Modelling Impact of Moratorium on Electronic Transmissions using CGE: A Critique

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Abstract: The paper presents a detailed critique of estimating economic impact of moratorium on custom duties on electronic transmissions using CGE modelling, which has been undertaken by the European Centre for International Political Economy (ECIPE). Electronic transmissions are 'on-line' deliveries of digitizable products like music CDs, films, e-books, software and printed material. Since 1998, moratorium on custom duties on electronic transmissions has been renewed every two years in the WTO. ECIPE paper estimates the economic impact of removal of the moratorium. Using GTAP model, the analysis applies arbitrary tariffs on four broad services sectors and presents the results as economic impact of removal of the moratorium. This is misleading for the policymakers. The model does not have product-level data or dis-aggregated services data in order to identify electronic transmissions. Applying tariffs on broad services sectors also challenges the commitments taken by the developing countries in the GATS.

JEL Codes: D58, F13, F14, F17

Key words: Moratorium, Electronic Transmissions, ET Moratorium, CGE, GTAP, Economic Impact of ET Moratorium

1. Introduction

Computable General Equilibrium (CGE) models have been heavily criticized in economic literature because of their unrealistic assumptions of perfect competition (i.e., assumes that monopolies do not exist anywhere in the world), full employment of capital and labour (in all countries in the world), perfect mobility of factors of production across sectors and constantly balanced government budgets. According to Taylor and Armin (2006) and Arvind Panagariya and Duttagupta (2001), CGE models are designed in such a way that tariff reductions will always lead to increase in 'overall gains' while increases in tariffs will always lead to 'overall losses' for the countries.

Policymakers, who are unaware of these assumptions and associated criticisms, are being persuaded to consider seriously the results arrived at by CGE models for assessing the overall economic impact of tariff reductions/increases. One such attempt is made by a recent paper by Makiyama and Narayanan (ECIPE, 2019)[2], which estimates the impact of applying tariffs on electronic transmissions on developing countries' GDP, consumption, employment, investment and welfare. The paper not only stretches the use of the CGE model beyond its reasonable limits by imposing tariffs on services sectors but also misinterprets the scope of 'electronic transmissions'

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[2] Hosuk-Lee Makiyama and Badri Narayanan (2019), The Economic Losses From Ending the WTO Moratorium on Electronic Transmissions, No 3/Policy Brief, ECIPE.

by defining imports of broad services like retail and wholesale trade services and business services as electronic transmissions.

Electronic transmissions are the 'on-line' deliveries of 'digitizable products' where digitizable products are defined as those products which because of technological advancement can be internationally traded both in physical form as well as on-line, for example music CDs, e-books, software, video games, etc (WTO, 2016)[3]. In 1998, member countries in the WTO adopted a Declaration on global electronic commerce which included a two-year moratorium on custom duties on electronic transmissions. Since then this moratorium has been renewed every two years. However, with rising digitalisation of products and growing trade in electronic transmissions a decision on moratorium has become important, mainly whether the moratorium should be made permanent, extended or removed?

Existing literature on this issue include studies undertaken by WTO (2016), UNCTAD (2000), UNCTAD (2017), and UNCTAD (2019)[4]. These studies have identified digitalized products and have estimated the extent of their cross-border trade. It has been argued by some of these studies that rising trade in electronic transmissions and existing moratorium on their custom duties can lead to significant tariff revenue losses for the developing countries in the future. Further, the advent of new digital technologies like 3D printing can exponentially increase cross-border trade in electronic transmissions (UNCTAD 2017, 2019). Regulating this cross-border trade becomes important for the developing countries, both in terms of potential tariff revenues losses as well as for regulating their imports. The use of digital technologies like 3D printing will allow foreign firms to 3D print any product across sectors, including agro-processed products like pastas[5] and industrial products like textiles, footwear, etc[6]. through electronically transmitting the software (like computer-aided designs -CAD files) to 3D print these products.

ECIPE (2019) attempts to provide broader economic impacts of moratorium on electronic transmissions on countries' GDP, consumption, investments, tax revenue and overall welfare by using CGE modelling. This is challenging because the database of the model does not have product-level data for identification of digitizable products. The paper therefore identifies four broad services sectors, namely wholesale and retail trading services (trd); recreational and other services (ros); communications (cmn); and business services n.e.c. (obs). It argues that under these broad services there are six services which can be identified as electronic transmissions. These are are -a) Online retailing services, i.e. intermediation by non-store retailers; b) Internet publishing, web search portals, directories and information services; c) Motion picture and video industries; sound recordings; d) Software publishing, programming, Data hosting, processing, systems and data communications; and e) Advertising services.

