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# Moratorium on Electronic Transmissions: Fiscal Implications and Way Forward

**Abstract:** The outbreak of COVID-19 and the subsequent prolonged lockdowns have been accompanied by an exponential rise in imports of electronic transmissions, mainly of luxury items like movies, music, video games and printed matter. While the profits and revenues of digital players are rising steadily, the ability of the governments to check these conspicuous imports and generate additional tariff revenues is being severely limited because of the moratorium on customs duties on electronic transmissions. This moratorium was agreed in 1998 with no consensus on the scope of the moratorium, no clarity on how electronic transmissions are classified or what they covered, and no notion of how the digital revolution will unfold. This paper proposes a basis for deciding the scope of the moratorium by using the trichotomy of 'goods', 'intangible goods' and 'services.' Further, using different classifications of ET, the paper estimates the potential tariff revenue losses and the development impact of the moratorium.

**Key words:** Moratorium on Electronic Transmission, Tariff revenue losses, COVID-19 and moratorium, digital revolution and electronic transmissions.



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## Introduction

The onset of the COVID-19 has added a new threat to the existing catalogue of development challenges facing developing countries. While countries are struggling to contain the pandemic and revive their economies using available finances, many existing rules and regulations in the WTO restrict their fiscal and policy space. Many of these rules were not designed with the financial needs of small developing countries in mind, especially at the time of crisis, nor were they designed for an expansive digital world. The moratorium on customs duties on Electronic Transmissions (ET)<sup>1</sup>, which was agreed in 1998 and has continued ever since, is one such example. Countries agreed to discipline the trade in ET with no clarity of what ET were, let alone how the scope of the moratorium might unfold with the digital revolution. Discussions on the fiscal implications of the moratorium were almost entirely absent at the time of the agreement as the technology to collect customs revenues from imported ET was non-existent. The extent to which the moratorium could limit countries' ability to regulate imports of luxury items, especially at the times of crisis, was also never discussed.

But the digital revolution and the onset of the pandemic has completely changed the landscape. Availability of the technology for collecting tariffs on ET has increased the necessity of estimating the potential tariff revenue loss due to the moratorium. Further, the ongoing lockdowns pursuant to the pandemic has led to an exponential rise in the demand for luxury imports, especially via electronic means. These include video games, movies, music and printed matter. The main exporters of these electronic transmissions like Amazon Prime Video (USA), Netflix (USA), Nintendo (Japan), Rockstar (USA), etc., are experiencing an unprecedented surge in their sales and profits, while governments are unable to collect any tariffs on these companies' exports due to the existing moratorium. During the pandemic, tariffs on the growing imports of these electronic transmissions could have been the most simple and effective policy tool in the hands of the governments to check conspicuous consumption as well as to generate additional revenue. This realization has increased the necessity to rethink the decision on the WTO moratorium on customs duties on ET.

Since most of the developing countries are net importers of ET, with the rising digitalization these countries are steadily losing their customs revenues as well as their ability to regulate imports of luxury items. But to have a conclusive estimate of the fiscal impact of the moratorium, it becomes important to have a clarity on the scope of the moratorium, which depends on how ET are classified. In this context, this paper proposes a basis for deciding the scope of the moratorium by using the trichotomy of 'goods', 'intangible goods' and 'services.' Based on economic and legal literature, it provides justification for treating electronic transmissions as 'intangibles' which are classified as 'goods' and are significantly different from 'services.' It further provides fiscal implications of the moratorium by estimating tariff revenue losses if moratorium covers custom duties on the imports of intangible goods; and compares this to the scope of the moratorium ii, as suggested by ECIPE (2019) and OECD (2019), imports of all business services via Mode 1 are covered under the moratorium. An estimate of imports of all business services via Mode 1 is provided for 196 countries for the period 2017-2019.

### 1. The Debate on Classification of ET

In 1998, the Geneva Ministerial Declaration along with the standstill agreement on the imposition of customs duties on ET also included a General Council mandate to establish a work program on global electronic commerce. While the General Council was instructed to take up all aspects related to the imposition of customs duties on electronic commerce, four bodies, which are the Council for Trade in Services, the Council for Trade in Goods, the Council for Trade-Related Aspects of Intellectual Property Rights and the Committee for Trade and Development, were instructed to address specific aspects of electronic commerce. The Council for Trade in Services and the Council for Trade in Goods were specifically tasked to examine the issue of "Classification", i.e., to decide whether electronic transmissions, or products shipped electronically (instead of physically), should be characterized as goods, or services or something else. This issue was therefore identified as a cross-cutting issue. However, in spite of numerous submissions by the countries and many meetings of the General

<sup>1</sup> WT/MIN(98)DEC/2, 25 May 1998

Council over the past twenty years and more, no consensus has emerged and the debate on the classification issues is still more or less the same as it was at the time of the decision.

In 1998, when the decision on the ban on customs duties was taken, it was based on a proposal submitted by the United States to the General Council, noting that "currently, no Member of the WTO considers electronic transmissions as importations for customs duties purposes and, thus, not one imposes customs duties on them" (WTO, 1998)<sup>2</sup>. Therefore, according to the United States, "WTO Members should agree to continue this current practice so that the absence of customs duties on electronic transmissions would remain". Thus, the proposal suggested, first that electronic transmissions are not considered as importations by countries; and, second, it implied indirectly that electronic transmissions could theoretically be considered as importations in the sense of GATT Article II, and therefore ET can be subjected to tariffs (UNCTAD 2000).

Over the years, even without a clarity on classification of ET, most of the submissions from the developed countries have argued in favor of extending the moratorium/ making it permanent. Although developing countries have agreed to temporarily extend the moratorium, they have raised the issue of its adverse revenue implications, which have taken new dimensions with the digital revolution<sup>3</sup>. This has led to a series of studies examining the tariff revenue implications of the moratorium. However, no consensus seems to emerge on the revenue implications, in part because of the lack of clarity on the scope of the moratorium, which depends on how ET are classified. Using different classifications of ET, tariff revenue implications of the moratorium have been estimated by some studies. When the decision on a moratorium on ET was taken, the scope of moratorium was identified as 'digitized products' and 'digitizable' products (WTO 2003,<sup>4</sup> WTO 2006<sup>5</sup>). These digitized products were identified as those products which were electronically transmitted. Accordingly, five categories of digitized products were identified, namely, sound recordings, audiovisual works, video games, computer software and literary works. But there was no clarity provided on the classification of Electronic Transmissions. UNCTAD in its various studies (2000, 2017, 2018, 2019) has used this scope of the moratorium to estimate the associated potential tariff revenue losses for developing countries. In 2017, after discussions with the WTO Secretariat, Indonesia made a statement which included a footnote '*it is understood that such moratorium shall not apply to electronically transmitted goods*'<sup>6</sup>. Accordingly, Indonesia added a new HS Chapter 99 for electronically transmitted goods like e-books.

However, this identified and commonly understood scope of the moratorium was extended by ECIPE (2019)<sup>7</sup>, which identified ET as 'digitizable products and services' under the scope of the moratorium. Four broad categories of services were identified as ET: *wholesale and retail trading services* (trd)- include all retail sales, wholesale trade and commission trade, hotels and restaurants, repairs of motor vehicles and personal and household goods and retail sale of automotive fuel; *recreational and other services* (ros)-recreational, cultural and sporting activities, other service activities and private households with employed persons (servants); *communications* (cmn)- include post and telecommunications services; *business services n.e.c.* (obs)--real estate, renting and business activities<sup>8</sup>.

