

ABOLISHING PHARMACEUTICAL AND VACCINE TARIFFS TO PROMOTE ACCESS

Still a long road to travel

Philip Stevens and Nilanjan Banik

Summary

- » Tariffs on medicines have been declining over the last twenty years, falling from a global average of 4.9% in 2001 to 3.4% in 2018 (latest available data).
- » Nevertheless, jurisdictions and customs territories continue to apply tariffs of up to 20% on medicines and 10% on vaccines (although increasing numbers of governments apply no tariffs at all).
- » Reductions in tariffs rates are being undermined by a trend for governments to increase the categories of imported medicines subject to tariffs, potentially to recoup revenue lost from lowering headline tariff rates.
- » The Covid-19 crisis reemphasises the need to reduce inflationary trade barriers to increase access to medicines and vaccines. Expanding and updating the WTO Pharmaceutical Agreement would be a powerful avenue to achieve this.

Introduction

The Covid-19 pandemic has illustrated the importance of global trade for access to all kinds of medical supplies, with many jurisdictions suffering shortages of essential medical goods as a result of various trade barriers.¹ Although no vaccine or truly effective therapeutic is yet available for the disease, when one does emerge its rapid distribution around the world will become an issue of the utmost international importance. Any trade barriers that needlessly delay the distribution of medicines and drive up their price should be identified and rejected.

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Countries continue to apply tariffs of up to 20% on medicines and 10% on vaccines

In the case of medicines, import tariffs are the chief trade barrier responsible for inflating end prices, as such border surcharges are amplified and compounded as a product moves down the distribution chain.² In the context of newer pharmaceuticals and vaccines that often move across borders during various stages of the manufacturing process, import tariffs are especially inflationary, potentially being incurred several times during the manufacturing process.

Tariffs are essentially regressive taxes as they take a higher proportion of income from the poor than they do for those higher up the income scale – in fact, pharmaceutical tariffs are doubly regressive as the hardest hit are poorer people suffering from disease.

Previous research has found that many governments have accepted the regressive nature of tariffs on pharmaceuticals and have taken steps to reduce them since the mid 1990s. However, a large number continue to impose duties, even if overall global average tariff levels have been falling in recent years.^{3,4} The need to reduce tariffs on medicines has become particularly pressing in the context of the ongoing Covid-19 pandemic, particularly as new treatments and preventative vaccines will need to be made available globally at a mass scale.

This research note attempts to identify major trends in pharmaceutical tariffs since the early 2000s, in particular average tariff rates and the scale of individual product coverage by tariffs. It concludes by calling for international action to legally oblige governments to reduce tariffs on medicines and vaccines.

I Methodology and data sources

For the tariffs analysis, we source applied level ad-valorem data from the WTO Tariff database and trade flow data from the United Nations Comtrade database. For data analysis we look at the period between 2001 and 2018. We chose 2018 because it is the latest year for which sufficient data is available across all the variables.

We consider six related categories of product falling under six-digit sub-categories of HS-3004 (medicaments consisting of mixed or unmixed products for therapeutic or prophylactic uses, put up in measured doses, including those in the form of transdermal administration systems, or in forms or packings for retail sales). These six different subcategories are:

- » 300410 (containing penicillin or derivatives thereof, with a penicillanic acid structure, or streptomycin or their derivatives)
- » 300420 (containing other antibiotics)
- » 300431 (containing insulin)
- » 300432 (containing corticosteroid hormones, their derivatives or structural analogues)
- » 300439 (other)
- » 300440 (containing alkaloids or derivatives thereof but not containing hormones, other products of heading 29.37 or antibiotics)



The need to reduce tariffs on medicines has become particularly pressing in the context of the ongoing Covid-19 pandemic

In order to maintain uniformity for our statistical analysis on tariffs, we cover tariff data for the aforementioned six product categories under the HS 3004 code across 98 different jurisdictions and customs territories. If we consider all the subcategory variables in total, we have 1018 matching data points for each year.

