
Growing Trade in Electronic Transmissions: Implications for the South

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Issues covered

- What are Electronic Transmissions (ET)?
- What is WTO Moratorium on ET?
- Limitations of existing literature
- How to estimates of global trade in ET?
- Results of estimates of Physical Imports and Online Imports (ET) of digitizable products at aggregate level and at country level.
- Estimated Tariff Revenue Loss of Moratorium for 58 developing countries and 33 developed countries
- Custom duties on ET as Potential source of Revenue
- Broader Implications of Moratorium on Digital Industrialization



What are Electronic Transmissions (ET)?

- Debate in the WTO since early 1990s: whether ET should be treated as **‘goods’** and be exposed to custom duties or as **‘services’** where GATS schedules apply or treated as **‘IP’**?
- US-GATT; EU-GATS..and some countries wanted them under IP. But then both **USA and EU agreed that the existing practice of no custom duties should continue**
- In 1998, WTO adopted a Declaration on global electronic commerce, which included a **two-year Moratorium** on custom duties on ET. Since then the Moratorium has been renewed every two years (except for 2003-05) with some Members demanding to make it permanent.
- **ET are on-line deliveries of ‘digitizable products’, e.g., of music, printed matter/e-books, films, softwares and video games.**



Fiscal Implications of Moratorium on ET?

- With Digital Revolution as trade in ET is growing exponentially the pressure on members is also growing to make this Moratorium permanent.
- **WTO Note (2016- JOB/GC/114) on Fiscal Implications of the Customs Moratorium on Electronic Transmissions** argues that physical trade of digitizable products is falling by 2.7% per annum since 2000. The global imports of these products amounted to **US\$94 billion in 2014** with MFN tariffs of 6.7%.
- The loss of tariff revenue is estimated to be **US\$ 756 million**, of which 92% is lost by the developing countries. It is highlighted that this loss is 0.26% of custom revenues



Limitations of Existing Literature

- Pérez-Esteve and Schuknecht (1999), Mattoo and Schuknecht (2000), UNCTAD (2000) and Mattoo, Pérez-Esteve and Schuknecht (2001), WTO (2016) and UNCTAD (2017).
- Impact of Moratorium on physical imports of Digitizable products estimated **but not ET or on-line imports.**
- As online trade increases, physical trade will decrease so custom revenue will decline indicating a much lower loss in tariff revenues of the governments.
- Important to estimate imports in ET to estimate the impact of the Moratorium