This expanded scope of moratorium changed the goalpost for developing countries as adding these services completely alters the development implications of the moratorium. The OECD (2019)<sup>9</sup>, supporting this expanded scope of the moratorium, identified ET as 'digital deliveries' which cover along with digitizable products, digitally delivered business services. Interestingly, OECD (2019) does not include services when they estimate the share of ET in total trade and assert that "these values remain modest, representing only 1.2% of total trade."

<sup>2</sup> WTO (1998). *Global Electronic Commerce*, Proposal by the United States, WT/GC/W/78, 9 February 1998, Geneva

<sup>3</sup> 'The E-Commerce Moratorium and Implications for Developing Countries'

Communication from India and South Africa, WT/GC/W/774,

<sup>4</sup> IP/C/W/128/Add.1, 15 May 2003, WTO (2003)

<sup>5</sup> WTO, 2016-JOB/GC/114

<sup>6</sup> (Indonesia- WT/MIN(17)/68.)

<sup>7</sup> Hosuk-Lee Makiyama and Badri Narayanan (2019), The Economic Losses from Ending the WTO Moratorium on Electronic Transmissions, No 3/Policy Brief, ECIPE.

<sup>8</sup> <https://www.gtap.agecon.purdue.edu/databases/contribute/detailedsector57.asp>

<sup>9</sup> [https://one.oecd.org/document/TAD/TC/WP\(2019\)19/FINAL/en/pdf](https://one.oecd.org/document/TAD/TC/WP(2019)19/FINAL/en/pdf)

## 2. The trichotomy: 'Goods', 'Intangible Goods' and 'Services' in Economic Literature

To provide a way forward for developing countries in estimating the fiscal implications of the moratorium, this paper highlights the consensus reached in the economic literature with respect to the classification of "intangibles" and provides legal justification to support this classification. It also proposes the basis for classifying ET as 'intangibles', which do not include services. It further estimates the fiscal implications of the moratorium if ET includes 'intangible goods' and secondly, provides an estimate of the extended scope of the moratorium if ET includes electronically transmitted business services, as suggested by ECIPE (2019) and OECD (2019).

While there is no agreed classification of 'Electronic Transmissions' in the WTO, there is an understanding that ET are not tangibles and therefore are 'intangibles' which are shipped electronically. The need to identify 'intangibles' and classify them separately was recognized in the economic literature as early as the 1970s<sup>10</sup>. By the end of the 1990s, economic literature had more or less reached a consensus on the need for a trichotomy which clearly differentiates between "goods", "services" and "intangibles."

Just after the moratorium was agreed in 1998, Hill (1999) clearly highlighted the differences between 'goods', 'services' and 'intangibles', maintaining that 'intangibles' are classified as 'intangible goods' and have nothing in common with 'services.' According to Hill (1999), "*There is an extremely important and fast-growing class of intangible products in the form of entities that are recorded and stored on media such as paper, films, tapes or disks. Advances in computer, communications and audio-visual technology have greatly enhanced the economic importance of these intangibles. On closer analysis, it emerges that they have all the salient economic characteristics of goods and nothing in common with services. ... Treating them as services not only obscures the real nature and economic significance of intangibles but also causes confusion about the true characteristics of services.*"

Further, Hill emphasizes that 'intangibles' have all essential economic characteristics of goods but are sufficiently different from tangible goods and therefore there should be a trichotomy of 'tangible goods', 'intangible goods' and 'services.' Edgett and Parkinson (1993) reviewed [106 publications](#) to effectively support three unique characteristics of services, which differentiates 'services' from 'intangible goods.' These are "heterogeneity", "inseparability" and "perishability". Subsequently, this framework has been applied in many studies<sup>11</sup>. Except for being intangible, services differ from 'intangible goods' in the following three respects:

### ***Heterogeneity***

While 'intangible goods' are mostly homogenous, i.e., the same intangible good can be provided to many customers, e.g., the same e-book or a movie can be sold to many consumers, most of the services are heterogeneous and cannot be mass-produced or exactly repeated even if the same customer demands it.

### ***Inseparability***

Services are also 'inseparable' which means that it is very difficult to separate a service from service-provider as it is impossible to differentiate between production and supply of services. However, in the case of 'intangible goods' their production and supply can be separated like in the case of 'goods'. For example, video games or software can be produced and then distributed electronically.

<sup>10</sup> Hill (1977)

<sup>11</sup> Kotler 1977, Lovelock 1983, Bowen J. & Ford 2002, Lovelock and Gummesson 2004 and Moeller 2010

***Perishability***

The 'perishability' of services implies that most of the services cannot be stored, saved, returned or resold once they are rendered to a customer, which is not true for 'intangible goods' like music, films or e-books. These intangible goods can be stored, sold and re-sold in the same way as other goods. But most of the services received by a customer like personal, medical or engineering services cannot be stored by the consumers to be sold to others at their will.

Two other important characteristics of 'intangible goods' which differentiate them from 'services' are their 'ownership' and 'tradability'. Perishability of the services also indicates that services provided to a consumer are not owned by the consumers, unlike 'intangible goods' where ownership is transferred to the consumers. The consumers establish their rights over intangible goods and can then make copies of the intangible goods or give it to others.

Tradability of services differ from tradability of intangible goods. SNA (1993) define services as outputs produced to order, which cannot be traded separately from their production; and when their production is completed, they must have been provided to the consumers. The tradability of a service also has a unique quality that requires a relationship between producers and consumers. There cannot be a producer of a service without a consumer (Hill 1999), which is not true for intangible goods. It should also be noted that a service can be provided through different Modes<sup>12</sup> and these Modes distinguish services transactions on the basis of territorial presence of the suppliers and the consumers of the service. But, the services supplied through these Modes are complementary, which implies that most services which are supplied through Mode 1 or electronically can also be supplied through Mode 2, 3 or 4 and alternatively services supplied through Mode 2, 3 and Mode 4 can also be supplied through Mode1. For example, a foreign bank established locally may supply its services to consumers electronically, or a foreign natural person present locally may use electronic means to deliver consultancy services (WTO 1998, S/C/W/68). But this is not true for trade in intangible goods, which can be traded only electronically.

The lack of trichotomy in the trade disciplines has led to the confusion on how to classify the growing trade in intangibles, which is rising due to technological advancements. The 'intangible' nature of services has led some studies in the recent past to consider electronically delivered business services as a part of the ET and accordingly estimate the impact of the moratorium (ECIPE 2019, OECD 2019). But the above discussed differences between services and intangible goods make it clear that 'services' are not the same as 'intangible goods.'

### **3. Trichotomy of 'Goods', 'Intangible Goods' and 'Services': Legal Judgements**

The term "intangible goods" has not yet been adopted by the World Customs Organization, the World Trade Organization, the Harmonized System of Classification, the Central Product Classification, or any other goods and/or services classification systems. But this trichotomy is recognized in legal judgements and national laws on this issue. This section provides some examples of the legal judgements which have recognized this trichotomy.

<sup>12</sup> The four modes of supply are defined as follows: (1) cross-border, where the service is supplied from the territory of one Member into another; (2) consumption abroad, where the consumer purchases a service which is delivered in the territory of another Member; (3) commercial presence, where the service supplier of one Member establishes a subsidiary or a branch in another Member to supply a service; (4) presence of natural persons, where the service is supplied by a person working in the territory of another Member.