To estimate the economic impact of removal of moratorium on electronic transmissions, the paper applies tariffs on the broad four services sectors. Using four reports on global sales, the paper

[3] WTO (2016) Fiscal implications of The Customs Moratorium on Electronic Transmissions: The Case of Digitisable Goods, Job/GC/114.
[4] For a detailed review of these studies see UNCTAD (2019)
[5] https://3dprint.com/151348/barilla-pasta-3d-printer/
[6] https://www.insider-trends.com/top-40-on-demand-3d-printed-products-in-retail/

arbitrarily decides what tariffs to apply on these broad four services sectors in order to estimate economic impact of moratorium. These reports are global revenues on digital video, which are 17% of total movie production and distribution; global movie industry revenues are 54% of global sales of recordings; global total retail revenues are 60% of wireline and 70% of wireless telecommunication revenues; and online advertisement are 45% of global advertisement expenditures. It wrongly quotes UNCTAD (2019) by claiming that the tariffs used are similar to UNCTAD study. Applying tariffs on these four services, the paper assumes that the results of the simulations can be taken as the results of applying tariffs on electronic transmissions. It then proceeds to present results on production, employment, incomes, taxes and welfare for different developing countries in different scenarios.

This paper provides an in-depth critique of the methodology used by ECIPE (2019) as well as highlights the pitfalls of classifying broad services sectors as 'electronic transmissions.' This definition challenges the flexibilities given to developing countries in regulating their imports of services under the GATS disciplines of the WTO. The following section briefly explains what is considered as electronic transmissions in the WTO and what is covered as electronic transmissions by ECIPE (2019).

2. Electronic Transmissions in the WTO and as defined by ECIPE (2019)

Electronic transmissions (ET) as defined by the WTO Note (2016)[7] are 'on-line' deliveries of digitizable products, defined as "physical goods which have the potential to be digitalized and subsequently sent across borders digitally". Subsequent to this definition, WTO Note identified digitizable products at HS 6-digit product codes, which were classified as ET. These were also the products identified by UNCTAD (2000). These included products like cinematograph film; books, pamphlets, maps; newspapers, journals and periodicals; postcards, personal greeting cards; other printed matter; video games; computer software; musical records, tapes and other sound or similar recordings; and other recorded media.

It is important to note that none of these identified digitizable products are services, i.e., while computer software are included as ET, software services are excluded from the list of ET and are covered under GATS in the WTO, under the category of 'computer and related services' (like consultancy services related to the installation of computer hardware, software implementation services, data processing services, database services). Following this, UNCTAD (2017) and UNCTAD (2019) also identified a list of digitizable products at the HS 6-digit product codes. 49 Digitizable products under five categories were identified, which fall under the categories of Photographic films, Cinematographic films, Printed matter, Music, Media, Software and Video games.

Going much beyond the identified scope of ET in the WTO, ECIPE (2019) identifies six broad services sectors as ET. One of the main reasons for this is that GTAP database used for the modelling does not have product-level data. The Model uses data of aggregate sectors including broad services sectors. It is therefore not possible to identify digitizable products or ET using this modelling exercise. However, stretching the definition of ET, ECIPE (2019) identifies six services sectors as ET, which are:

[7] WTO,2016-JOB/GC/114

- Online retailing services, i.e. intermediation by non-store retailers:
- Internet publishing, web search portals, directories and information services:
- Motion picture and video industries; sound recordings
- Software publishing, programming:
- Data hosting, processing, systems and data communications:
- Advertising

It is important to note that all online trade retailing services are included irrespective of what these retailers are selling. The retailing services can be used to sell all kinds of products like fruits, vegetables, furniture, machinery, etc., which have nothing to do with ET. The study is therefore not able to differentiate e-commerce services from ET. The identified services also include communication services and software programing services, which are covered under GATS services classification and are not identified as ET by any other study. Advertisement services have also been identified as ET by ECIPE (2019) which cannot be classified as ET. For example, if a domestic company hires a foreign company to design an advertisement campaign for its product, then the payment made to the foreign firm is identified as ET according to ECIPE (2019).

The identification of broad services as ET is further flawed in the ECIPE (2019), as **data for even these six dis-aggregated services is not available in the model**. To undertake estimations of increase in tariffs on ET, the paper identifies four broad services sectors, which are, namely

1. wholesale and retail trading services (trd);
2. recreational and other services (ros);
3. communications (cmn); and
4. business services n.e.c. (obs).

