singapore agreements, adopted in 2018. This might reflect a view that computer programs are not a service, but rather a good and/or intellectual property. However, if that was the reason, it is not clear why the EU has reinserted the phrase in its Mercosur, New Zealand and Australia proposals.

Another truncation occurs between the Vietnam and Singapore agreements, with the removal of reference to ‘*the basic functions used to provide*’ all computer and related services. Less specificity potentially means broader scope.

3. *Reference to CPC 84.* All the agreements that have entered into force refer to CPC 84, but there is no reference to a CPC classification in the texts under negotiation with Mercosur, Indonesia, New Zealand and Australia. That is a major departure from the 2007 Understanding, which not only refers to CPC 84, but also annexes the exact content of its CPC sub-sectors. Omitting the CPC means there is no reference point to determine the scope of an open-ended or inclusive category of computer and related services, which increases uncertainty. That approach may reflect a general departure from using CPCprov and W/120 for classification in the schedules for those agreements. Dropping the CPC also fits the open-ended obligations in a negative list approach, which New Zealand and Australia currently prefer.

(iii) Creating new uncertainties

Perhaps the most significant change across the FTAs is in the stated relationship between computer and related services and computer-enabled services. Paragraph 4 of the 2007 Understanding drew a sharp line

⁷⁵ *To the extent that trade in computer services is liberalised ... the Cariforum States subscribe to the Understanding (CARIFORUM); To the extent that trade in services is liberalised ... the Parties shall comply with the following (Vietnam)*

⁷⁶ *Any of the following services shall be considered as computer and related services ... (New Zealand, Australia)*

⁷⁷ *In liberalising trade in computer services the Parties subscribe to the understanding ... (South Korea). The Parties agree that, for the purposes of liberalising trade in services ... the following shall be considered as computer and related services (Mercosur, Indonesia)*

⁷⁸ *The Parties subscribe to the Understanding ... in respect of computer services liberalised (Singapore)*

between a computer and related service, which is covered by CPC 84, and a service that is enabled by the computer and related service, which is not covered by CPC 84. That distinction was carried through to the EU's initial FTAs with CARIFORUM and South Korea:

*Computer and related services enable the provision of other services such as banking by both electronic and other means. The Parties recognise that there is an important distinction between the enabling service such as web-hosting or application hosting and the content or core service that is being delivered electronically such as banking, and that in such cases the content or core service is not covered by CPC 84.*⁷⁹

The 2018 agreements with Vietnam and Singapore attempted a clarification: many services will be enabled by electronic or other means; where the service is computer-enabled it will be categorised by its substantive content, as shown by an indicative list, not under computer and related services.

The Parties understand that, in many cases, computer and related services enable the provision of other services ^[52] by both electronic and other means. However, in such cases, there is an important distinction between the computer and related services (e.g. web-hosting or application hosting) and the other service ^[53] enabled by the computer and related service. The other service, regardless of whether it is enabled by a computer and related service, is not covered by CPC 84.⁸⁰

[52 [53]] E.g., W/120.1.A.b (accounting, auditing and bookkeeping services), W/120.1.A.d (architectural services), W/120.1.A.h (medical and dental services), W/120.2.D (audiovisual services), W/120.5 (educational services).

The proposed texts for New Zealand and Australia differ again, introducing new uncertainties. The distinction between the five categories of services and services enabled by them is reiterated, but there are no examples in the text or footnotes, opening the way for arguments about what falls in or out of those categories – for example, how should an overlap with financial data services (see Part F(ii)) be resolved.

For greater certainty, services enabled by computer and related services other than those listed in paragraph 1 shall not be regarded as computer and related services in themselves. [New Zealand, Australia]

The text agreed with Mercosur and proposed for Indonesia creates even greater uncertainties. The wording here implies that some digitally enabled services **may** be regarded as computer and related services 'in themselves'.

For greater certainty, services enabled by computer and related services shall not necessarily be regarded as computer and related services in themselves.

The similarity across the two texts indicates that the EU initiated these changes. Despite the preamble 'for greater certainty', the introduction of the vague and unqualified terms 'not necessarily' or 'in themselves' severely undermines the EU's justification of removing certainty and overlap. The substantive implications of this language are discussed in Part F.

⁷⁹ This is the South Korean text; the CARIFORUM text was the same in substance with minor differences in form.

⁸⁰ This is the Singapore text; Vietnam's text was the same in substance with minor differences in form.

Figure 9
Comparison of EU FTA provisions on Computer & Related Services

Subject	CARIFORUM EC EPA, signed Oct 2008	South Korea, signed Oct 2009	Vietnam, agreed July 2018	Singapore, signed Oct 2018	Mercosur, agreed June 2019	Indonesia, EU text July 2017	New Zealand & Australia, EU texts August 2018
Nature of obligation	(1) <u>To the extent that trade in computer services is liberalised</u> in accordance with Chapters 2, 3 and 4 of this Title, the EC Party and the Signatory CARIFORUM States <u>subscribe to the understanding defined in paragraphs 2, 3 and 4.</u>	(1) <u>In liberalising</u> trade in computer services in accordance with Sections B through D, the Parties <u>subscribe to the understanding</u> set out in the following paragraphs.	(1) <u>To the extent that trade in services is liberalised</u> in accordance with Section B (Liberalisation of Investment), Section C (Cross-border Supply of Services) and Section D (Temporary Presence of Natural Persons for Business Purposes), the Parties <u>shall comply with paragraphs 2 to 4.</u>	(1) The Parties <u>subscribe to the understanding</u> set out in the following paragraphs <u>in respect of computer services liberalised</u> in accordance with Section B (Cross-border Supply of Services), Section C (Establishment) and Section D (Temporary Presence of Natural Persons for Business Purposes).	(1) The Parties agree that, <u>for the purpose of liberalising trade in services in accordance with articles 3 and 4</u> of this Chapter, the following <u>shall be considered</u> as computer and related services ...	(1) The Parties agree that, <u>for the purpose of liberalising trade in services in accordance</u> with Chapter III (Cross Border Supply of Services) of Title XX (Investment and Trade in Services), the following shall be considered as computer and related services ...	(1) <u>Any of the following services shall be considered</u> as computer and related services ...
Scope of CRS	(2) <u>CPC 84</u> , the United Nations code used for describing computer and related services, covers the basic functions used to provide all computer and related services: computer programs defined as the sets of instructions required to make computers work and communicate (including their development and implementation), data processing and storage, and related services, such as consultancy and training services for staff of clients. Technological developments have led to the increased offering of these	(2) <u>CPC⁽³⁰⁾ 84</u> , the United Nations code used for describing computer and related services, covers the basic functions used to provide all computer and related services <u>including</u> computer programs defined as the sets of instructions required to make computers work and communicate (including their development and implementation), data processing and storage, and related services, such as consultancy and training services for staff of clients. Technological developments have led to the increased offering of these	(2) <u>The Parties understand that CPC⁽²⁷⁾</u> which is the United Nations code used for describing computer and related services, covers the basic functions used to provide all computer and related services <u>including computer programs defined as the sets of instructions required to make computers work and communicate (including their development and implementation), data processing and storage, and related services, such as consultancy and training services for staff of clients.</u> Technological developments have led	(2) <u>The Parties understand that CPC⁽¹⁹⁾</u> 84, the United Nations code used for describing computer and related services, covers the basic functions used to provide all computer and related services. including computer programs defined as the sets of instructions required to make computers work and communicate (including their development and implementation), data processing and storage, and related services, such as consultancy and training services for staff of clients. Technological developments have led			