### 3.1 Appellate Body Judgement

At the World Trade Organization, one dispute required an extended discussion of tangible vs. intangible goods: *China-Publications and Audiovisual Products*<sup>13</sup>. The US brought the dispute against a Chinese law that regulated film and other media importers, as indirectly impacting the trade in goods themselves. China argued that the film was not a good at all, but because of the intangible content of the film, it is a service (due to its lack of physical form) (para. 173). However, the panel and Appellate Body disagreed. Throughout the Appellate Body decision, the AB pointed out that "the term "product" is used to refer to both tangible and intangible goods, as well as services" (para. 364). By listing the three categories in that way, the AB implicitly acknowledged that intangible goods are not services.

### 3.2 National Laws recognize the trichotomy

The existence of the trichotomy i.e., the three categories - 'goods', 'intangible goods' and 'services' can be found in the national laws and legal judgements of many countries. In many of these cases 'intangible goods' are categorized under "goods".

#### 3.2.1 Indonesian Customs Law

The definitions of 'Goods' and "imports" as per the Indonesian Customs Law (which was issued in 1995 and amended in 2006) are as follows:

"Goods": A 'Good' is defined as any object, whether tangible or intangible, moveable or immovable, that either can be spent or cannot be spent, that can be traded, used or utilized by consumers or business communities.

"Imports": Activities of bringing Goods into the Indonesian customs area,

From these definitions, intangible goods are classified as "goods" and any intangible goods which are obtained from outside the Indonesian territory are classified as "imported goods" and therefore are eligible for levying of customs duties. Indonesia has created a specific tariff heading for intangible goods, i.e., Regulation 17 provides a new Chapter 99 as an addition to the existing Indonesian Customs Tariff Book. Chapter 99 covers intangible goods (i.e., software and other digital products which were previously not covered under the Indonesian tariff system.).

#### 3.2.2. The Legal Judgements in India

The debate of whether 'intangible goods' should be included in the definition of 'Goods' has also emerged in India's law. The Supreme Court of India has held that 'goods' include 'intangibles goods' and despite being an 'intangible good', computer software comes under the ambit of 'goods.' According to this judgement<sup>14</sup>- "definition of goods, as under the Sale of Goods Act 1930, is of a wide import and it includes both tangible as well as intangible properties. It would become goods provided it has the attributes thereof having regard to (a) its utility; (b) capable of being bought and sold; and (c) capable of transmitted, transferred, delivered, stored and possessed. If a software whether customized or non-customized satisfies these attributes, the same would be goods."

The Law Commission of India in its 8<sup>th</sup> Report<sup>15</sup> proposed that 'electricity' and 'water' should be included in the definition of 'goods'. It states that under S.39 of the Indian Electricity Act, 'electricity' can be the subject of

<sup>13</sup> WTO, *China – Measures Affecting Trading Rights and Distribution Services for Certain Publications and Audiovisual Entertainment Products*—*Report of the Appellate Body*, WT/DS63/AB/R.

<sup>14</sup> SCC 308, 2005

<sup>15</sup> *Eighth Report on the Sale of Goods Act, 1930* (1958)

theft. Secondly, Art. 287 of the Constitution prohibits the State Legislatures to impose a tax on the 'consumption or sale of electricity' which implies that electricity can be sold just like any other commodity.

Further, the Supreme Court of India held that "*The term "movable property" when considered with reference to "goods" as defined for the purposes of sales tax cannot be taken in a narrow sense and merely because electric energy is not tangible or cannot be moved or touched like, for instance, a piece of wood or a book it cannot cease to be movable property when it has all the attributes of such property. . . . It can be transmitted, transferred, delivered, stored, possessed etc., in the same way as any other movable property.*"<sup>16</sup>

### **3.2.3 The European Court of Justice recognizes electricity and gas as goods in spite of being intangible**

It is not just the developing countries which have classified 'intangible goods' under the category of 'goods', many developed countries have also done the same. According to EC (2013)<sup>17</sup>, electricity<sup>18</sup> and natural gas<sup>19</sup> count as goods. The European Court of Justice has also confirmed implicitly that electricity is a good, despite being intangible in nature (Case 6/64, *Costa v. Enel* (1969) ECR 585).

It should be noted that the HS coding system includes a heading for electrical energy (HS 27.16), clearly an "intangible good". However, the use of this heading is optional, i.e. it is left to the discretion of the HS Contracting Parties. A number of countries have tariff commitments on energy products including 2716.00.00, which is electrical energy. This list of countries includes the EC and the US.

### **3.2.4 North American Industry Classification System recognizes intangible goods**

North American Industry Classification System (NAICS) identifies a new Information and Cultural Industries Sector whose output it explicitly acknowledges has a unique quality. According to NAICS "*The unique characteristics of information and cultural products, and of the processes involved in their production and distribution, distinguish this sector from the goods-producing and services-producing sectors. The value of these products lies in their information, educational, cultural or entertainment content, not in the format in which they are distributed.*" This industry classification includes information, software, motion pictures, music and data processing, hosting and related services. Therefore, intangibles have been classified under industry classification.

The above examples highlight that the trichotomy between 'goods', 'intangible goods' and 'services' has been recognized in the legal space in the WTO as well as in various countries. In most cases, 'intangible goods' have been given the same legal treatment as given to the 'goods.' This substantiates the case of treating 'intangible goods' differently from 'services.'

<sup>16</sup> Commissioner of Sales Tax, Madhya Pradesh v. Madhya Pradesh Electricity Board, AIR 1970 SC 732

<sup>17</sup> European Commission (2013), "Free movement of goods Guide to the application of Treaty provisions governing the free movement of goods"

<sup>18</sup> Case C-393/92 *Almelo v Energiebedrijf Ijsselmij* [1994] ECR I-1477

<sup>19</sup> Case C-159/94 *Commission v France* [1997] ECR I-5815



## 4. Are “Intangible Goods” part of Electronic Transmissions?

A rapidly growing literature on this issue has recognized that many 'goods' which were being traded physically are now becoming 'intangible goods' because of the advancing technology and are being traded electronically. There is an emerging consensus in the literature that these 'intangible goods' also referred to as digitized goods are a part of electronic transmissions. This literature<sup>20</sup> identifies a list of 'digitized goods' also including those 'digitizable goods' which have the potential to become intangible in future. The list includes cinematograph film; books, pamphlets, maps; newspapers, journals and periodicals; postcards, personal greeting message or announcement cards; other printed matter; video games; computer software; musical records, tapes and other sound or similar recordings; and other recorded media. These can be classified into five broad categories: films, printed matter, video games, software and sound & music.

World Customs Organization (WCO) also recognizes ET as 'intangible goods' and defines trade in intangible goods as: *“trade in intangible goods could be described as the transfer of products electronically/digitally. This means that intangible goods (digital products) such as software, music, films/videos and books are traded electronically.”* (WCO 2018, SP0662E1).

## 5. Are Services part of Electronic Transmissions?

Whether services which are electronically traded a part of ET and covered by the moratorium or not is an issue where there is no emerging consensus. Traditional services are different from 'intangibles' as they do not have the characteristics of intangibles, i.e., they are not homogenous (not same for all consumers) as well as cannot be owned (as consumers who have paid for them, cannot let others use them) and cannot be locally stored on a physical carrier. Further, and most importantly, they cannot be converted into physical form after importation, which is required for applying tariff. Thus, services being different from 'intangibles' their imports should not be covered under the scope of the moratorium and should continue to be disciplined under GATS.