The impact of tariffs on ET which is estimated by ECIPE is therefore in reality an analysis of the impact of tariffs on imports of these four broad services sectors. The authors also fail to elaborate which services are included in these broad aggregated services sectors. The services classified under these broad four services sectors are as follows[8]:

1. Retail and wholesale trade services (trd) in GTAP model 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;
2. communication services (cmn) include -post and telecommunications services;
3. recreation and other services (ros) include -recreational, cultural and sporting activities, other service activities and private households with employed persons (servants);
4. other business services nes (obs) include -real estate, renting and business activities.

By no stretch of imagination can these services be identified as ET and an impact of moratorium be assessed by applying tariffs on the imports of these services. However, ECIPE (2019) has identified the imports of these broad services as ET and applied arbitrary tariffs on these services.

[8] https://www.gtap.agecon.purdue.edu/databases/contribute/detailedsector.asp

3. Methodological Flaws in ECIPE (2019) for estimating impact of Moratorium

3.1 Unrealistic Assumptions of the Model

ECIPE (2019) uses an extension of the standard GTAP framework, developed by the Global Trade Analysis Project (GTAP), which is essentially a computable general equilibrium (CGE) model. This model is based on unrealistic assumptions of perfect competition in all sectors and in all countries, which implies that monopolies do not exist. Existence of monopolies in the digital arena like Google, Microsoft, etc. is a well-known fact. According to the authors' own admission, the Model used is characterized by assumptions of perfect competition, constant returns to scale and Armington elasticities (page 16, para 2).

An important and illogical assumption of the Model is Armington assumption, according to which there are no perfect substitutes in the world. In ECIPE (2019) paper this would imply that imported services cannot be substituted by domestic services. The authors admit to this assumption on page 18, para 3. This assumption implies that the domestic retail and wholesale services cannot substitute imported retail and wholesale services, or domestic business services cannot substitute imports of business services. Any tariffs on these services with no substitution would imply a fall in the use of these services. Since these services are used across sectors, decline in their use will have substantial impact on the production and associated employment across sectors. These effects are aggregated by the paper to arrive at total GDP losses resulting from imposing tariffs on ET. Thus, by assuming no substitution between imports of broad services with domestic services the paper generates production losses and the associated losses in employment, investments, and overall welfare.

3.2 Flawed Simulations

Using modelling exercise, the paper applies tariffs on the identified four broad services sectors, which are wholesale and retail trading services (trd); recreational and other services (ros); communications (cmn); and business services n.e.c. (obs). Irrespective of the fact that these broad services sectors include services which have no connection to ET, the authors undertake the simulation exercise. They contradict their own exercise by admitting that- *'Such tariffs (or any tax only applied on imports) at the border on services would violate the national treatment obligations under the General Agreement on Trade in Services (GATS) XVII, where such commitments exist on data processing, telecom, and audiovisual services'* (page 14, last para).

After the tariffs are imposed in the model on the broad four services sectors, which have never had any tariffs, the model provides results on overall impact on production, consumption, investments, taxes and overall welfare for all countries. Different scenarios are used by the authors, i.e., only four developing countries namely India, Indonesia, South Africa and China apply tariffs on their imports of these services; and all other countries apply tariffs to their import of these four categories of services. To justify their exercise, they apply two factors to estimate what tariffs should be applied to the online imports of these services. The following snapshot of the table from the paper (page 20) shows the tariffs used by the study on the four broad services sectors:

FIGURE 11: TARIFF INCREASES APPLIED IN THE SCENARIOS, BY SECTOR AND COUNTRY

	India	Indonesia	South Africa	China	All DCs
Wholesale and retail trading services (trd)	0.38%	0.24%	0.13%	0.11%	0.63%
Communications (cmn)	4.32%	2.78%	1.55%	1.28%	7.24%
Recreational and other services (ros)	1.89%	1.21%	0.68%	0.56%	3.16%
Business services n.e.c. (obs)	1.26%	0.81%	0.45%	0.37%	2.10%

Source: Authors' analysis and UNCTAD, 2019

The authors claim that these tariffs used for the simulation exercise on services sectors are based on their own calculations and are similar to the tariffs used by UNCTAD (2019) for comparison purposes. However, UNCTAD (2019) uses the average Bound tariffs and average Applied tariffs of 49 identified HS-6 digit products of each country to arrive at the impact on tariff revenue losses for that country. The tariffs used for each of these country in UNCTAD (2019) are very different from those used by the ECIPE paper. For example, average Bound, Applied and Effective Tariffs of China on ET used in UNCTAD (2019) were 2.23%; 2.23%; and 2.05%.