Subject	CARIFORUM EC EPA, signed Oct 2008	South Korea, signed Oct 2009	Vietnam, agreed July 2018	Singapore, signed Oct 2018	Mercosur, agreed June 2019	Indonesia, EU text July 2017	New Zealand & Australia, EU texts August 2018
	<p>services as a bundle or package of related services that can include some or all of these basic functions. For example, services such as web or domain hosting, data mining services and grid computing consist of a combination of basic computer services functions.</p>	<p>services as a bundle or package of related services that can include some or all of these basic functions. For example, services such as web or domain hosting, data mining services and grid computing consist of a combination of basic computer services functions <u>respectively</u>.</p> <p><small>[30] CPC means the Central Product Classification as set out in Statistical Office of the United Nations, Statistical Papers, Series M, No 77, CPC, Prov. 1991.</small></p>	<p>to the increased offering of these services as a bundle or package of related services that can include some or all of these basic functions. For example, services such as web or domain hosting, data mining services and grid computing <u>each</u> consist of a combination of basic computer services function.</p> <p><small>[27] CPC means the Central Product Classification as set out in Statistical Office of the United Nations, Statistical Papers, Series M, No 77, CPC, prov. 1991.</small></p>	<p>to the increased offering of these services as a bundle or package of related services that can include some or all of the basic functions <u>listed in paragraph 3</u>. For example, services such as web or domain hosting, data mining services and grid computing each consist of a combination of basic computer services functions.</p> <p><small>[19] CPC means the Central Product Classification as set out in Statistical Office of the United Nations, Statistical Papers, Series M, No 77, CPC, prov. 1991.</small></p>			
Specific sub-services	<p>(3) Computer and related services, regardless of whether they are delivered via a network, including the Internet, <u>include all services that provide:</u></p> <p>(a) consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, support, technical assistance, management of or for computers or computer systems; or</p>	<p>(3) Computer and related services, regardless of whether they are delivered via a network, including the Internet, <u>include all services that provide:</u></p> <p>(a) consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, support, technical assistance, management of or for computers or computer systems;</p>	<p>(3) Computer and related services, regardless of whether they are delivered via a network, including the Internet, <u>include all services that provide:</u></p> <p>(a) consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, support, technical assistance, management of or for computers or computer systems;</p>	<p>(3) Computer and related services, regardless of whether they are delivered via a network, including the Internet, <u>include all services that provide:</u></p> <p>(a) consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, support, technical assistance, management of or for computers or computer systems;</p>	<p>... regardless of whether they are delivered via a network, including the Internet:</p> <p>(a) consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, support, technical assistance, management of or for computers or computer systems;</p>	<p>... regardless of whether they are delivered via a network, including the Internet:</p> <p>(a) consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, support, technical assistance, management of or for computers or computer systems;</p>	<p>... regardless of whether they are delivered via a network, including the Internet:</p> <p>(a) consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, support, technical assistance, management of or for computers or computer systems;</p>

Subject	CARIFORUM EC EPA, signed Oct 2008	South Korea, signed Oct 2009	Vietnam, agreed July 2018	Singapore, signed Oct 2018	Mercosur, agreed June 2019	Indonesia, EU text July 2017	New Zealand & Australia, EU texts August 2018
	(b) computer programs defined as the sets of instructions required to make computers work (in and of themselves), plus consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, adaptation, maintenance, support, technical assistance, management or use of or for computer programs; or	(b) computer programs plus consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, adaptation, maintenance, support, technical assistance, management or use of or for computer programs;	(b) computer programs plus consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, adaptation, maintenance, support, technical assistance, management or use of or for computer programmes;	(b) computer programs plus consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, adaptation, maintenance, support, technical assistance, management or use of or for software ^[20] : <small>[20] The term 'software' means the sets of instructions required to make computers work and communicate. A number of different programmes may be developed for specific applications (application software), and the customer may have a choice of using ready-made programmes off the shelf (packaged software), developing specific programmes for particular requirements (customised software) or using a combination of the two.</small>	(b) computer programmes defined as the sets of instructions required to make computers work <u>and</u> <u>communicate</u> (in and of themselves), plus consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, adaptation, maintenance, support, technical assistance, management or use of or for computer programs;	(b) computer programmes defined as the sets of instructions required to make computers work <u>and</u> <u>communicate</u> (in and of themselves), plus consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, adaptation, maintenance, support, technical assistance, management or use of or for computer programs;	(b) computer programmes defined as the sets of instructions required to make computers work <u>and</u> <u>communicate</u> (in and of themselves), as well as consulting, strategy, analysis, planning, specification, design, development, installation, implementation, integration, testing, debugging, updating, adaptation, maintenance, support, technical assistance, management or use of or for computer programs;
	(c) data processing, data storage, data hosting or database services; or	(c) data processing, data storage, data hosting or database services;	(c) data processing, data storage, data hosting or database services;	(c) data processing, data storage, data hosting or database services;	(c) data processing, data storage, data hosting or database services;	(c) data processing, data storage, data hosting or database services;	(c) data processing, data storage, data hosting or database services;
	(d) maintenance and repair services for office machinery and equipment, including computers; or	(d) maintenance and repair services for office machinery and equipment, including computers; or	(d) maintenance and repair services for office machinery and equipment, including computers; or	(d) maintenance and repair services for office machinery and equipment, including computers; or	(d) maintenance and repair services for office machinery and equipment, including computers; or	(d) maintenance and repair services for office machinery and equipment, including computers; or	(d) maintenance and repair services for office machinery and equipment, including computers; or
	(e) training services for staff of clients, related to computer programs, computers or computer systems, and not elsewhere classified.	(e) training services for staff of clients, related to computer programs, computers or computer systems, and not elsewhere classified.	(e) training services for staff of clients, related to computer programs, computers or computer systems, and not elsewhere classified.	(e) training services for staff of clients, related to computer programs, computers or computer systems, and not elsewhere classified.	(e) training services for staff of clients, related to computer programs, computers or computer systems, and not elsewhere classified.	(e) training services for staff of clients, related to computer programs, computers or computer systems, and not elsewhere classified.	(e) training services for staff of clients, related to computer programs, computers or computer systems, and not elsewhere classified.