## 6. Can Customs Duties be applied to ‘intangible goods’?

From the above discussions, it emerges that if ET are classified as comprising 'intangible goods' then to determine the scope of the moratorium clarity will be needed on whether customs duties can be applied to intangible goods or not?

The argument that customs duties can be levied only on physical goods and not intangible goods has been put forward by EC (2003)<sup>21</sup> which argued that GATT rules cannot apply on digitized goods but only on their physical counterparts, which are listed under the HS headings. The submission puts forward the case of electricity, which is intangible but classified under HS, as an exception to the rule.

<sup>20</sup> includes Pérez-Esteve and Schuknecht (1999), Mattoo and Schuknecht (2000), UNCTAD (2000) and Mattoo, Pérez-Esteve and Schuknecht (2001), WTO (2016), UNCTAD (2017), UNCTAD (2018), UNCTAD (2019), ECIPE (2019) and OECD (2019), WTO (2016- JOB/GC/114)

<sup>21</sup> WT/GC/W/497

However, it has been argued that neither GATT nor GATS define goods and services.<sup>22</sup> According to the traditional WTO definition, a good would be a tradeable item where the end product can be converted into a "tangible" or physical product and a service would be a tradeable item with an end product that is not physical.<sup>23</sup> Drawing from this argument, it can be concluded that customs duties can be levied on 'intangible goods' as these can be transformed into physical goods after importation. For example, movies, music and video games when electronically imported via downloads or via streaming services, they can be stored in physical carriers. Streaming of movies and music is a service similar to shipping service but streamed movie or music is an intangible good which can be converted into physical form and stored in physical carriers and therefore are covered under the scope of the moratorium.

This argument also finds support in GATT (1994) as it refers to the 'production and exchange of goods' and the WTO Agreement similarly refers to the 'production of and trade in goods.' Absence of any express qualification that 'goods' must be tangible implies that the form of good does not matter.<sup>24</sup> This reason justifies why the HS coding system includes electrical energy (HS 27.16), which is clearly an intangible good. A number of countries, including the US and EU have taken commitments on energy products, including 2716.00.00, which is electrical energy.

## 7. Proposed Classification of ET: Way Forward

The above discussion provides economic as well as legal justifications for identifying 'intangible goods' as a part of Electronic Transmissions. However, traditional services imported via Mode 1 are not covered under the scope of the moratorium since they do not share the characteristics of intangible goods and cannot be converted into physical form after their importation.

It is extremely important to have a consensus on the classification of ET. Lack of a classification has led to a long-drawn debate, which will become even more complex as the digital revolution unfolds and new digital technologies like 3D printing becomes mainstream.

To resolve this debate, one suggestion is to classify ET as those intangible goods which are (a) homogenous; (b) locally storable; and (c) are transferrable.

Homogenous would imply that the intangible goods should remain the same for all consumers, irrespective of the supplier. "Locally stored" would imply that intangible goods can be downloaded onto a physical media, even if it does not have tangible form while crossing borders. This implies that physical goods which are transformed to intangible goods should be able to transform back to physical goods after importation. "Transferrable" would imply that the value of the intangible good is preserved independently of its initial consumer and can be transferred to another consumer without the intervention of the producer. This will also resolve the complications around the issue of including intellectual content as ET since the contents will be covered under intellectual copyrights and cannot be transferred from one consumer to another consumer without the intervention of the producer. This definition also sits well with the justification provided by economic literature as well as legal justification of classifying ET as 'intangible goods.'

An attempt to provide a classification of ET was also undertaken by Drake and Nicolaidis (1999)<sup>25</sup> and supported by UNCTAD (2000) which suggested that ET are those intangible goods which are (a) locally stored; and (b) are transferrable.

<sup>22</sup> JOB(02)/38

<sup>23</sup> UNCTAD (2000).

<sup>24</sup> Munro, J. (2018), Emissions Trading Schemes under International Economic Law, Oxford University Press

<sup>25</sup> Drake, W.J. and K. Nicolaidis (1999), "Global Electronic Commerce and the General Agreement on Trade in Services: The "Millennium Round" and Beyond", in P. Sauve and R.M. Stern (eds.), *GATS 2000: New Directions in Services Trade*, Washington, D.C.: Brookings Institution Press

## 8. Scope of the Moratorium on ET?

The legacy of the existing trade agreements means that the disciplines can apply only to goods or services and there are no separate provisions for intangible goods. The question which arises in this case is whether ET should be governed under GATT or GATS disciplines?

Given that intangible goods have arisen from physical goods with HS codes and can be converted back to physical form after importation, it is proposed that irrespective of their mode of delivery, these are 'goods' and therefore their trade should be governed under the GATT. The scope of ET can therefore be limited to covering all intangible goods which have emerged from physical goods due to technological advancement. This does not cover traditional services which are currently disciplined under the GATS.

If the Moratorium is removed, then the customs duties can be applied by all countries on imports of intangible goods based on their negotiated tariffs using the HS codes applied to the corresponding physical imports in GATT. Countries could agree to use the same HS codes for 'intangible goods' which were applicable to the corresponding physical goods from which they have emerged due to technological advancement. These would cover the five categories, which are films, music, printed matter, video games and software.

## 9. Fiscal Impact of the Moratorium: Potential Tariff Revenue Loss

The pace at which the trade in ET is rising, not regulating this trade through the direct policy instruments like customs duties can have far reaching implications for tariff revenues of the developing countries. The implications of the moratorium on customs duties on ET for tariff revenues of developing countries is closely linked with the scope of the moratorium, which in turn is linked to the classification of ET. Without an agreed classification of ET, the impact of the moratorium can be estimated under 2 scenarios:

- (A) if ET includes online imports of intangible goods.
- (B) if ET also includes electronically imported services, as per ECIPE (2019) and OECD (2019). This classification of ET will include all business services (digital deliveries) which are imported via Mode 1. However, this considerably widens the scope of ET as compared to what is suggested in this paper.

### (A) Tariff revenue losses if the moratorium covers online imports of intangible goods.

Along with the scope of ET, there also exists a fierce debate on the extent of tariff revenue loss due to the moratorium on customs duties on ET. Since countries record imports of only physical goods and do not record imports of intangible goods, the impact of the moratorium has been estimated by some studies using physical imports only. Studies like Pérez-Esteve and Schuknecht (1999)<sup>26</sup>, Mattoo and Schuknecht (2000)<sup>27</sup> and the WTO (2016) have estimated the tariff revenue losses using physical imports of digitizable goods. The fact that imports of these physical goods is falling as the products are becoming digitalized and more and more trade is shifting online, the extent of tariff revenue collected by countries from these imports is also found to be falling. Based on this declining trend, these studies conclude that moratorium on ET does not lead to any significant losses in tariff revenues for the developing countries. WTO (2016) estimates the loss of tariff revenue

<sup>26</sup> Pérez-Esteve, R. and L. Schuknecht (1999) "A Quantitative Assessment of Electronic Commerce", WTO Staff Working Paper ERAD-99-01.

<sup>27</sup> Mattoo, A., R. Pérez-Esteve, and L. Schuknecht (2001) "Electronic Commerce, Trade and Tariff Revenue: A Quantitative Assessment", *The World Economy*, Volume 24, Issue 7, pp. 955–970

to be around US\$ 756 million, using applied duties, of which 92% is lost by the developing countries and only 8% is revenue loss to the developed countries. It is highlighted that this loss is a minor share of customs revenues from all imports, which is 0.26% and even lower if taken as a share in total government revenues.