The authors attempt to justify their exercise by taking the 'online' proportion of the services, e.g., they claim that in case of video, music, telecom retail services and advertisement they consider only dutiable proportion of the imports. However, in their Model, they can apply tariffs on broad services only and not on the 'dutiable' proportion of the imported services. By lowering the proportion of tariffs applied it is not possible to disentangle the impact of lower imports of broad services, especially with the assumption that these services cannot be substituted by domestic services. Further, for business services (obs- which includes real estate, renting and business activities) as well as for retail and wholesale services (trd- which 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), there is no justification of the tariffs used.

The authors also misreport the tariffs used by UNCTAD (2019) in their statement '*Finally, some products and services are entirely new and have no offline equivalents that have an applied tariff rate in the schedules. Rather than imposing an arbitrary tariff rate in our scenarios, we impose the same rate assumed by UNCTAD (2019) for the sake of consistency between the two studies*' (page 7, para 2). UNCTAD (2019) does not include any products and services which are entirely new and have no offline equivalent as it only undertakes estimations for those digitizable products which have corresponding HS codes. There is therefore no comparison between the results of UNCTAD (2019) and ECIPE (2019).

3.3 Results defy Economic Logic

Not only the ECIPE (2019) uses wrong definition of ET and imaginative tariffs on services sector with flawed simulations, its results defy common logic. UNCTAD (2019) has reported the extent of exports and imports of 95 developing countries and found that 86 developing countries are net importers of ET. India is found to be a net importer of ET while China is a net exporter of ET. The results of ECIPE (2019) predicts a loss in GDP for both India and China. It is well established in literature as well as in policymaking arena that tariffs are applied to protect domestic producers

from competition and therefore, they stimulate domestic production. In this case higher tariffs on imported services should lead to higher use of domestic services leading to more employment generation. However, the Model used by ECIPE (2019) assumes that with higher tariffs on services, no domestic services substitute import of foreign services. As a result, it arrives at a production loss as well as employment loss for both net importers and net exporters of ET.

Further, a total tax loss of US$ 584 million for India and US$ 155 million for China is predicted if tariffs are applied to services imports. The study fails to recognize that moratorium on custom duties of ET does not stop countries from applying domestic tax on foreign service providers. Also, economic logic suggests that higher tariffs on imported services should increase the use of domestic services and generate incomes in the hands of household, which should raise the domestic tax collection and not lower it.

The results with respect to Investments (both domestic and foreign) are also surprising as according to economic theory higher tariffs on imported services should lead to higher foreign direct investments as this would force foreign firms to have domestic presence and invest rather than export their services to the countries. There is an extensive economic literature that supports rise in FDI due to increase in tariffs. Such FDI have been termed to as 'tariff-jumping FDI'. Higher inward FDI should lead to higher production and employment generation which in turn should increase GDP leading to further rise in domestic investments. Defying this economic reasoning, results of ECIPE (2019) show decline in domestic and foreign direct investments following an increase in tariffs on services.

4. Misinterpreting the results of UNCTAD Studies (2017 and 2019)

ECIPE (2019) has attempted to present a critique of UNCTAD studies on implications of removal of moratorium on ET (UNCTAD 2017, Unctad 2019). However, most of the criticism are misinterpretation of the analyses and results. This section addresses some of the concerns raised by ECIPE (2019) on the results of UNCTAD (2019).

1. The ECIPE (2019) argues that the results of tariff revenue loss in UNCTAD (2019) are overestimated as there is evidence of fall in prices of these digitizable products over-time. In fact, if it is accepted that the price of digitizable products is falling overtime then this should lead to higher growth of import of digitizable products overtime. But, the results of UNCTAD (2019) are based not based on higher growth rate of imports but they use same growth rate of imports which existed in the period 1998-2010 to estimate imports in the period 2011-2017. To that extent, the estimates are conservative and under-estimated.