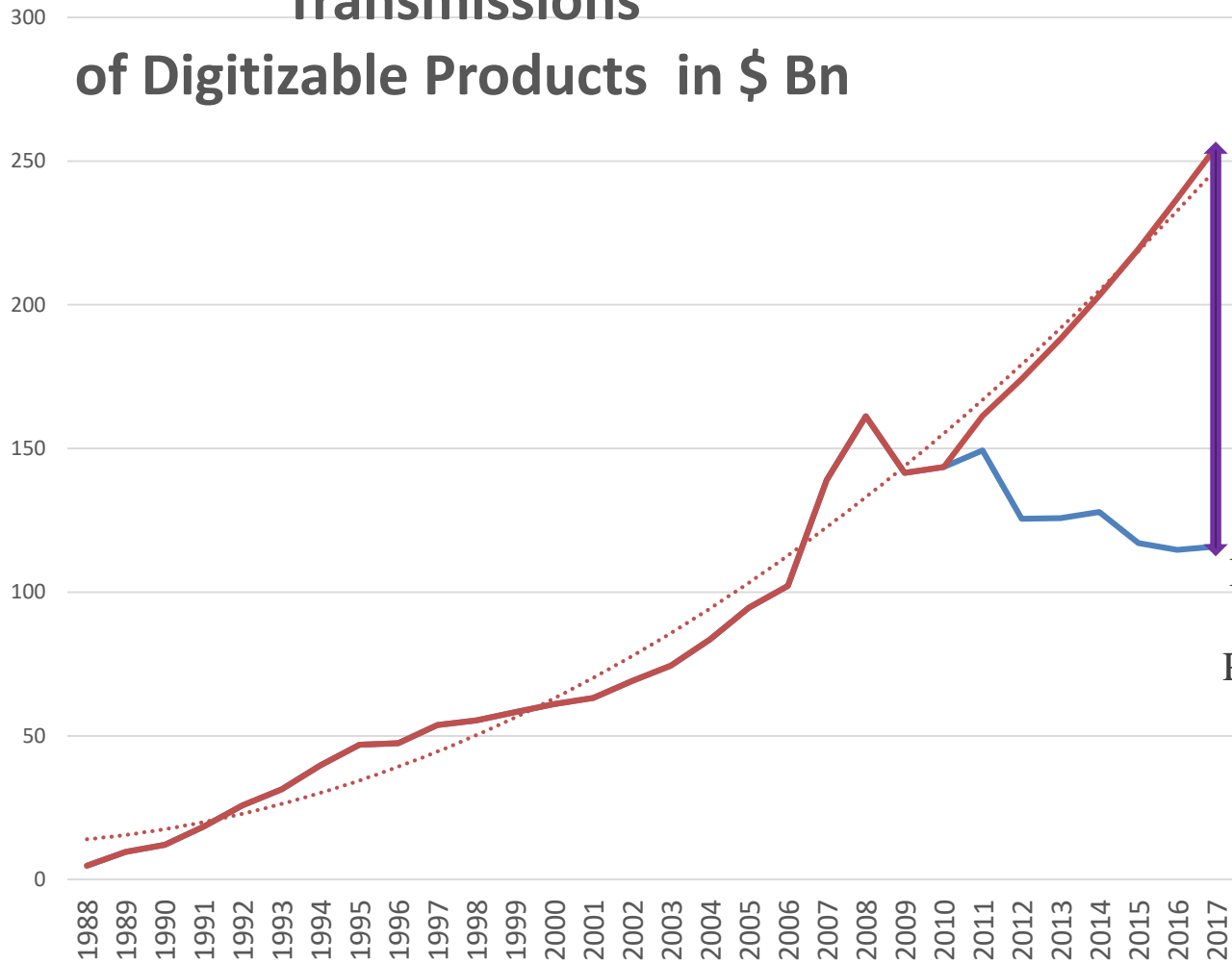


Methodology Adopted to Estimate Trade in ET

- *Step 1: Identify those products which are digitizable –49 Products at HS Combined-films, music, printed matter, software and video games*
- *Step 2: Estimates the global physical imports in each of these 49 digitizable products in the period 1998-2017, using the correlation tables and concordance matrices of HS 1992, HS1996, HS2007, HS2012 and HS 2017 for 171 countries.*
- *Step 3: Apply the average annual growth rates of physical imports of digitizable products in 1998-2010 to estimate the physical imports of these products in 2011-2017.*
- **Step 4: The difference between the estimated physical imports without digitalization in 2011-2017 and the actual physical imports with digitalization provides the estimates of on-line imports i.e., Electronic Transmissions.**



Global Physical Imports and Electronic Transmissions of Digitizable Products in \$ Bn



Estimated Imports of Digitizable Products using Average Annual Growth Rate of 1998-2010 (8%), **\$ 255bn**

Estimated ET \$139bn

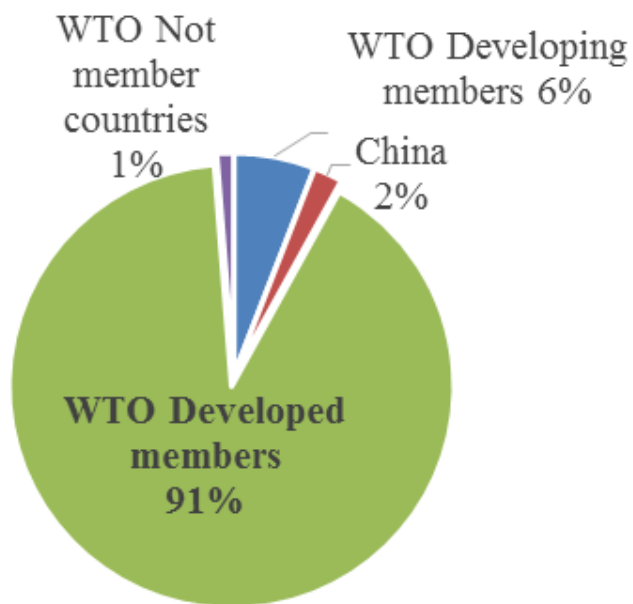
Physical Imports of Digitizable Products, **\$116bn**