However, UNCTAD Research Paper 29 presents a detailed critique of the WTO (2016) and argues that the moratorium applies to the 'online' trade and not physical trade, therefore any estimation of tariff revenue loss to the governments based on physical trade is biased. Using the average annual growth rate of physical global imports of digitizable products (49 HS 6-digit tariff lines) in the period 1998-2010, the study estimates the physical global imports of digitizable goods in the period 2011-2017. The difference between the actual physical global imports of digitizable goods in the period 2011-2017 and their predicted imports is used to estimate the 'online' imports of digitizable goods. Using this methodology, the study estimates global and regional 'online' imports of digitized products. Similar estimates are also undertaken for 91 countries. It is found that the actual physical global imports of these 49 digitizable products in 2017 were \$116 billion. Using the average annual growth rates of physical imports in the period 1998-2010 (8%) and applying it to the period 2011-2017, the estimated global physical imports in 2017 is \$255 billion. The difference between the two provides an estimate of online imports. The 'online' global imports of ET is estimated to be **\$139 billion**. This implies that 55% of global imports of the identified digitizable goods are online, while 45% are physical imports. It is important to note that with the digital revolution these physical imports are fast turning into online imports. It is argued that these estimates are conservative estimates as in the period 2011-2017 online imports were much easier than physical imports therefore the average growth rate of imports of digitizable products would have been much higher than the earlier period.

Following the moratorium on customs duties of ET, the potential tariff revenue loss is estimated by the study for developing and developed countries. Using bound duties, **the potential tariff revenue loss to developing countries is estimated at \$10 billion per annum**<sup>28</sup>. Tariff revenue loss to WTO LDCs is estimated at \$1.5 billion while African countries' loss is around \$ 2.6 billion (Table 1). WTO high-income countries experience a tariff revenue loss of only \$289 million, as their average bound duties are at 0.2%. It is interesting to note that the potential tariff revenue loss to Sub-Saharan African countries is ten times more than that of the WTO High-Income countries. Potential tariff revenue loss for the WTO LDC member countries is also found to be higher than that of the developed countries. Alternatively, it can be said that using bound duties, WTO LDCs can generate five times more tariff revenue than the developed countries if the Moratorium is removed.

A similar exercise can be undertaken separately for 91 countries for the year 2017. Using bound duties, the study shows that the top six countries which face the maximum tariff revenue loss from the moratorium are Mexico followed by Thailand, Nigeria, India, China and Pakistan. Tariff revenue losses for small countries like Fiji, Guatemala and Malawi are found to be more than USD 100 million. Tariff revenue loss of moratorium on customs duties on physical imports of digitizable products for developing countries is 30 times more than that for the developed countries. While developing countries can generate 40 times more revenue by imposing customs duties on ET as compared to the developed countries, many of which have almost zero bound duties on physical imports of digitizable products.

While the analyses are undertaken using both applied and bound duties, it is more appropriate to estimate the potential loss of revenue using bound duties for three specific reasons, *firstly*, countries can raise their tariffs to the bound levels at any time which implies that the potential revenue that they can collect is more adequately reflected by the bound duties; *secondly*, all WTO negotiations are undertaken at the bound levels and not on applied duties so bringing tariffs down to zero would have to be from the bound levels. Developing countries have much higher tariff water as compared to the developed countries which implies that the tariff cuts undertaken by developing countries are more appropriately captured using bound duties rather than applied duties; and *thirdly*, any analysis undertaken using applied duties will need to be revised whenever any member country changes its applied duty.

<sup>28</sup> This figure has been reported by UNCTAD (2019), Trade and Development Report.

The methodology used by UNCTAD Research Paper 29 has also been used by other studies to estimate potential tariff revenue losses due to the moratorium. These studies have arrived at similar results. Devika and Thrasher (2020) estimate the cumulative online imports of lower middle-income countries was USD 286 billion in the period 2009-2018. The study further concludes that "countries with a higher value of online trade in total trade share are associated with a decline in trade tax revenue and an increase in government debt, with trade liberalization." Montes (2020) estimates the potential tariff revenue loss for developing countries from online imports of digitizable goods and using similar methodology estimates a potential tariff revenue loss due to moratorium on online imports of around USD 4.4 billion as compared to USD 4.5 billion estimated by UNCTAD Research Paper 29.

It has been argued by some studies that developing countries can compensate for the lost tariff revenue due to moratorium by raising internal taxes like GST. However, Devika and Thrasher (2020) argue that the existence of a large informal sector which is out of the tax net in developing countries implies that the lost tariff revenue can never be recovered by the governments in developing countries. Their results show that "a 1 percent increase in online trade share is associated with a 0.13–0.18 percent decline in trade tax revenue as a share of GDP and a 1 percent increase in online trade share is associated with a 0.07–0.17 percent increase in government debt as a share of GDP. Moreover, there is no evidence of an increase in indirect tax revenue with trade liberalization, which many assume will make up for any losses of trade tax revenue." These results counter the arguments put forward favouring internal taxes to custom duties on electronic transmissions.

### **(B). Impact of the Moratorium if it includes electronically traded business services (i.e., imports via Mode 1 as per OECD, 2019)**

According to OECD (2019), ET are digital deliveries and include all business services which are electronically traded. Interestingly, when analyzing the total trade of ET, the study considers only digitizable goods and concludes that the proportion of this trade is very low but when estimating the impact of the moratorium on exports, especially of SMEs, the study includes 'foreign business services' as ET (OECD 2019: page 29, para 3). ECIPE (2019) identifies six categories of services under the category of ET and applies customs duties on these services imports to estimate the tariff revenue loss due to the moratorium. But their model allows them to estimate the impact of removing custom duties on imports of four broad categories of services. The study reaches the conclusion that moratorium will lead to minimal tariff revenue losses for developing countries. However, Banga (2019)<sup>29</sup> provides a detailed critique of ECIPE (2019) methodology of estimating economic losses of the moratorium and argues that if some unrealistic assumptions, like foreign services cannot be substituted by domestic services, are dropped then there would be no economic losses to developing countries in terms of GDP and employment. Furthermore, the tariffs used by the ECIPE (2019) on services are not the negotiated tariffs as per the GATT.

This paper undertakes an estimation of the impact of the moratorium if all services imported under Mode 1 are classified as ET and covered by the moratorium, as suggested by the OECD (2019). It can be strongly argued that when countries agreed on the moratorium on customs duties on ET, there was no consensus that ET includes business services traded electronically or via Mode 1. Further, this assumes that moratorium is applied on customs duties on imports of services via Mode 1, which, as argued in the above sections, may not be right as these services do not have physical form either before or after the importation.

If countries agree to include business services which are electronically traded under the scope of the moratorium, then effectively they would be allowing unregulated imports of all services via Mode 1 and the potential tariff revenue losses would increase manifolds. To estimate the extent to which services are imported via Mode 1, a new Mode-wise database of services provided by WTO in November 2019, i.e., TISMOS (Trade in Services data by Mode of Supply) is used. This database estimates the imports of services in all four Modes in different services sectors for 200 countries for the period 2005-17. The Mode-wise imports in different

<sup>29</sup> Banga, R. (2019) 'Modelling Impact of Moratorium on Electronic Transmissions using CGE: A Critique' *Advances in Social Sciences Research Journal* – Vol.6, No.8 Aug. 25, 2019

services is an extremely useful database which can help countries identify to what extent different services are imported under Mode 1. For example, the countries will have an estimate of how much financial or health services are imported into the country through Mode 1.