Tariff rates on medicines are declining around the world...

Our analysis shows that tariffs on medicines have been falling around the world since 2001. Whereas in 2001 the average global tariff on medicines (HS3004) was 4.9%, the latest available data (2018) shows a decline to 3.4% (Figure 1). This is lower compared to the latest average of applied tariff for all non-agricultural products, which is 7.6%.⁵

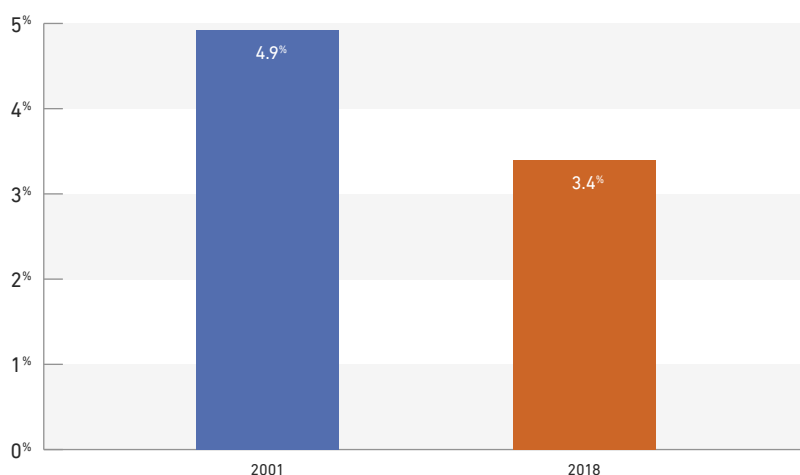


Figure 1: World average ad valorem tariffs on medicines (HS 3004), 2001 & 2018⁶

This encouraging trend in pharmaceutical tariff liberalisation over the last two decades reflects a general global shift towards lower tariffs, in addition to the 1995 implementation of the WTO Pharmaceutical Agreement, a WTO plurilateral sectoral agreement through which signatories agree to reciprocal tariff elimination extended to all WTO members (discussed later in this research note).

However, the most significant falls in average tariff rates have taken place amongst mainly low and middle-income countries (LMICs) outside the WTO Pharmaceutical Agreement (Figure 2). Although India has overseen the biggest decrease in its average tariff in percentage terms since 2001, Nigeria, Ghana, Chile, Mongolia, Israel and Bahrain have removed them altogether.

Other jurisdictions with relatively high tariff rates recognise the regressive nature of pharmaceutical import tariffs and have made moves to abolish the most counterproductive examples. Notable is Thailand, which in April 2019 agreed to exempt “orphan” drugs (for rare diseases) from import tariffs. Local news reports suggested the decision was driven by the need to reduce the price of these medications which cannot be manufactured locally. Although the move will cost the Thai government around US\$0.6m per annum, this is money that would have ultimately been paid by the sick.⁷

Despite these encouraging developments, certain governments persist with applying tariffs to pharmaceuticals. The highest rate globally is 20%, found in Pakistan. The South Asian countries of Nepal, Pakistan and India are notable for having the three highest average tariff rates in the world. Latin America is another medicines tariff hotspot, with Argentina and Brazil levying average tariffs of close to 10%.



Countries with relatively high tariff rates recognise the regressive nature of pharmaceutical import tariffs and have made moves to abolish them