Subject	CARIFORUM EC EPA, signed Oct 2008	South Korea, signed Oct 2009	Vietnam, agreed July 2018	Singapore, signed Oct 2018	Mercosur, agreed June 2019	Indonesia, EU text July 2017	New Zealand & Australia, EU texts August 2018
Relationship to other CPCs	4) Computer and related services enable the provision of other services (e.g. banking) by both electronic and other means. However, there is an important distinction between the enabling service (e.g. web-hosting or application hosting) and the content or core service that is being delivered electronically (e.g. banking). In such cases the content or core service is not covered by CPC 84.	(4) Computer and related services enable the provision of other services such as banking by both electronic and other means. <u>The Parties recognise that</u> there is an important distinction between the enabling service such as web-hosting or application hosting and the content or core service that is being delivered electronically such as banking, and that in such cases the content or core service is not covered by CPC 84.	(4) <u>The Parties understand that, in many cases,</u> computer and related services enable the provision of other services ^[52] by both electronic and other means. <u>In these cases,</u> it is important to distinguish between the <u>computer and related services</u> , such as web-hosting or application hosting, <u>and the other service</u> enabled by the computer and related service. <u>The other service, regardless of whether it is enabled by a computer and related service,</u> is not covered by CPC 84. <small>[52] E.g., W/120.1.A.b (accounting, auditing and bookkeeping services), W/120.1.A.d (architectural services), W/120.1.A.h (medical and dental services), W/120.2.D (audiovisual services), W/120.5 (educational services).</small>	4) <u>The Parties understand that, in many cases,</u> computer and related services enable the provision of other services ^[21] by both electronic and other means. <u>However, in such cases, there is an important distinction between the computer and related service,</u> (e.g., web-hosting or application hosting), <u>and the other service</u> ^[22] enabled by the computer and related service. <u>The other service, regardless of whether it is enabled by a computer and related service,</u> is not covered by CPC 84. <small>[21] E.g., W/120.1.A.b (accounting, auditing and bookkeeping services), W/120.1.A.d (architectural services), W/120.1.A.h (medical and dental services), W/120.2.D (audiovisual services), W/120.5 (educational services). [22] See previous footnote</small>	(2) <u>For greater certainty,</u> services enabled by computer and related services shall not <u>necessarily</u> be regarded as computer and related services <u>in themselves.</u>	(2) <u>For greater certainty,</u> services enabled by computer and related services shall not <u>necessarily</u> be regarded as computer and related services <u>in themselves.</u>	(2) <u>For greater certainty,</u> services enabled by computer and related services, <u>other than those listed in paragraph 1, shall not be regarded</u> as computer and related services in themselves.
Location in text	Title II: Investment Trade and E-Commerce, Chapter 5 Regulatory Framework, Section 2, Article 88,	Sub-section B: Computer Services, Article 7.25: Computer services	Chapter V Regulatory Framework, Section III Computer Services, Article 822. Understanding on Computer Services	Sub-section 3 Computer Services, Article 8.21 Computer Services	Section 3: Regulatory Framework, Sub-section 6: E-commerce, Article 51	Article X.12, Digital Trade Chapter	[Digital Trade chapter] To be placed as a common headnote to the list of reservations

Source: Compiled by author from official texts of the Agreements. Significant differences are denoted by underlining or strikethrough.

(iv) Future FTA negotiations

The EU appears routinely to ask countries with whom it negotiates bilateral or inter-regional agreements to adopt some form of the Understanding. The existing agreements provide important learnings for those who are faced with these demands, especially developing countries.

The Understanding has been included in FTAs where there was a clear power asymmetry. The agreements with Armenia, Georgia, Moldova, Ukraine, Central American Common Market, Vietnam, Colombia-Ecuador-Peru,⁸¹ Iraq, and CARIFORUM fall into that category. Many of these agreements were negotiated when there had been little discussion or analysis on the development implications of e-commerce and e-services rules and commitments, so those countries may have been unaware of the consequences of agreeing to the Understanding.

The EU's template appears to have been contested by the Mercosur bloc of Argentina, Brazil, Paraguay, Uruguay and Venezuela. Leaked texts from the Mercosur negotiation suggest there was some resistance over e-commerce: one leaked text noted the matter was 'to be tackled' in the EU schedules.⁸² The final text agreed in June 2019 says the five sub-sectors shall be considered as computer and related services, but does not refer to the Understanding or CPC 84, or use inclusive language that treats the list as non-exhaustive.⁸³ Notably, that negotiation was still underway when debates on the risks of closing policy and regulatory space on digital technologies and services had intensified.

Some developed and developing countries that included the Understanding in their agreements were also supporters of the EU's approach in the WTO. Singapore endorsed the plurilateral model schedule during GATS 2000. South Korea agreed to the Understanding in its FTA, although it had supported only the Model Schedule in the GATS plurilateral initiative, and not the Understanding. While Australia and New Zealand endorsed the Understanding, their response to the EU's negotiating proposal to include it in the headnote to their schedules is not yet known.

There is no reference to the Understanding in some older agreements with countries that supported it in the WTO. Chile and Mexico both supported the plurilateral GATS proposal. However, the Chile agreement was concluded in 2002, while the Understanding was still embryonic. The Mexico agreement from 1997 was revised in 2018; although it has a chapter on digital trade, it makes no reference to the Understanding in the text.⁸⁴ The EU has adopted the Understanding in its schedule, but Mexico simply made commitments on the five sub-sectors of CPC 84. As already noted, the Understanding is not referred to in the text of recent agreements with Canada or Japan, although the EU inscribed it in its schedule; however, their negative list approach may make that unnecessary.

⁸¹ Colombia and Peru were supporters of the GATS 2000 plurilateral, but Ecuador was not.

⁸² Mercosur-EU Negotiations on Services and Establishment. DRAFT Common Text, September 2017, Article 24 (on file with author)

⁸³ Mercosur EU FTA, Chapter on Trade in Services and Establishment, Section 3: Regulatory Framework Sub-section 6: E-commerce, Article 51

⁸⁴ This text was released following Agreement in Principle between the parties on 21 April 2018.

PART F. FLAWS IN THE EU'S RATIONALE

The Understanding is problematic as an instrument of reform because it fails to achieve its stated goal of providing solutions to the legacy problems of the GATS, namely: the obsolescence of UNCPProv; the uncertainty created by duplication of classifications within and between CPCs; and the overlapping boundaries between computer and related services, digitally-enabled or enhanced services, and telecommunications. Countries that adopt the Understanding risk being left with uncertain, conflicting, even irreconcilable obligations - the antithesis of the functional, simplified and clear approach that the EU claims to achieve. This Part examines each of those legacy problems in some detail.

(i) Overcoming the obsolescence of GATS classifications

Ever since the GATS came into force there have been complaints that W/120, based on the 1991 UNCPProv, is obsolete.⁸⁵ The rapid expansion of digital technology and delivery of services remotely, especially across borders, highlighted the question of how 'new' services that did not exist at the time should be treated. There are at least five options. All except option 1 are problematic from a GATS perspective; however, option 1 does not resolve the obsolescence problem.

- 1) *Interpret GATS commitments in accordance with the intention of the country when it made them*, and only expand them with explicit consent, as per GATS Article XIX. This approach limits a Member's GATS obligations to the state of digital technology and infrastructure as it was in 1994, or the date of a Member's later accession. That is consistent with the literal application of the GATS development acquis and the GATS 2000 negotiations, which are the only multilateral negotiations mandated up to now.

Even if more extensive rules on digital services, including the Understanding, were agreed among a plurilateral group of Members, albeit without a mandate, they could not be imposed on all WTO Members as an amendment to the GATS, without a two-thirds majority.⁸⁶ Forcing that outcome through a vote would breach the WTO principle of consensus,⁸⁷ contradict the intention of Article XIX and violate the GATS development acquis.

- 2) *Apply technological neutrality to existing commitments*. Developed countries, supported by the WTO Secretariat, argue that existing commitments should be governed by a principle of technological neutrality – meaning that sectoral commitments made in the early 1990s should apply to technologies that governments had never conceived of when they agreed to those schedules. Developing countries have repeatedly rejected the application of technological neutrality as inconsistent with the principle of progressive liberalisation and with the development acquis in both the GATS and the Doha Declaration.⁸⁸ Suggestions that these objections have been overridden by Appellate Body interpretations misrepresent the nature of WTO jurisprudence⁸⁹ and the exclusive power of Members over interpretations.⁹⁰

⁸⁵ Committee on Specific Commitments, 'Report of the Meeting Held on 24 May 1996. Note by the Secretariat', S/CSC/M/1, 18 June 1996, p.2

⁸⁶ Agreement Establishing the World Trade Organisation, Done at Marrakesh, Signed on 15 April 1994, Article X.5 (Marrakesh Agreement)

⁸⁷ Marrakesh Agreement, Article IX.1

⁸⁸ For a referenced discussion of WTO debates and jurisprudence on technological neutrality, see Kelsey, 'The development implications of TPP-style rules' (note 54) pp.290-294.