Using the TISMOS database of WTO, an estimate can be arrived at of electronically imported services under Mode 1. And as per ECIPE (2019) and OECD (2019) if the scope of moratorium covers these services then the potential tariff revenue loss will increase manifolds as compared to the scenario where only digitizable goods are categorized as ET.

Using WTO's TISMOS database, the total imports of services under Mode 1 (electronically) is estimated at USD 705 billion for WTO developing members as compared to USD 80 billion of digitizable products. If moratorium covers the imports of services via Mode 1, as per OECD (2019), then arguably the potential tariff revenue losses to developing countries will be manifolds higher. The same is true for Sub Saharan Africa and the Middle East and North Africa, where the imports of services via Mode 1 is 10 times higher than that of digitizable products, while for WTO LDC members it is more than 20 times higher.

Appendix of this paper reports imports of services via Mode 1 for 196 countries. This can help understand the extended scope of Moratorium if services are included as a part of ET and covered by the moratorium. Services imports via Mode 1 increased globally by around 43 percent in the period 2000-2017 and has the potential to increase much faster in this digital era. More than 90 countries, mostly developing countries, have experienced more than 50 percent rise in their imports of services via Mode 1 since 2010. Including electronically imported services under ET can therefore substantially widen the scope of the moratorium, adversely impacting the flexibilities available to developing countries under GATS in terms of regulating their imports of services.

It needs to be emphasized that this paper does not agree that business services imported under Mode 1 are under the scope of the moratorium but provides the estimates of imports of services under Mode 1 so that countries are able to gauge the extended scope of the moratorium if they agree that these are covered by the moratorium. This paper proposes that only online imports of digitizable goods, which are different from services, come under the scope of the moratorium.

**Table 1. Potential Tariff Revenue Loss if ET are Classified as online Imports of Digitizable Goods; and Services Imported via Mode 1 (as per OECD, 2019).**

	Simple Average of Bound Duties in 2017 (%)	Estimated Total Imports of Digitizable Products (\$Mn)	Imports via Mode 1 of All Services (\$Mn)	Potential Tariff Revenue Loss if ET are Digitizable Goods. using Average Bound Duties (\$Mn) *
WTO Developing members (excluding LDCs)	12.6	79 957	705,630	10 075
WTO High-Income Members (21)	0.2	144 566	1,822,184	289
Sub-Saharan Africa	46.4	5 669	62,919	2 630
Middle East - North Africa	18.9	5 371	66,012	1 015
WTO LDC members (31)	50.3	2 995	46,230	1 506

Source: Trade in Services data by mode of supply (TISMOS) and World Integrated Solutions (TRAINS)

\* Estimations of UNCTAD Research Paper 29(2019).

## 10. 3D Printing: Implications of Moratorium

The rapid development of digital technologies is leading to an exponential growth in the trade of ET as all digital technologies need data and software, which are both electronically transmitted. The implications of not regulating this trade for developing countries goes much beyond the potential tariff revenue losses.

Digital technologies like 3D printing are still immature but are growing at an accelerated pace. According to Wohler's Report (2019) additive manufacturing (3D printing) has grown by 62% over the past 2 years<sup>30</sup>. According to the Smithers Report (2017) the 3D printing market is set for explosive growth over the next decade with an aggressive annual growth rate of 23%<sup>31</sup>. This growth will further accelerate growth in trade of ET.

Such a growth in 3D printing has the potential of completely changing the existing export competitiveness of developing countries, whose traditional manufactured exports can now be mass-produced by 3D printers using electronically transmitted software. The impact of 3D printing on the export competitiveness of labour-abundant developing countries has been estimated by Freund et al (2020)<sup>32</sup> in a background paper for the World Development Report (2020). The results show that "3D printing particularly benefitted exports of upper-middle-income economies and high-income countries, while it had a negative impact on exports from low-income economies". Further, the study also concluded that "3D printing is leading to a reshuffling in comparative advantage from labor abundant developing economies to capital abundant advanced economies".

The impact of 3D printing on the hearing-aid industry can be taken as an example of the impact that 3D printing can have on printable sectors. According to D'Aveni (2015)<sup>33</sup> the US hearing aid industry converted to 100% additive manufacturing in less than 500 days and not one company that stuck to traditional manufacturing methods survived. The growth in 3D printing is also reflected in the growth of 3D printing companies. In 2019, three 3D printing companies reached the unicorn status, which is a valuation over \$ 1 billion. Some examples of 3D printing include a 3D printed office in Dubai covering 250 square meters space which was 3D printed in 17 days using a 3D printer measuring 20 feet high and a 120 feet long robotic arm.<sup>34</sup>

All these trends indicate that 3D printing is experiencing an explosive growth, which can change the existing export competitiveness of developing countries in the future. It is important to note that software trade may rise exponentially to support this growth in 3D printing. While design, CAD and simulation have always been a requirement, the production of industrial-grade and lightweight parts will require software that are specific to additive manufacturing processes. Moratorium on customs duties on ET will severely curtail the policy space of developing countries in terms of regulating the imports of software used in 3D printing. The countries will lose the flexibility of using a direct and simple policy tool like customs duties for regulating their imports. Not only will this impact adversely on the export competitiveness of developing countries but would also imply that the negotiated tariffs in GATT and scheduled limitations under GATS may become meaningless. For example, if a country has taken no commitments in construction services and has some restrictions on the presence of foreign firms, then with 3D printing foreign firms can 3D print houses, bridges, etc. without physical presence. Foreign firms will also be able to 3D print manufactured products, e.g., footwear through imports of 3D printers and software, while footwear may have been protected by the country with high customs tariffs.

<sup>30</sup> <https://all3dp.com/4/interview-terry-wohlers-state-3d-printing-industry-2019/>

<sup>31</sup> <https://www.smithers.com/resources/2017/jul/reasons-why-3d-printing-is-reaching-the-mainstream>

<sup>32</sup> Freund et al (2020), "Is 3D Printing a Threat to Global Trade? The Trade Effects You Didn't Hear About", Background paper in World Development Report, 2020

<sup>33</sup> D'Aveni (2015), "The 3-D Printing Revolution" in Harvard Business Review, May, 2015

<sup>34</sup> <https://futurism.com/dubai-3d-printed-this-office-of-the-future-in-less-than-3-weeks>

Most of the developing countries are net importers of software but it must be noted that even those developing countries which are net exporters of software, they may not be exporting the software which is being used in digital technologies like artificial intelligence and 3D printing.

## 11. Conclusions

At times of a crisis like the COVID-19, the importance of retaining policy space in trade agreements comes to the forefront. Developing countries need to retain the flexibility of regulating their imports, especially imports of luxury items, and to generate tariff revenues when needed. Moratorium on customs duties on electronic transmissions takes away this important flexibility from the governments and that too in a growing area of imports which includes mainly luxury items.