2. Further, ECIPE (2019) puts forward skepticism on the assumption that over time all imports of digitizable products will be on-line. UNCTAD (2019) provides estimates for both 'on-line' imports as well as 'physical' imports of 49 digitizable products at 6-digit HS codes. To enhance transparency, the study has reported both physical imports and on-line imports separately for each country in Appendix Table A.2. However, it is well documented that the global imports in digitizable products in physical form is steadily falling. WTO (2016) also reports that physical imports of digitizable products have been

falling rapidly and steadily since 2000. The decline in physical imports has been estimated at -2.7% per annum since 2000, as more and more of imports of digitizable products are being shifted on-line.

3. ECIPE (2019) argues that since 3D printing 'ink' will remain subject to tariffs and sales tax so there is no reason to anticipate that it will be harder for countries to capture taxes on manufactured goods as reported by UNCTAD (2019). This is a misinterpretation of UNCTAD (2019) argument. UNCTAD (2019) argues that since 3D printers will be able to 3D print almost all the products that are manufactured in a country, by electronically importing software to 3D print these products, this would imply that the countries will lose control over their negotiated tariffs under GATT and commitments under GATS will become irrelevant. To explain it further this implies that if a country produces shoes which generates large scale employment for its unskilled labour, then it may have negotiated higher tariffs on shoes in GATT. However, if shoes are 3D printed in this country by foreign firms then moratorium on ET would imply that the negotiated tariffs on shoes will become irrelevant and the country will not be able to protect its domestic production of shoes and the associated jobs.

4. ECIPE (2019) also argues that UNCTAD (2019) overestimates the tariff revenue losses as online equivalent of dutiable goods like CDs, DVDs or software are based on copyright and streaming services or download services which are subject to sales tax and VAT. In fact, UNCTAD (2019) discusses this issue with respect to internal taxes and has emphasized the importance of internal taxes. Quoting for the UNCTAD (2019)- '*It can be argued that the Moratorium on ET does not stop countries from levying internal taxes like GST and VAT, however given the fast growth in ET and rising product digitalization aided by new technologies, online imports can provide new source of tax revenue for the governments and make it easier for the governments to link direct tariffs and indirect taxes*'. Further, the study provides examples of the countries which are levying internal taxes on intangibles imports like New Zealand but argues that taxing the super platforms is beyond the capacity of many developing countries.

5. ECIPE (2019) misreports the online imports figures of UNCTAD (2019), as it reports that according to UNCTAD estimates, 'cross-border trade in music and film accounts for US$25 billion in UNCTAD (2019) projections, whereas the total global sales of digital content (including domestic and cross-border sales) amount to just US$6 billion' (ECIPE-page 5). However, UNCTAD (2019) does not report any such figure. This figure has been estimated by ECIPE (2019) based on the figure 1 of UNCTAD study. The figure 1 provides actual physical imports of 49 digitizable products based on the data extracted from World Integrated Trade Solutions (WITS) and not estimated by the UNCTAD study. Even the justification provided by ECIPE (2019) is flawed as just the U.S. filmed entertainment sector enjoyed a trade surplus of $16.3 billion in 2014.[9]

6. ECIPE (2019) also arrive at wrong conclusions about UNCTAD results. According to the paper- '*In conclusion, UNCTAD's trade volumes in 'digitizable products' seem exaggerated. Also, the notion that recent innovations (such as the internet or subscription-*

[9] https://www.trade.gov/topmarkets/pdf/Media_and_Entertainment_Top_Markets_Report.pdf

based services) can be somehow 'un-invented', or that the governments should reclaim historical tariffs seems far-fetched. To draw a parallel: would the global trade in candles have continued to rise and continue to generate tariff revenues without the invention of electricity and should there be tariffs on electricity to compensate this hypothetical tariff loss?'. The answer to this is simple and straight forward. The UNCTAD study does not propagate that the governments should reclaim historical tariffs but puts forward the case that removal of moratorium on ET will give the governments a potential new source of revenue for future which is custom duties on ET. And when it comes to the example of candles and electricity, it is important to highlight that electricity is not electronic transmission of candles as in this case both the carrier and the content have changed, but when it comes to CD of music, DVD of films or 3D printed shoes, in their electronic transmissions the content remains the same, only the carrier changes. The software which will allow 3D printing of candles will be the electronic transmission of candles. Should the custom duties be applied to physical imports of candles but the software to 3D print candles be allowed to come duty free?

7. The ECIPE (2019) also forwards another criticism of UNCTAD (2019) which is- '*UNCTAD revenue estimates do not take into account the technical and organizational costs of implementing a tariff on electronic transmissions*.' However, given the rapidly changing technologies even to apply internal taxes on intangible imports instead of custom tariffs on ET, countries will have to spend resources in setting up the relevant infrastructure and IT systems. Also, developing infrastructure for applying tariffs on ET is a one-time cost, which will lead to a fast-growing source of revenue in the future.