⁸⁹ *United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, WT/DS285/R, 10 November 2004, para 6.285

⁹⁰ Article XIX vests the Ministerial Conference and the General Council with exclusive authority to adopt interpretations of the WTO agreements.

Even if the principle of technological neutrality was to be accepted, it assumes there is certainty about which sub-sectors would be relevant, especially to ‘new’ services that do not obviously fall within existing descriptions.

Significantly, Japan – an ardent champion of the e-commerce negotiations – included the following full policy space protection against technological neutrality, in the form of ‘new services’ in its cross-border services and investment schedule in the TPP:⁹¹

*Cross-Border Trade in Services: All (Unrecognised or Technically Unfeasible Services)
(MA only)*

Japan reserves the right to adopt or maintain any measure relating to services other than those recognised or other than those that should have been recognised by the Government of Japan owing to the circumstances at the date of entry into force of this Agreement.

Japan reserves the right to adopt or maintain any measure relating to the supply of services in any mode of supply in which those services were not technically feasible at the date of entry into force of this Agreement.

- 3) *Make ‘new services’ fit within the existing classifications.* In 1999 the WTO Council for Trade in Services report on e-commerce said there was consensus that the GATS covers all services, whether delivered digitally or otherwise.⁹² Any ‘new services’, such as social media platforms like Facebook or peer-to-peer ridesharing through Uber, would therefore be subject to its rules. But there was no agreement on how to classify them:

In discussion of the issue of possible new services, it was the general view that electronic delivery had given rise to very few new services, if any, but that further work is needed to identify any such services and decide how they should be classified. Some delegations argued that the identification of new services should be done keeping in mind the existing classification structure based on the Services Sectoral Classification List (MTN.GNS/W/120) and the UN CPC.⁹³

Almost a decade later that question was still not resolved. In 2015 the WTO Secretariat provided the United Nations Expert Group on International Statistical Classifications with an illustrative list of services that did not have explicit references in W/120, including cloud computing, web-hosting or application hosting, search engine, Internet access services, Voice over Internet Protocol, video on demand, on-line distribution of audio-visual content, sale of television advertising time and broadcast of advertisement.⁹⁴

The EU may have welcomed the report of the experts’ meeting: ‘One general view expressed was that many computer services, even those considered as “new”, represented services covered by CPC 84. Given the structure and coverage of CPC items, it would be rare that activities sometimes referred to as “new” services would not already be accommodated by the existing CPC classification.’⁹⁵ But ‘many’

⁹¹ Trans-Pacific Partnership Agreement 2017, Annex II - Japan, p.5.

⁹² Council for Trade in Services, ‘Work Programme on Electronic Commerce. Progress report to the General Council. Adopted by the Council for Trade in Services on 19 July 1999’, 27 July 1999, S/L/74, para 24

⁹³ S/L/74 (note 85), para 26 (emphasis added)

⁹⁴ UN Department of Economic and Social Affairs, Meeting of the Expert Group on International Statistical Classifications, New York, 19-22 May 2015, ‘New issues requiring guidance in the Central Product Classification (CPC)’, ESA/STAT/AC.289/20, 12 May 2015.

⁹⁵ ESA/STAT/AC 289/20 (note 87) para 1.3. See the more detailed discussion in Anuradha, ‘Technological Neutrality’ (note 3) 22-23.

is not all, and the experts were unable to agree on specifics of **how** some of the most significant 'new' services should be classified.

Of particular significance for the Understanding, the experts generally concluded that services like cloud computing and web-hosting would fall under CPC 84, but search engines and Voice over Internet Protocol might or might not. Other services might be classified as basic telecommunications, value-added telecoms or commercial services like advertising. Services such as social networking services that do not charge for use but rely on advertising revenue posed a further dilemma - because they are not commercial, they might fall outside the scope of the GATS altogether.⁹⁶

The Understanding seeks to deal with these problems through an inclusive definition of computer and related services and a definitive delineation between those services and content. As this paper shows, both of those delineations remain uncertain.

- 4) *Adopt a new classification system in place of UNCPProv.* Later iterations of the CPCs by the United Nations Statistics Division have superseded *UNCPProv*, substantially altering the original sub-sector categories, while seeking to maintain 'conceptual consistency'.⁹⁷ The classification has evolved rapidly to reflect the ongoing convergence of technologies and providers.

Under CPC Version 1.1, which emerged in 2002, the unitary category CPC 84 Computer and Related Services was replaced by two broad areas: *Other Business, Professional and Technical Services* (CPC 83) and *Telecommunications Services; Information Retrieval and Supply Services* (CPC 84). The most recent CPC Version 2.1 lists CPC 83 *Professional, Technical and Business Services* as including *Information technology (IT) consulting and support services* (8313), *Information technology (IT) design and development services* (8314), *Hosting and information technology (IT) infrastructure provisioning services* (8315), and *IT Infrastructure and network management services* (8316), while the CPC 84 heading *Telecommunications, broadcasting and information supply services* covers *Telephony and other telecommunications services* (841), *Internet telecommunications services* (842), *On-line content* (843), *News Agency Services* (844), *Library and archive services* (845) and *Broadcasting, programming and programme distribution services* (846).⁹⁸

There is no longer any category of Computer and Related Services (Figure 10). Data base services have gone from the classification.⁹⁹ Installation and maintenance of computer hardware and software are re-directed to other services categories. As R V Anuradha observes, these constant reclassifications recognise that Computer and Related Services 'cannot be straitjacketed as a distinct area of service, and that regulatory issues and concerns, especially in relation to the telecommunications services, could be a relevant aspect for consideration'.¹⁰⁰

Replacing CPC 84 with this updated classification might partially address the problem of obsolescence, for now. But it would raise serious problems of consistency with the GATS and other schedules that have used W/120. Moreover, its own currency would likely be short-lived.

⁹⁶ ESA/STAT/AC 289/20 (note 87) paras 1.1 to 1.13

⁹⁷ UN 'Central Product Classification (CPC) Ver. 2.1', UN Department of Economic and Social Affairs. Statistics Division, Statistical Papers. Series M No. 77 Ver. 201, ST/ESA/STAT/SER.M/77/Ver.2.1, 2015, Preface

⁹⁸ UNCP 'Central Product Classification (CPC) Ver. 2.1' (note 90), pp.120-124

⁹⁹ Anuradha, 'Technological Neutrality' (note 3) Table 1, p.22

¹⁰⁰ Anuradha, 'Technological Neutrality' (note 3) p.19

Figure 10
Comparison of CPC Provisional, the EU's Understanding and CPC Rev 2.1

CPC Provisional	Understanding 2007/FTAs	CPC Version 2.1
841 – Consultancy services relating to the installation of computer hardware	(a) Consultancy services for computers and computer systems	8313 – IT consulting and support services
842 – Software implementation services	(b) Software implementation services	8313 – IT consulting and support services
844 – Database services	(c) Data services	
845 – Maintenance and repair services of office machinery and equipment including computers	(d) Maintenance and repair services for office machinery and equipment, including computers	8712 – Maintenance and repair services of office and accounting machinery 8713 - Maintenance and repair services of computers and peripheral equipment 8714 - Maintenance and repair of transport machinery and equipment 8715 – Maintenance and repair services of other machinery and equipment
849 – Other computer services [not elsewhere classified]	(e) Training services [not elsewhere classified]	

Source: Adapted from R V Anuradha 'Technological Neutrality: Implications for Services Commitments and Discussions on E-Commerce', Centre for WTO Studies, New Delhi, October 2018, CWS/WP/200/51, Table 1, p.22

This fundamental reworking of CPC 84 poses another potentially fatal obstacle to the Understanding: the EU is asking other countries in the WTO and in its FTAs to adopt a classification that is itself redundant and has been radically reconfigured by the agency that created the classification it still relies on.