At the time when the moratorium on customs duties on ET was agreed, there was neither clarity nor consensus on the definition of ET and thereby on the scope of the moratorium. Ever since, under the work program on electronic commerce, countries have been discussing and debating the scope of the moratorium. While there is a growing awareness that with advancing digital technologies the scope of the moratorium is expanding and many more goods are being electronically transmitted, limited attempts are being made to classify ET and thereby agree on the scope of the moratorium. Even without an agreed classification of ET, it is clear that in the digital era with advancing digital technologies, trade in electronic transmissions will grow manifolds, expanding the scope of the moratorium and thereby adversely impacting customs tariff revenues of the developing countries.

To provide a way forward to developing countries in this debate, this paper delves into the existing economic literature and legal judgements to address the classification issue with respect to ET. The paper highlights the consensus reached in the economic literature on the need to have trichotomy categorizing 'goods', 'intangible goods' and 'services' where 'intangible goods' are different from services. Advancing technologies have the potential to convert physical goods into intangible goods, which are very different from traditional goods (disciplined under GATT) and traditional services (disciplined under GATS). Based on their unique characteristics, the paper proposes a classification of ET to be covered under the scope of the moratorium, i.e., **ET under the moratorium covers those intangible goods which are (a) homogenous; (b) locally stored; and (c) transferrable.**

Using this definition of ET, the scope of moratorium can be defined as covering only intangible goods. Classified in this manner, ET will include intangible goods like software, films, music, printed matter and video games, whether downloaded or streamed. Streaming services can be compared to shipping services, while the downloaded movies, music, video games, printed matter and software can be compared to shipped physical products which have corresponding HS codes. Customs duties can be applied to these digitizable products since these have originated from physical products due to technological advancements and can take physical form after their importation. All these intangible products are homogeneous, can be locally stored or downloaded in physical carriers and are transferable.

Based on this classification of ET it is easier to explain the scope of the moratorium. If the moratorium is removed, then customs duties can be applied by all countries on imports of intangible goods based on their negotiated bound or applied tariffs, using the HS codes of physical imports of these intangible goods in GATT. Countries need to agree to use the same HS codes of physical goods for their intangible counterparts or alternatively they can agree to create another HS chapter covering intangibles following the example of Indonesia.

However, even without an agreed definition of ET, the revenue implications of the moratorium can be estimated based on different scenarios of the scope of the moratorium. The paper estimates customs revenue implications of the Moratorium if only 'online' imports of digitizable goods are considered by the moratorium and secondly, it estimates the impact of the moratorium if services which are electronically transmitted under Mode 1 are considered as ET (as per OECD 2019). The estimates show that in the first scenario, the potential tariff revenue loss to the developing countries will be USD 10 billion per annum. Potential tariff revenue loss to



WTO LDCs is estimated at \$1.5 billion while sub-Saharan African countries' loss is estimated to be around \$ 2.6 billion. WTO high-income countries experience a tariff revenue loss of only \$289 million, as their average bound duties are at 0.2%.

But this impact of the moratorium will increase manifold if electronically transmitted services are also included under the scope of the moratorium. Using WTO's TISMOS database, the total imports of services under Mode 1 for developing countries (excluding LDCs) is estimated as USD 705 billion as compared to USD 80 billion of digitizable products. The imports of services under Mode 1 are found to be more than 10 times than the imports of digitizable products for Sub Saharan Africa as well as for Middle East and North Africa, while they are 20 times more in the case of WTO LDC members. This gives an estimate of the extent to which unregulated imports will be allowed if ECIPE (2019) and OECD (2019) criterion for the scope of the moratorium is followed. It is extremely important for developing countries to agree on the scope of the moratorium if they take a decision to extend the moratorium, else the scope can be changed any time after it is extended.

The paper further argues that the implications of the moratorium on customs duties on ET goes much beyond customs tariff revenue losses for developing countries due to the advancement of new digital technologies like 3D printing. These emerging digital technologies have the potential to exponentially expand the trade in ET. The on-going trend shows that the use of 3D printing is growing very fast and the industry has expanded by 62% in 2019 since 2017. 3D printing has adversely impacted the export competitiveness of the labour abundant countries, shifting the comparative advantages towards capital abundant countries. It is therefore urgent for developing countries to support the removal of the moratorium in order to preserve their policy space for regulating the imports of luxury items and generating tariff revenues at the time of crisis. This will also assist their digital advancement by providing a level playing field to their budding digital industry.

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## APPENDIX: Imports of Services via Mode 1 in 2007-2017

	Countries	Mode 1 Imports in 2007 in USD Million	Mode 1 Imports in 2010 in USD Million	Mode 1 Imports in 2017 in USD Million	Percentage Change in Imports via Mode 1 (2007-2017)
1	Afghanistan	181	946	1,141	531%
2	Albania	656	713	548	-16%
3	Algeria	4,938	8,276	7,893	60%
4	Angola	9,286	10,726	8,855	-5%
5	Anguilla	66	42	79	19%
6	Antigua and Barbuda	200	161	302	51%
7	Argentina	7,810	10,451	14,294	83%
8	Armenia	587	696	738	26%
9	Aruba (the Netherlands with respect to)	540	353	457	-15%
10	Australia	28,961	33,886	36,225	25%
11	Austria	30,174	28,735	41,670	38%
12	Azerbaijan	1,510	2,442	2,601	72%
13	Bahamas	1,005	867	1,196	19%
14	Bahrain, Kingdom of	1,638	1,799	6,450	294%
15	Bangladesh	3,114	4,745	9,456	204%
16	Barbados	442	428	450	2%
17	Belarus	2,263	3,191	3,668	62%
18	Belgium	60,950	63,520	89,858	47%
19	Belize	137	136	187	36%
20	Benin	452	478	601	33%
21	Bermuda	740	635	655	-11%
22	Bhutan	57	96	108	90%
23	Bolivia, Plurinational State of	606	905	1,738	187%
24	Bosnia and Herzegovina	475	476	612	29%
25	Botswana	516	607	651	26%
26	Brazil	25,298	40,675	44,516	76%
27	Brunei Darussalam	658	650	627	-5%
28	Bulgaria	3,148	2,680	4,441	41%
29	Burkina Faso	379	689	1,194	215%
30	Burundi	77	149	198	158%
31	Cabo Verde	147	146	223	52%
32	Cambodia	727	1,008	2,322	219%
33	Cameroon	1,330	1,529	1,685	27%
34	Canada	58,284	65,262	77,401	33%
35	Cayman Islands	584	781	955	64%
36	Central African Republic	97	111	123	28%
37	Chad	1,382	1,689	1,813	31%
38	Chile	7,179	9,482	11,625	62%
39	China	115,839	165,012	240,839	108%