	Global Revenue from Music Streaming (\$bn)	Annual Revenue of Netflix(\$bn)	Global Revenue from Video Games(\$bn)	Global Revenue from e books(\$bn)	Global Revenue of Microsoft (\$bn)
2010	0.4	1.17	63.5	2.3	62.4
2011	0.6	2.38	67.5	3.6	73.7
2012	1	3.35	70.6	6	77.8
2013	1.4	3.76	76.5	8.2	86.8
2014	1.9	4.62	84.8	10.6	91.1
2015	2.8	5.8	93.1	13.1	93.5
2016	4.7	7.16	106.5	25.4	96.5
2017	6.6	9.51	121.7	26.6	110.3
Average Growth Rate 2011-2017 (30%)	49.7	37.2	9.7	44.4	8.6

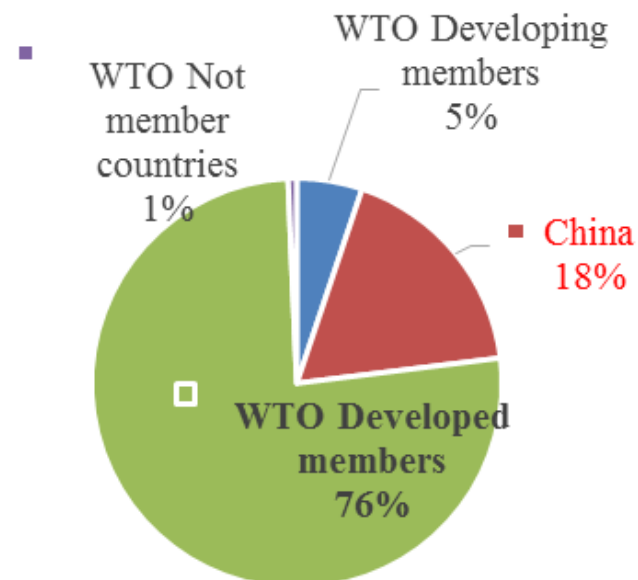


	Physical Imports of Digitizable Products (\$Bn)	Estimated Total Imports of Digitizable Products using Average Annual Growth of 1998-2010 (\$Bn)	Estimated Online Imports or Electronic Transmission susing Average Annual Growth of 1998-2010 (\$Bn)	Percentage of 'online' imports or ET in Total Imports of Digitizable Products (%)
2011	149	161	12	7
2012	126	174	48	28
2013	126	188	62	33
2014	128	203	75	37
2015	117	219	102	46
2016	115	236	121	51
2017	116	255	139	55%