- 5) *Negotiate new arrangements in FTAs:* For some countries, the solution has been to negotiate outside the WTO through bilateral and mega-regional agreements that allow them to tailor their own structure, schedules and classifications. A negative list approach largely bypasses the multitude of problems about outmoded and uncertain classifications, relying instead on governments' ability to foresee potential consequences and protect them in their schedules – an intrinsically problematic assumption when dealing with digital technologies.

GATS Article V requires such agreements to have 'substantial sectoral coverage'¹⁰¹ and substantially remove all restrictions on national treatment over a 'reasonable time-frame'. Even if these requirements were routinely complied with (which they are not), the plethora of FTAs creates its own inconsistencies and potentially conflicting obligations for the countries involved, and would compound the inconsistencies with the GATS.

¹⁰¹ Not *a priori* excluding any sector or mode of supply.

(ii) Eliminating overlap in CPC classifications

The Understanding aims to bring clarity and certainty to overlapping classification - and fails. At a technical level, there is potential for cross-over even within the Understanding. For example, paragraph (a) (as in the FTAs) refers to *testing and debugging of computers* and paragraph (d) covers *maintenance and repair services for office machinery, including computers*. The two-digit approach is designed to eliminate that problem, but only if countries cannot still disaggregate their commitments.

Overlap between sectors

There is a more serious problem of overlap between CPC 84 and other classifications. For example, CPC 886 covers *Services incidental to the manufacture of metal products, machinery and equipment* that are provided on a fee or contract basis (which most repair work is today), and lists as sub-services *repair services for machinery and equipment not elsewhere classified* ('n.e.c') (CPC 8862); *office, accounting and computing machinery* (n.e.c) (CPC 8863); *electrical machinery and apparatus* (n.e.c.) (CPC 8864); and *radio television and communication equipment and apparatus* (CPC 8865). The EU is clearly aware of the potential overlap: its schedule in the EU Korea FTA allocates repairs for computer equipment to CPC 845, and the remainder to the other business services.¹⁰²

The reference in paragraph (e) to *training services* for staff of clients related to *computers and computer programs not elsewhere classified* means a country's other commitments on training programmes must be examined to understand its obligations. Either *post-secondary technical and vocational education services* (CPC 9231) and *adult education services n.e.c.* (CPC 9240) might apply, as education providers are commonly contracted by businesses to deliver short-term training in IT-related skills.

Design and development of computers, computer systems or software (paragraphs (a) and (b)) could also be *engineering design services n.e.c.* (CPC 86726) or *advisory and consultative engineering services* (CPC 86721).

The most crucial area of overlap relates to the classification of data. The Understanding brings all *data processing, data storage, data hosting or database services* under Computer and Related Services, unless they are specifically excluded.¹⁰³ This approach assumes that data is either not classified elsewhere or that any such classification involves a content service and is excluded under Paragraph 4. That distinction is conceptually problematic, as no data exists in a void; all data has an origin and hence a content. Moreover, data relating to certain subjects may be particularly sensitive and countries may want to deal with it elsewhere than CPC 84, for example by explicitly excluding it from or including in the rules in sector-specific chapters of FTAs.

Financial data services

This is not a hypothetical problem. The GATS Annex on Financial Services has its own non-exhaustive list of sub-sectors that it covers. The category *Banking and Other Financial Services* includes (xv) *Provision and transfer of financial information, and financial data processing and related software by suppliers of other financial services*. In addition, the plurilateral Understanding on Financial Services adopted by some WTO

¹⁰² EU Korea FTA, Schedule of the EU, fn 10.

¹⁰³ The 2007 Understanding notes that 'Data message and transmission services', such as value-added network services, are classified as CPC 7523 (Data and message transmission services), and 'Documentation services consisting in information services for databases' are library services (CPC96311).

Members, including the EU and its Member States, requires them to allow the supply of data services from across the border on non-discriminatory (National Treatment) terms.¹⁰⁴

In this example financial data services are more liberalised than other data services. However, the Understanding on Computer and Related Services does not explicitly exclude financial data processing and related software services from paragraph (c) (CPC 843). Offshore firms and their parent states will presumably insist that the specific obligation on financial data services takes precedence over the general commitment on data in the Understanding on Computer and Related Services – although adopting the latter, being more recent in time, might also be said to implicitly amend a Member’s financial data services obligation in relation to the EU.

The converse situation is equally conceivable. The Global Financial Crisis demonstrated the risks of foreclosing governments’ control over financial data. US Treasury Secretary Lew told Congress there were times during the crisis when they were cut off from timely and appropriate information.¹⁰⁵ Because of that experience, the US insisted in the TPP that financial data was treated more restrictively than other data and was exempted from the data transfer rules that prevent requirements that data is stored and processed locally.¹⁰⁶ That kind of more restrictive treatment would be a measure affecting the supply of data services under the EU’s universalised definition of data services, unless it was treated as a content service.

These examples pose a further question: why should *processing and storage of financial data* be treated as a content service, when the processing of all other data falls under CPC 84? Health, electoral and census, tax, or indeed any sensitive category of data could justify differential treatment. The fact the new CPC Rev 2.1 has removed data services altogether from the corresponding classification can only deepen the potential for dispute over this imprecise boundary.

For example, data base services that are covered in CPC 84 (as CPC 8440) are defined as ‘all services provided from primarily structured data bases through a communication network’. But CPC 8440 excludes data and message transmission services (such as network operation services and value-added network services), which come under CPC 7523 of telecommunications. Further, telecommunication sub-sector C.n *On-line information and/or data processing* refers to CPC843, a CPC also found in Computer and Related Services.

¹⁰⁴ WTO Understanding on Commitments in Financial Services, Article 3(c)

¹⁰⁵ ‘Lew: Treasury Working with Companies, regulators on TPP Financial Data Issue’, *Inside US Trade*, 11 February 2016; House Appropriations Subcommittee on Treasury Budget with Secretary Lew, 16 March 2016; and House Financial Services Committee on International Financial System with Secretary Lew, 22 March 2016.

¹⁰⁶ TPP Article 14.1

Telecommunication services

Telecommunication services raise equally complex uncertainties over data. The heading '2. Communications' in the W/120 document includes telecommunications. Seven sub-sectors of telecommunications explicitly refer to data-related services, with obvious potential to overlap with Computer and Related Services.

C.	<u>Telecommunication services</u>	
a.	Voice telephone services	7521
b.	Packet-switched data transmission services	7523**
c.	Circuit-switched data transmission services	7523**
d.	Telex services	7523**
e.	Telegraph services	7522
f.	Facsimile services	7521**+7529**
g.	Private leased circuit services	7522**+7523**
h.	Electronic mail	7523**
i.	Voice mail	7523**
j.	On-line information and data base retrieval	7523**
k.	Electronic data interchange (EDI)	7523**
l.	Enhanced/value-added facsimile services, incl. store and forward, store and retrieve	7523**
m.	Code and protocol conversion	n.a.
n.	On-line information and/or data processing (incl. transaction processing)	843**
o.	Other	

** The (**) indicates that the service specified constitutes only a part of the total range of activities covered by the CPC concordance (e.g. voice mail is only a component of CPC item 7523).