40	Chinese Taipei	30,015	33,505	36,334	21%
41	Colombia	5,018	6,867	8,454	68%
42	Comoros	51	79	73	43%
43	Congo	2,839	2,888	1,768	-38%
44	Costa Rica	1,440	1,609	2,934	104%
45	Côte d'Ivoire	1,986	2,381	2,528	27%
46	Croatia	2,777	2,682	3,109	12%
47	Cuba	1,494	1,677	1,816	22%
48	Cyprus	2,249	4,200	5,075	126%
49	Czech Republic	10,545	11,847	14,662	39%
50	Democratic Republic of the Congo	704	1,043	1,111	58%
51	Denmark	38,484	33,770	35,187	-9%
53	Djibouti	112	107	191	71%
54	Dominica	54	57	104	94%
55	Dominican Republic	1,782	2,572	3,174	78%
56	Ecuador	2,248	2,878	2,982	33%
57	Egypt	11,113	11,517	14,632	32%
58	El Salvador	1,118	990	1,499	34%
59	Equatorial Guinea	1,035	2,254	1,108	7%
60	Eritrea	50	63	137	172%
61	Estonia	2,354	2,122	3,067	30%
62	Eswatini	447	522	189	-58%
63	Ethiopia	406	612	1,133	179%
64	Faeroe Islands	202	224	269	33%
65	Fiji	357	337	479	34%
66	Finland	17,306	19,170	20,201	17%
67	France	128,868	140,008	170,866	33%
68	French Polynesia	493	460	298	-40%
69	Gabon	720	1,351	1,285	78%
70	Georgia	846	931	1,637	94%
71	Germany	154,108	165,790	199,776	30%
72	Ghana	1,401	2,065	6,771	383%
73	Greece	9,839	9,441	7,403	-25%
74	Grenada	94	85	192	104%
75	Guatemala	1,890	2,056	3,046	61%
76	Guinea	213	370	680	220%
77	Guinea-Bissau	34	70	100	195%
78	Guyana	237	307	446	89%
79	Haiti	497	767	1,008	103%
80	Honduras	1,092	1,060	1,774	62%
81	Hong Kong, China	29,172	37,472	49,287	69%
82	Hungary	13,754	13,501	15,663	14%
83	Iceland	1,663	1,218	1,741	5%

84	India	79,770	85,242	123,851	55%
85	Indonesia	15,213	17,572	22,403	47%
86	Iran	7,153	8,670	7,033	-2%
87	Iraq	4,591	9,364	9,032	97%
88	Ireland	83,744	95,883	172,692	106%
89	Israel	11,904	11,110	16,023	35%
90	Italy	89,849	77,687	78,519	-13%
91	Jamaica	2,010	1,575	1,958	-3%
92	Japan	119,915	125,254	150,571	26%
93	Jordan	2,854	3,211	3,893	36%
94	Kazakhstan	6,338	8,100	6,570	4%
95	Kenya	1,412	1,880	2,423	72%
96	Kiribati	28	31	40	44%
97	Korea, Republic of	47,016	57,618	70,490	50%
98	Kuwait, the State of	4,583	5,883	10,319	125%
99	Kyrgyz Republic	410	542	576	40%
100	Lao People's Democratic Republic	35	118	322	826%
101	Latvia	2,259	1,901	2,780	23%
102	Lebanese Republic	6,111	7,562	7,699	26%
103	Lesotho	136	201	188	38%
104	Liberia	210	201	202	-4%
105	Libya	2,194	3,957	3,029	38%
106	Lithuania	2,812	2,640	4,397	56%
107	Luxembourg	38,620	39,218	69,138	79%
108	Macao, China	1,426	1,365	2,734	92%
109	Madagascar	936	952	876	-6%
110	Malawi	122	216	272	123%
111	Malaysia	23,741	24,441	29,378	24%
112	Maldives	222	252	734	230%
113	Mali	652	916	1,176	80%
114	Malta	4,968	7,681	8,090	63%
115	Mauritania	502	610	622	24%
116	Mauritius	1,045	1,353	1,304	25%
117	Mexico	26,995	29,770	40,588	50%
118	Moldova, Republic of	461	499	647	40%
119	Mongolia	272	557	1,347	396%
120	Montenegro	346	325	470	36%
121	Montserrat	12	12	14	11%
122	Morocco	4,463	5,341	7,241	62%
123	Mozambique	665	886	2,527	280%
124	Myanmar	628	801	2,982	374%
125	Namibia	459	609	625	36%
126	Nepal	510	590	989	94%

127	Netherlands	120,896	124,375	173,151	43%
128	New Caledonia	910	1,091	930	2%
129	New Zealand	5,945	6,465	7,999	35%
130	Nicaragua	650	716	962	48%
131	Niger	355	736	767	116%
132	Nigeria	9,690	14,511	12,027	24%
133	Non-specified territories	327	740	1,683	414%
134	Norway	16,646	21,782	21,852	31%
135	Oman	4,428	5,165	7,825	77%
136	Pakistan	6,821	6,043	8,897	30%
137	Panama	2,137	2,827	3,910	83%
138	Papua New Guinea	1,820	1,872	1,253	-31%
139	Paraguay	548	892	1,194	118%
140	Peru	3,593	5,268	7,425	107%
141	Philippines	5,730	7,443	15,629	173%
142	Poland	15,498	20,653	26,360	70%
143	Portugal	10,112	10,249	10,858	7%
144	Qatar	6,224	6,161	17,802	186%
145	Romania	6,578	5,925	9,784	49%
146	Russian Federation	33,340	42,074	49,383	48%
147	Rwanda	242	406	560	131%
148	Saint Kitts and Nevis	87	93	170	95%
149	Saint Lucia	150	160	276	84%
150	Saint Vincent and the Grenadines	87	79	102	18%
151	Samoa	53	59	80	51%
152	Sao Tomé and Príncipe	18	25	41	134%
153	Saudi Arabia, Kingdom of	20,452	25,984	31,548	54%
154	Senegal	1,013	972	1,432	41%
155	Serbia	2,373	2,321	3,188	34%
156	Seychelles	202	191	417	106%
157	Sierra Leone	87	241	399	360%
158	Singapore	63,615	78,397	132,922	109%
159	Slovak Republic	5,578	4,905	7,134	28%
160	Slovenia	2,996	3,080	3,810	2%7
161	Solomon Islands	67	95	126	89%
162	South Africa	12,319	13,797	13,089	6%
163	Spain	71,276	60,603	62,309	-13%
164	Sri Lanka	3,281	3,280	4,789	46%
165	Sudan	1,421	604	632	-56%
166	Suriname	291	219	294	1%
167	Sweden	37,666	36,260	46,349	23%
168	Switzerland	42,530	52,021	74,062	74%
169	Syrian Arab Republic	2,560	2,417	1,764	-31%

170	Tajikistan	384	457	366	-5%
171	Tanzania	848	1,202	1,329	57%
172	Thailand	30,120	34,005	36,736	22%
173	The former Yugoslav Republic of Macedonia	655	688	884	35%
174	The Gambia	82	66	94	13%
175	Timor-Leste	40	81	138	241%
176	Togo	319	368	400	25%
177	Tonga	26	38	58	122%
178	Trinidad and Tobago	484	511	2,785	475%
179	Tunisia	2,103	2,446	2,227	6%
180	Turkey	16,705	18,302	22,472	35%
181	Turkmenistan	1,605	2,278	3,568	122%
182	Tuvalu	5	10	7	43%
183	Uganda	914	1,549	1,875	105%
184	Ukraine	8,382	9,027	5,808	-31%
185	United Arab Emirates	24,745	28,002	57,097	131%
186	United Kingdom	134,630	122,282	140,633	4%
187	United States of America	323,235	337,542	449,529	39%
188	Uruguay	830	1,210	2,392	188%
189	Uzbekistan	456	598	1,006	120%
190	Vanuatu	52	86	105	101%
191	Venezuela, Bolivarian Republic of	9,866	11,846	5,305	-46%
192	Viet Nam	7,511	9,182	17,369	131%
193	Yemen	1,716	1,977	1,377	-20%
194	Zambia	544	715	1,401	157%
195	Zimbabwe	452	1,253	844	87%
196	World	2,538,912	2,788,210	3,632,362	43%

Source: Trade in Services data by mode of supply (TISMOS)