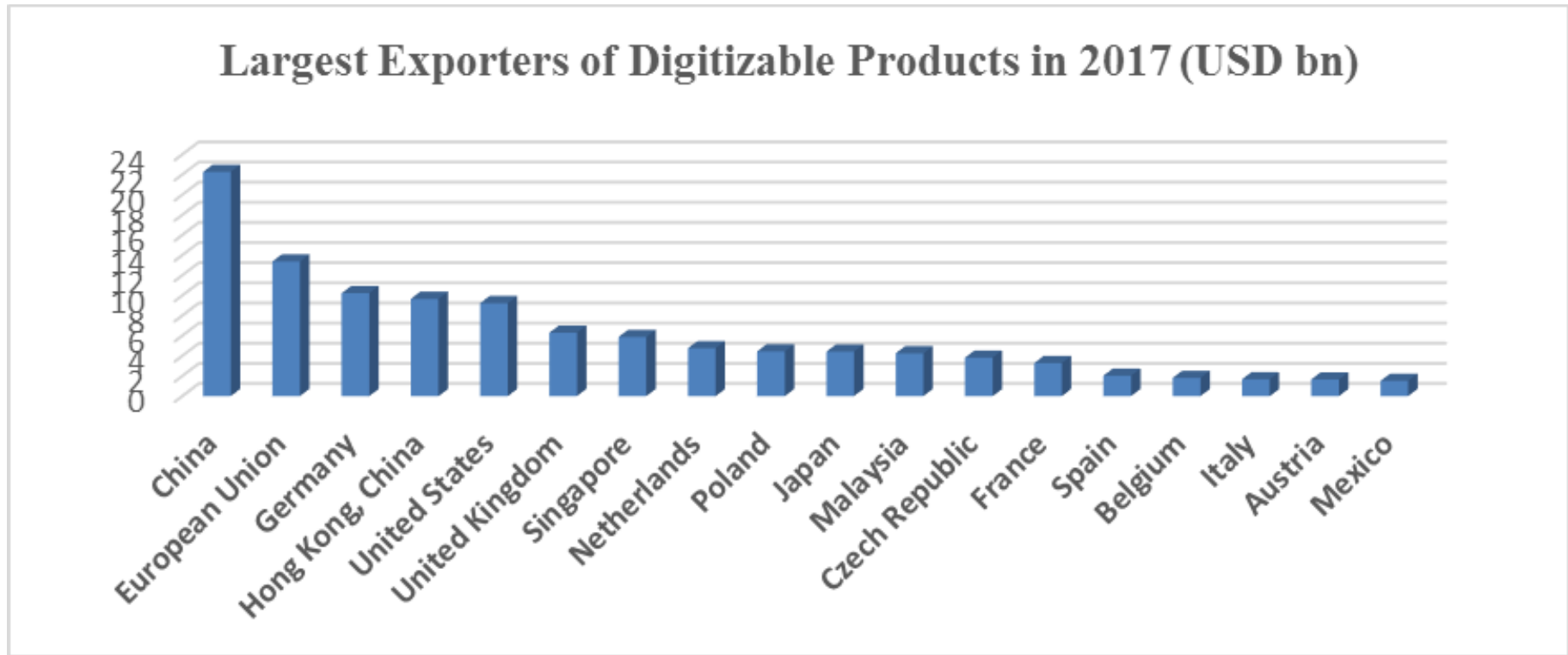
EXPORTS OF DIGITIZABLE PRODUCTS IN 1998 (%)



EXPORTS OF DIGITIZABLE PRODUCTS IN 2017 (%)



Largest Exporters of Physical Digitizable Products in 2017



Out of 95 developing countries, 86 developing countries were net importers of physical digitizable products in 2017, with top three net importers being Thailand (\$1.8 billion) followed by India (\$1.7 billion) and Mexico (\$1.1 billion). Net exporters of Digitizable products with net exports higher than \$100 million include China, Singapore, Malaysia, Hong Kong China, and UAE.

Potential Tariff Revenue?

	Physical Imports of Digitizable Products (\$Mn)	Estimated On-Line Imports or ET of Digitizable Products (\$Mn)	Estimated Total Imports of Digitizable Products (\$Mn)	Simple Average of Bound Duties in 2017 (%)	Simple Average of MFN Duties in 2017 (%)	Potential Tariff Revenue Loss using Average Bound Duties (\$Mn)	Potential Tariff Revenue Loss using Average MFN Duties (\$Mn)
WTO Developing members	26 399	51 558	79 957	12.6	6.5	10 075	5 197
WTO High-Income Members (21)	81604	62 962	144 566	0.2	0.2	289	289
Sub-Saharan Africa	1195	4474	5669	46.4	10.9	2 630	618
Middle East - North Africa	1 011	4 360	5 371	18.9	8.43	1 015	453
WTO LDC members (31)	191	2 804	2 995	50.3	11.5	1 506	344

		Potential Tariff Revenue Loss on Physical Imports of Digitizable Products using Bound Duties (USD 1000)	Potential Tariff Revenue Loss on Electronic Transmissions (ET) using Bound Duties (USD 1000)	Total Tariff Revenue Loss from Moratorium using Bound Duties (USD 1000)	Total Tariff Revenue Loss from Moratorium using MFN Duties (USD 1000)	Total Tariff Revenue Loss from Moratorium using Effectively Applied Duties (USD 1000)
1	Congo, Rep.	1 944	52 167	54 111	54 111	53 012
2	Cote d'Ivoire	8 077	3 414	11 491	11 491	11 307
3	Dominican Republic	14 167	4 442	18 609	18 609	14 627
4	Ethiopia(excludes Eritrea)	2 919	5 091	8 010	8 010	7 590
5	Fiji	41 256	71 852	113 108	113 108	105 939
6	Jamaica	51 597	27 806	79 403	13 006	17 786
7	Madagascar	7 414	5 991	13 405	13 405	5 419
8	Malawi	57 876	40 124	98 000	20 384	12 871
9	Mauritius	521	337	858	858	668
10	Niger	1 139	245	1 385	1 385	1 370