Overlap between agreements

A final point of overlap involves a question posed back in 1999: are goods that are delivered in an electronic form via computer programs goods or services?¹⁰⁸ The answer affects whether the commercial activity is governed by the rules of the GATT or the GATS and what kind of taxes can apply, including the scope of the temporary moratorium on customs duties on electronic transmissions.¹⁰⁹ Whether governments can impose tariffs on a good and/or regulate the activity as a service will become more pressing as the volume of 3D printing intrudes more deeply into domestic production. If it is a service, governments need to know if 3D printing is classified in trade in services schedules as a software implementation service under CPC 842, a printing service (CPC 88442) or a service related to manufacturing, which includes printing on a fee or contract basis (CPC 884+885 excluding 88442), and whether the cross-border (Mode 1) activity of transmission is distinct from the in-country printing of the physical product (potentially Mode 3).

¹⁰⁸ WTO, Council for Trade in Services, 'Work programme on Electronic Commerce. Interim report to the General Council', S/C/8, 31 March 1999, para 5

¹⁰⁹ The temporary moratorium was first imposed in 1998 as part of the WTO Declaration on Global Economic Commerce, WT/MIN(98)/DEC/2, 25 May 1998; see also Rashmi Banga, 'Growing Trade in Electronic Transmissions', UNCTAD Research paper No.29, UNCTAD/SER.RP/2019/1, February 2019.

(iii) Delineating ‘enabling, enabled and telecom’ services

The EU asserts a bright line between computer and related services, defined as per the Understanding; telecommunication services, defined as transport of electro-magnetic signals; and computer-enabled services, as illustrated in the footnote in the Understanding.¹¹⁰

The EU has offered the following examples: a simple email service with an inbox and outbox is a telecom service (transmission and reception of messages, with limited storage for retrieval by the recipient), but when combined with an archiving system or other system for processing of messages under the user’s control, then both a telecom and a computer-related service are provided. Or an ISP may offer Internet access (a telecom service), an extensive number of information services on weather, news, sports etc (content services), and some database services that host the data for an information service (computer-related services).¹¹¹

This tripartite categorisation allows the EU to advance its commercial interests in securing open-ended commitments on the digital infrastructure, while quarantining sensitive services, in particular audio-visual services and broadcasting. Such a sharp distinction may appear attractive for governments seeking some certainty about their present and future obligations. In particular, countries that have taken large or full commitments on CPC 84, including in Modes 1 and 2, but fewer or no sectoral commitments for substantive services, such as education or insurance, that are capable of being delivered digitally, especially in Mode 1 or 2, might see this as a way to restrict their exposure.

However, the EU’s approach faces two new obstacles: first, the US draws the line differently to reflect its own regulatory regime on telecommunications and the Internet, which makes it unlikely to ever agree to the EU’s definitions in the WTO;¹¹² and second, the EU itself has introduced ambiguous language in its own recent agreements that undercuts the distinction between computer-enabling and computer-enabled services.

Computer-enabled services

Most versions of the Understanding exclude from Computer and Related Services any ‘content or core service’ that is being delivered electronically. The 2007 Understanding and several FTAs have an illustrative footnote for services that are computer-enabled that refers to accounting, auditing and bookkeeping; architectural services; medical and dental services; audiovisual services; and educational services. But the boundary is increasingly blurred, especially as new digital services emerge: is Google a computer service or an advertising service, and is Uber a computer service or a transportation, restaurant or delivery service? Domestic governments and courts are applying their own classifications for internal regulatory purposes,¹¹³ but even they are not consistent. Nor will their domestic decisions determine how those services are classified in the WTO or FTAs.

¹¹⁰ Especially: WTO Council for Trade in Services Special Session. ‘Communication from the European Communities. GATS 2000 Telecommunications’, S/CSS/W/35, 22 December 2000

¹¹¹ S/CSC/W/44 (note 100) para 21

¹¹² These contrasting positions mean countries that have FTAs with both the US and the EU face conflicting obligations.

¹¹³ For example, the European Court of Justice ruled in December 2017 that Uber is a transportation service, not a digital company. European Court of Justice, *Asociación Profesional elite Taxi v. Uber Systems Spain SL*, Case-434/15, Judgement of the Court, 20 December 2017. By contrast, the EU Advocate General issued an opinion that Airbnb should be treated as a digital service provider: ‘Airbnb should be treated as a digital service provider’, *The Guardian*, 30 April 2019, <https://www.theguardian.com/technology/2019/apr/30/airbnb-should-be-seen-as-a-digital-service-provider-ecj-advised>

The Understanding also does nothing to ensure there is consistent categorisation of digitised services that it says fall outside CPC 84. For example, the GATS Annex on Air Transport Services makes it clear that computer reservation system services are covered by the GATS, and defines them as ‘services provided by computerised systems that contain information about air carriers’ schedules, availability, fares and fare rules, through which reservations can be made or tickets may be issued’.¹¹⁴ The EU’s Understanding would classify them as content, but does not indicate under what sector. The EU has been unable to ensure consistency on this even within its own FTAs. In the EU Korea FTA, the EU classified computer reservation systems under Sales and Marketing services, with no corresponding CPC, but South Korea classified them under Air Transport services. Countries that are not party to the Understanding might conceivably include them under CPC 84.

The language in the Mercosur text and Indonesia negotiations that ‘services enabled by computer and related services shall *not necessarily* be regarded as computer and related services *in themselves*’, muddies the water even further (Figure 9). This wording foreshadows the possibility that computer-enabled services might indeed be regarded as computer and related services, and there is no illustrative footnote to assist in its interpretation.

Computer and related services/Telecommunications

The EU’s bright line between computer and related services and telecoms is especially problematic. The EU cites the many discrepancies in how Members have designated their telecom commitments in the GATS,¹¹⁵ and the resulting interpretive problems, to support its complaint that:

The W120 is confused, out-of-date in many respects, and does not cover with certainty the whole activity of telecom operators today [and] is based on business concepts and words that do not clearly match today’s reality of the telecom sector. ... WTO schedules on market access and national treatment will not be able to cope with evolution if the scope of coverage of the sector is not defined clearly.¹¹⁶

The EU’s technical solution relies on the precise definition of telecommunications that was inscribed in its original GATS schedule. An early paper to the GATS 2000 negotiations on telecoms staked out its position:¹¹⁷

*Telecommunications services are the transport of electro-magnetic signals - sound, data image and any combinations thereof, excluding broadcasting. Therefore, commitments in this schedule do not cover the economic activity consisting of content provision which require telecommunications services for its transport. The provision of that content, transported via a telecommunications service, is subject to the specific commitments undertaken by the European Communities and their Member States in other relevant sectors.*¹¹⁸

¹¹⁴ GATS Annex on Air Transportation Services

¹¹⁵ For example, acceding countries generally did not use W/120 for classifications on telecommunications.

¹¹⁶ WTO, EC Non-paper on Classification in the Telecom Sector, 10 May 2004, pp.4-5 (on file with author)

¹¹⁷ Broadcasting is defined as ‘the uninterrupted chain of transmission required for the distribution of tv and radio programme signals to the general public, but does not cover contribution links between operators’.