5. Conclusion

This paper provides a detailed critique of the analysis which uses CGE modeling to estimate the impact of removal of moratorium on custom duties on electronic transmissions as undertaken by ECIPE (2019). It is argued that such modeling exercise is neither possible nor appropriate to undertake when estimating the impact of moratorium on electronic transmissions. The criticism put forwards can be summarized as below:

1. GTAP database does not have product-level data and therefore it is not possible to identify digitizable products in the database neither is it possible to estimate the impact of moratorium on electronic transmissions.
2. ECIPE (2019) uses flawed definition of electronic transmissions and identifies imports in four broad services sectors as electronic transmissions. The authors also fail to provide the details of what these broad services sectors include in their paper. These broad services whose imports are identified as ET are - Retail and wholesale trade services (trd) which 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; communication services (cmn) which include -post and telecommunications services; recreation and other services (ros) which include -recreational, cultural and sporting activities, other service activities and private households with employed persons (servants); and other business services nes (obs) which include -real estate, renting and business activities.

3. The fact that retail trading services can be used to trade all kinds of products has been ignored. For example, these services are used to sell fruits & vegetables, furniture, machinery etc. which have nothing to do with electronic transmissions has been ignored. Same is the case of business services which include real estate sand renting services.
4. Categorizing imports under these broad services sectors as ET can have grave implications for developing countries. These services are governed under GATS disciplines and developing countries have the flexibility of taking binding commitments on these services, especially in terms of providing national treatment. Moratorium on custom duties on ET may encourage developed countries to identify more and more services as ET which will take away the flexibility of developing countries to regulate the imports of these services.
5. Irrespective of the fact that these broad services sectors include services which have no connection to ET, the authors undertake the simulation exercise of applying tariffs on these services to estimate the economic costs to the developing countries.
6. They contradict their own exercise by admitting that- 'Such tariffs (or any tax only applied on imports) at the border on services would violate the national treatment obligations under the General Agreement on Trade in Services (GATS) XVII, where such commitments exist on data processing, telecom, and audiovisual services' (page 14, last para).
7. The tariffs that they apply on these services are arbitrary and falsely cite UNCTAD (2019). The tariffs used by UNCTAD study are average Bound and Applied tariffs of 49 identified digitizable products while ECIPE (2019) paper apply arbitrarily tariffs on services, on which no tariffs exist. Their simulations are therefore flawed.
8. The GTAP model used by ECIPE (2019) is based on many unrealistic assumptions. The model assumes perfect competition in all markets in all countries, i.e., there exists no monopolies while existence of monopolies in the digital era is well established. The Model further assumes that domestic services cannot substitute foreign services when tariffs are applied on identified four broad services sectors. That is to say, domestic retail and wholesale trade services cannot substitute imports of retail and wholesale trade services. Similarly, domestic business services (which are real estate, renting and business activities) cannot substitute imports under these services when tariffs are applied. The authors justify this assumption by stating that if this assumption is not put then no tariff revenues will be generated, in other words if countries will use domestic services rather than importing these services then the model cannot run (ECIPE- Page 18- '*First, in order to generate a tariff revenue, we need to capture the fact that imports should not be replaced immediately by domestic substitutes. Therefore, we assume no substitution between the domestic and imported services sectors*.').
9. The results arrived at by the model defy economic logic. Higher tariffs on imports of services should lead to higher use of domestic services, which should generate more jobs and more incomes in the hands of people and therefore more tax revenues. But ECIPE (2019) results show that higher tariffs in imports of services will lead to loss of jobs and erosion of tax revenues.
10. The results also defy the prevalent economic logic which states that higher tariffs will boost domestic production and increase both domestic investments as well as attract tariff jumping FDI. The results of ECIPE (2019) indicate that higher tariffs will lower domestic production along with domestic and foreign investments.

These erroneous results of ECIPE (2019), which defy economic logic arise from unrealistic and flawed assumptions taken in the modelling exercise as well as wrong identification of electronic transmissions. Use of computable general equilibrium (CGE) model, even when neither the product level data is available nor associated tariffs, can lead to erroneous results which mislead policy makers. With respect to the impact of removal of moratorium on electronic transmissions, it is extremely important for policymakers to base their decisions on studies that use transparent methodologies using actual product-level trade and tariff data.

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