		Potential Tariff Revenue Loss on Physical Imports of Digitizable Products using Bound Duties (USD 1000)	Potential Tariff Revenue Loss on Electronic Transmissions (ET) using Bound Duties (USD 1000)	Total Tariff Revenue Loss from Moratorium using Bound Duties (USD 1000)	Total Tariff Revenue Loss from Moratorium using MFN Duties (USD 1000)	Total Tariff Revenue Loss from Moratorium using Effectively Applied Duties (USD 1000)
11	Nigeria	489 046	91 872	580 917	85 831	85 758
12	Rwanda	30 235	39 774	70 009	8 486	8 350
13	Senegal	7 889	2 586	10 475	10 475	10 466
14	Serbia, FR(Serbia/Montenegro)	7 004	15 809	22 813	22 813	11 406
15	South Africa	23 755	13 074	36 829	36 829	24 962
16	Tanzania	4 018	7 334	11 352	11 352	11 091
17	Togo	1 723	2 842	4 565	4 565	4 497
18	Uganda	6 598	10 809	17 408	17 408	17 100
19	Zimbabwe	7 353	6 820	14 173	14 173	8 166

		Potential Tariff Revenue Loss on Physical Imports of Digitizable Products using Bound Duties (USD 1000)	Potential Tariff Revenue Loss on Electronic Transmissions (ET) using Bound Duties (USD 1000)	Total Tariff Revenue Loss from Moratorium using Bound Duties (US\$ 1000)	Total Tariff Revenue Loss from Moratorium using MFN Duties (USD 1000)	Total Tariff Revenue Loss from Moratorium using Effectively Applied Duties (USD 1000)
20	Albania	21	263	283	283	0
21	Algeria	30 312	49 012	79 324	79 324	47 926
22	Argentina	151 440	34 801	186 241	56 636	50 461
23	Armenia	453	534	986	986	942
24	Belarus	3 250	14 822	18 073	18 073	16 114
25	Bolivia	6 323	5 244	11 567	11 567	10 867
26	Brazil	40 134	69 356	109 489	109 489	106 943
27	Cambodia	21 875	6 509	28 384	14 905	11 062
28	Chile	28 746	20 673	49 419	49 419	9 024
29	China	147 702	345 296	492 999	492 999	453 205
30	Colombia	23 039	11 666	34 705	34 705	25 605

		Potential Tariff Revenue Loss on Physical Imports of Digitizable Products using Bound Duties (USD 1000)	Potential Tariff Revenue Loss on Electronic Transmissions (ET) using Bound Duties (USD 1000)	Total Tariff Revenue Loss from Moratorium using Bound Duties (USD 1000)	Total Tariff Revenue Loss from Moratorium using MFN Duties (USD 1000)	Total Tariff Revenue Loss from Moratorium using Effectively Applied Duties (USD 1000)
42	Pakistan	278 091	89 149	367 240	51 043	48 880
43	Panama	48 846	122 984	171 830	46 586	50 675
44	Paraguay	28 878	232 022	260 900	260 900	223 413
45	Peru	12 162	3 922	16 084	16 084	8 113
46	Russian Federation	40 283	72 938	113 221	113 221	102 345
47	Saudi Arabia	22 868	16 038	38 906	38 906	33 779
48	Serbia, FR(Serbia/Montenegro)	7 004	15 809	22 813	22 813	11 406
49	Singapore	16 660	13 924	30 584	0	0
50	Sri Lanka	7 717	2 299	10 017	10 017	9 260
51	Thailand	498 328	1 246 614	1 744 942	365 220	300 770
52	Tunisia	48 332	98 082	146 414	21 868	28 010
53	Turkey	1 994	3 167	5 161	5 161	2 520
54	Uruguay	5 652	1 175	6 827	6 827	6 364
55	Vietnam	44 998	6 590	51 588	46 463	39 874

ET as Potential Source of Tariff Revenue for Developing Countries?