¹¹⁸ WTO, Council for Trade in Services Special Session. ‘Communication from the European Communities. GATS 2000 Telecommunications’, S/CSS/W/35, 22 December 2000, para 7 (emphasis added)

The EU's telecoms proposal, presented numerous times during the GATS 2000 negotiations, mirrors the approach for computer and related services.¹¹⁹ First, countries should inscribe the EU's precise definition of telecommunications as 'any service consisting of the transmission and reception of signals by electromagnetic means' in the first column of their schedules. Second, they should make Market Access and National Treatment commitments on the whole sector of telecommunications services, so defined. Third, they should inscribe the Reference Paper on Basic Telecommunications in the additional commitments column. The EU's model schedule on telecommunications in the GATS 2000 negotiations also made it clear that telecoms services would not cover broadcasting transmission of TV and radio programmes to the public, or services whose economic activity requires telecoms for their transport or whose supply is subject to specific commitments undertaken in other relevant sectors.¹²⁰

In support, the EU drew on Uruguay round documents that describe **basic** telecommunications as 'all telecommunications *transport networks and services*', from which it concluded that 'basic telecommunications services ... cover virtually all telecommunications services'.¹²¹ That function-based definition would, the EU claimed, unmistakably cover all telecom services and be content-neutral. The result would be consistent with an 'international consensus that regulators should not discriminate between different technologies in providing services, between different content being transmitted or between different business models'.¹²²

Both the EU's technical definition of basic telecoms and the implied exclusion of value-added telecommunications¹²³ conflict with the US's longstanding position on telecommunications services.¹²⁴ In a 2005 paper the US objected that the EU's approach could potentially limit the scope of the telecommunications sector and would erode the value of existing commitments. It would also create uncertainty with respect to value-added services that extend beyond the transmission of transport of signals, and which the US considers a vital component of the sector. Services such as data storage, forwarding, processing and/or retrieval added an element of computer-based functionality to basic transportation and were essential to innovation and competition. These services fall within the sub-sectors of telecommunications services in the W/120 list (C h. to n.) that are traditionally viewed as value added. The EU's suggestion that these services were covered by CPC 84 was considered 'not productive', especially where the services were likely to be subject to the same telecommunication regulatory authorities.¹²⁵

The US also pointed out that the distinction between basic and value-added telecoms was crucial for countries that have inscribed the Reference Paper on *Basic* Telecommunications in their GATS schedules and subsequent FTAs. Categorising the mass of data-related services as value-added telecoms was crucial

¹¹⁹ Especially: WTO, Council for Trade in Services Special Session. 'Communication from the European Communities. GATS 2000 Telecommunications', S/CSS/W/35, 22 December 2000; S/CSC/W/44 (note 100)

¹²⁰ WTO, Council for Trade in Services Special Session, Committee on Specific Commitments, 'Communication from the European Communities. Classification in the Telecom Sector under the WTO-GATS Framework', TN/S/W/27 S/CSC/W/44, 10 February 2005

¹²¹ S/CSC/W/44 (note 100), para 3

¹²² EC Non-paper on Classification in the Telecom Sector under the WTO-GATS Framework, 10 May 2004, p.5

¹²³ W/120 does not formally differentiate between basic and value-added telecoms. However, the WTO website treats C.(a) to (g) plus (o) as basic telecom services, and C.(j) on-line information and data base retrieval, (k) electronic data interchange, and (n) on-line information and/or data processing as value-added telecommunication services.

https://www.wto.org/english/tratop_e/serv_e/telecom_e/telecom_coverage_e.htm (accessed 1 September 2019)

¹²⁴ S/CSC/W/45 (note 26)

¹²⁵ S/CSC/W/45 (note 26) para 7

for the US to maintain its 'general non-regulatory approach to the Internet and other value-added services', which it claimed most countries applied.¹²⁶

The US's proposed solution would subvert the EU's intention by adding: 'All services consisting of the transmission and reception of signals by any electromagnetic means, *alone or in combination with enhancing, storing, forwarding, retrieving, or processing functions added to the transmission and reception of signals.*'¹²⁷

This stand-off has practical consequences for countries that adopt the EU's approach. WTO Members already have different levels of commitments on Computer and Related Services and on Telecommunications, based on their own interpretations of the categories. Adopting a new interpretation in the WTO could alter the extent of their obligations in ways unintended at the time they were made. Second, WTO Members adopting the Understanding, for example as part of an agreement reached on a plurilateral basis, could not simply realign their GATS schedules unilaterally according to the EU's definitions. The process for revising schedules requires other Members not to object, and for compensatory adjustments to be agreed if the level of liberalisation is reduced, something the US clearly signalled it would require.¹²⁸

Third, Members caught between the US and EU interpretations would face the prospect of a dispute from either side, or even both. Some countries may not agree with either position, especially regarding the classification of new services. A service like cloud computing does not fall neatly into one category or the other. The US and EU would both classify it under CPC 84 rather than telecommunications services. However, China considers it a highly integrated new service, with elements that are value-added services supplied by telecom providers and regulated accordingly. This is reflected in China's carefully considered GATS commitments: it took full commitments on data processing, database services and time-sharing services under CPC 84, but it has market access limitations on modes 1 and 3 for telecommunications.¹²⁹

Again, these problems extend beyond the WTO. Many countries have concluded, and will negotiate new, agreements with non-EU parties that have a different and potentially conflicting definition of telecommunications that affects how they are allowed, or required, to regulate their telecommunications sector. These differences create flow-on complications where third parties apply the MFN rule to achieve the outcome most favourable to them.

In sum, the EU's bright line does not exist.

¹²⁶ WTO Council for Trade in Services Special Session, 'Communication from the United States. Market Access in Telecommunications and Complementary Services: The WTO's Role in Accelerating the Development of a Globally Networked Economy', S/CSS/W/30, 18 December 2000, para 13.

¹²⁷ S/CSC/W/45 (note 26), para 11

¹²⁸ GATS Article XX

¹²⁹ Anuradha, 'Technological Neutrality' (note 3) pp. 25, 29

PART G. DEVELOPMENT & REGULATORY IMPACTS OF THE UNDERSTANDING

Taken on its own, the Understanding might provide greater certainty and clarity **for the EU**; but it would have the opposite effect for policy-makers and regulators of other countries who may be required to comply with different and potentially incompatible regulatory regimes. Third countries with MFN entitlements could then pick and choose on a case-by-case basis which agreement gives them a better outcome.

However, the Understanding does not stand alone. Even without an e-commerce agreement, open-ended commitments on Computer and Related Services would cross-fertilise with sectoral commitments in digitally enabled services, ranging from education, health and advertising to mining, agriculture and transportation, in whatever mode of supply, as well as the overlapping categories of financial services and telecommunications.

Cumulatively, these rules and commitments would increase countries' exposure in uncertain and unlimited ways. That would, in turn, greatly reduce the regulatory space available to governments to take full advantage of the opportunities, and address the serious challenges, of the digital age. The impacts would fall most heavily on the Global South.

(i) Closing policy space on digital services

A full GATS commitment on CPC 84 coupled with the EU's narrative Understanding could restrict any government **measures** that directly or indirectly **affect the supply** of services that arguably fall within the open-ended coverage of **computer and related services** if they restrict market competition (Market Access) or favour local firms or individuals (National Treatment). A broad interpretation of that obligations could conceivably be said to prevent such measures as:

- requirements for local data storage or use of computing facilities and service providers;
- requiring foreign suppliers of data services to have a local presence in the country;
- banning the provision of a range of computer infrastructure services from outside the country;
- restricting the quantum of foreign investment overall in the sector, or in a particular entity;
- allowing foreign investment in computer infrastructure services only through a joint venture;
- subsidising local firms engaged in any of those activities;
- privacy or consumer protection laws that appear to be non-discriminatory but are harder for foreign firms to comply with;¹³⁰
- requiring the foreign supplier to use local repair and support services;
- prohibiting payment of any computer-enabling services through cryptocurrencies; or
- mandatory disclosure of source codes or algorithms by foreign firms supplying 'enabling' services to detect and prosecute breaches of competition or human rights law.