- ❑ 14 countries have average Bound duties higher than 20%.
- ❑ Average Bound duties are as high as 92% in Rwanda, followed by Nigeria (80%), Pakistan (62%), Jamaica (50%), Malawi (45%) and Tunisia and Guatemala (40%),
- ❑ While average Bound tariffs on Digitizable products is 0.09% in EU countries, followed by USA (0.02%) and Switzerland (0%).
- ❑ **Developing countries can generate 40 times more tariff revenue than developed countries by imposing custom duties on ET**



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- Tariff revenue loss of moratorium on custom duties on physical imports of digitizable products for developing countries is **30 times more than that for the developed countries.**
 - The estimates show that **95% of world's total tariff revenue loss due to Moratorium will be borne by the developing countries.**
 - Conservative estimates. Do not include custom surcharges and duties



Technical Feasibility of Levying Custom Duties on ET

- **Intangible Imports are now being taxed in many countries.**
- New laws have been framed to tax imports of digital products and services in **Australia and New Zealand**.
- **EU** has also initiated a two-stage process for taxing the intangible imports of goods and services (mainly online) from outside EU
- **Indonesian government** amended its law in 2018 bringing electronic transmission into the ambit of custom duties. Regulation 17 became effective from March 2018 which provided a new Chapter 99 covering intangible goods (i.e., software and other digital products) that were previously not covered under Indonesia's tariff system
- In 2017, **India** also initiated compulsory registration under GST for foreign companies providing Online Information Database Access and Retrieval services (OIDAR services)



3D PRINTING AND FUTURE ET: IMPLICATIONS FOR DIGITAL INDUSTRIALIZATION

- The use of 3D printing is no longer a niche area in international trade
- It is predicted (ING 2017) that with the current growth in investments in 3D printing, **50% of the manufactured products will be printed in 2060, which will wipe out 40% of cross-border trade.**
- A core resource for 3D printing is computer-aided designs or CAD files which are transmitted electronically.
- With **latest technology, namely high-speed sintering**, mass production is becoming possible with 3D printers where mass-producing up to 100,000 (smaller) components in a day will be possible at a speed which is 100 times faster!



3D printing – *Threat to Negotiated Tariffs and GATS Commitments!*

- Growth of 3D printing can jeopardize two decades of negotiated tariffs on industrial products under NAMA.
- 3D printers and electronic transmissions of CAD files can be used to ‘print’ manufactured products in any country, irrespective of the protection given by the governments to the sectors in the developing countries through their custom duty regime.
- **a foreign firm can have mass production of shoes within the national boundary of the country, without actually exporting shoes or having a physical presence**
- Further, the protection given by developing countries to some of their services sectors under GATS may also be lost.



Conclusions

- ☺ Digital technologies like robotics, artificial intelligence, 3D printing etc all need software and data, which are transmitted electronically. This implies that **digital revolution will exponentially increase trade in ET**
- ▣ **With Moratorium on ET developing countries can lose control over their negotiated GATT tariffs and GATS commitments**
- ☹ Estimated Tariff Revenue Loss for **WTO Developing countries - US\$ 10 billion; Sub-Saharan Africa –US\$2.6 billion; WTO LDC- US\$ 1.5billion; WTO High Income members- US\$ 289 million.**
- ⦿ Developing countries can generate **40 times more tariff revenue** than developed countries by imposing custom duties on ET.
- » **Trade in ET can become a game-changer in the coming years so it is necessary to have policy space for regulating this trade.**

ToRs for Future Studies

- 🕒 Members need to discuss and define the **scope of ET**, which should be clearly spelt out in future studies.
- 🕒 **Predict the value of On-Line trade (ET)** in the next five years (2025) as well as in the next ten years (2030) at the global level and at the country-level.
- 🕒 **Estimate the fiscal implications of moratorium on ET in next 5-years and next 10-years for all countries.**
- 🕒 **Assess the implications of rise in use of digital technologies on trade in ET.**
- 🕒 **Share polices and strategies** adopted by countries like EU, New Zealand, Australia, Indonesia, India, etc. which are imposing taxes on intangible imports.
- 🕒 **Estimate impact of digitalisation on future cross-border trade and employment in different countries?**



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