¹³⁰ Such laws could not take advantage of the General Exception (as per GATS Article XIV), which only applies to measures to implement privacy and consumer protection laws that themselves comply with the Agreement, and are subject to both necessity tests and the chapeau that excludes measures that constitute a means of arbitrary or unjustifiable discrimination between countries where like conditions prevail or a disguised barrier to trade in services.

Almost all the same measures are being negotiated separately in the name of e-commerce in the WTO and FTAs.¹³¹ In other words, adopting the Understanding on Computer and Related Services could be used as a Trojan Horse for the 'e-commerce' rules that many developing countries are resisting in the WTO. That is already a risk for Members who have made full commitments under CPC 84 and it reinforces the importance of continuing to reject the concept of technological neutrality.

(ii) Development implications for the Global South

Back in 1999 the Council for Trade in Services asked how to increase participation of developing countries in international e-commerce, consistent with the call in GATS Article IV for liberalisation in sectors of interest to them.¹³² The launch of the GATS 2000 negotiations triggered an international people's campaign against the expansion of constraints on governments' right to regulate services and the prospect that the deep development asymmetries in the GATS 1994 would intensify under pressure from the affluent service-exporting countries.¹³³

In 2003, the EU seemed cognisant of those pressures when it downplayed its offensive commercial interests in Computer and Related Services and portrayed its focus on digital infrastructure as pro-development:

In a sector crucial to the establishment of an information society in Europe, the EU is offering full access to the EU market to foreign service providers, including highly qualified self-employed computer experts. This should provide the EU with value-for-money computer services. The EU proposal takes account of the interests of both the developing countries, which want more access to the Community market, and the Member States, which need cutting-edge computer services and IT structures. Foreign computer experts will, for example, be authorised to stay in the EU temporarily for the purposes of maintaining and repairing computer systems and networks.¹³⁴

There are two obvious flaws in this claim. First, the EU could have achieved those objectives unilaterally without pressing other WTO Members to open their markets to Europe's firms through open-ended commitments. Second, the EU does not guarantee access for highly skilled IT workers from developing countries in its services schedules. The Understanding expands the scope of the sector and, where it refers to modes, requires full commitments in Modes 1 to 3 – but Mode 4 refers back to the categories and terms set out in horizontal entry of the Member's schedule. The model schedule took the same approach. The EU's own horizontal schedule maintains extensive country-specific limitations on Mode 4 in the GATS 2000 and its FTAs, compared to its full commitments on Modes 1, 2 and 3 for computer and related services.

The EU's subsequent demands across the GATS 2000, e-commerce and FTA negotiations and its requests in TiSA for developing countries to surrender their policy space in this sector have been consistently and profoundly anti-development. The one-size-fits-all approach of the Understanding would expand countries' commitments on CPC 84 far beyond their current GATS obligations and require developing countries that have fewer existing commitments to accept a disproportionately high level of new liberalisation.

¹³¹ Former WTO officials have already suggested that an expansive reading of the GATS could achieve much of what is proposed in the e-commerce negotiations. *Rudolf Adlung and Hamid Mamdouh (2018), 'Plurilateral Trade Agreements: An Escape Route for the WTO?', Journal of World Trade 52, No.1, 85-112*

¹³² WTO, S/L/74, 27 July 1999, p.10

¹³³ Kelsey, *Serving Whose Interests?* (note 39) pp. 82-88

¹³⁴ World Trade Organisation. Doha Development Agenda – WTO Negotiations on Trade in Services, 29 April 2003, Memo 03/92, http://europa.eu/rapid/press-release_MEMO-03-92_en.htm (accessed 1 September 2019)

Developing countries who agree to the Understanding in their FTAs do it as a least-worst option or as an acceptable trade-off for a more immediate and tangible gain. This paper shows that adopting the Understanding carries a significant long-term cost. Despite the rubric 'e-commerce for development' the Understanding forms part of a new set of rules that have the potential to intensify the digital divide and consolidate the control of the digital ecosystem, including of data, by the major powers and more specifically, their corporations.

In conclusion ...

The Understanding is presented as a technocratic and benign solution to legacy problems with the GATS for a single category of services. This analysis shows that adoption of the Understanding in the EU's FTAs, and by some Members of the WTO, will instead increase the fragmentation, inconsistencies and incoherence of the current international regime, and impose variable and possibly competing obligations on countries other than the EU.

At present it seems extremely unlikely that the Understanding will ever receive consensus support in the WTO, or even the two-thirds of Members required to amend the GATS. It is unclear whether the EU even has enough support for its inclusion in any plurilateral e-commerce text, given that it was not part of the TiSA e-commerce annex. The Understanding may end up applying only in the EU's FTAs, especially with developing countries that have little negotiating leverage.

Governments that agree to adopt it will be further disarming themselves in the face of rapid, disruptive and unpredictable technological developments. It would be unwise for any state to abdicate its regulatory authority over those decisions in that way, but especially for countries of the Global South.

PART H. RECOMMENDATIONS

If countries believe there may be development gains from liberalising market access or removing supports for their local suppliers of these services, they should do so unilaterally and preserve the future ability to regulate if circumstances change or liberalisation has unanticipated downsides. Domestic liberalisation should be supported by a clear digital development strategy, and robust competition law with the capacity to enforce it.

At the WTO ...

Members should continue to resist the concept of ‘technological neutrality’ and insist that their commitments extend only to those services that were clearly foreseeable at the time the commitments were made, consistent with the modalities of the GATS and its development acquis.

In negotiations at the WTO and bilaterally countries should ...

- Resist pressure from the EU to adopt the Understanding or make full commitments on Computer and Related Services at the two-digit level of CPC 84, citing the latest UN classifications (Rev 2.1) to show that the EU’s classifications are already outmoded.
- Insist on the freedom to make commitments in whatever sub-sectors of CPC 84, and with whatever limitations they consider appropriate, and to decide how they categorise computer-related services, making their interpretation clear in the headnote or in a footnote to the sectoral entry.
- Explicitly exclude all measures related to digital infrastructure and data from future trade in services obligations in a headnote, as a horizontal entry in a schedule, or by repeating it in every relevant sub-sector, including Computer and Related Services, Telecommunications, Financial Services, Business Services (and many others).

In FTA negotiations ...

- If the EU insists on the inclusion of the Understanding in an FTA, and countries feel they must agree, they should invoke the best precedents in existing FTAs, in order of preference:
 - (i) Not include the Understanding or its equivalent in the text, but allow a party to choose whether and which elements of CPC 84 to adopt within the GATS-style positive list, sub-sectors, modes and rules; the EU can then adopt the Understanding in its schedule if it wishes.
 - (ii) Adopt a substantive article on Consumer and Related Services that allows parties to limit the scope of their commitments by sub-sector, mode and rule.
 - (iii) Restrict application of Computer and Related Services to the specified five elements, with no narrative text that makes it all-inclusive forever, and with no cross-reference to other services.
- Avoid negative list scheduling that would mean open-ended obligations relating to digital infrastructure. If pressure is irresistible, at least insist on a full policy space reservation on future technologies and services, as Japan did in its reservations on ‘new services’ in the TPP.