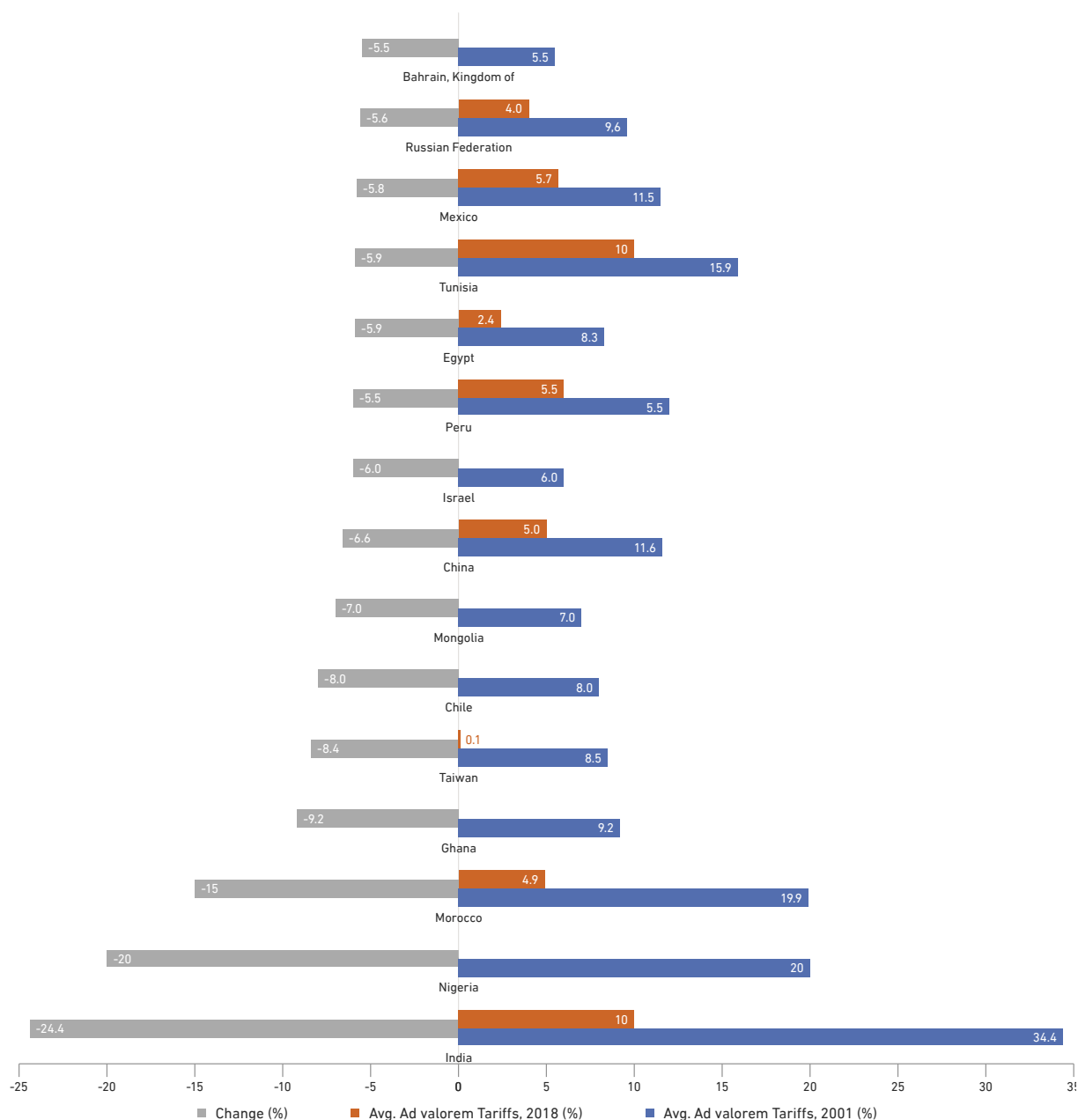


Figure 2: The 15 jurisdictions with the biggest decreases in average tariff on HS3004, 2001-2018

Vaccines

The Coronavirus crisis of 2020 has thrown into sharp relief the importance of vaccines. It is highly probable that the long-term solution to the public health threat posed by the virus will come from a preventative vaccine. An effective vaccine will likely arrive in late 2020 or early 2021, according to media reports. At that point, billions of doses will need to be distributed from points of manufacture to clinics around the world. Barriers to trade will hinder the rapid dissemination and uptake of the vaccine, resulting in needless suffering and death and economic hardship. While most jurisdictions preside over tariff-free regimes for vaccines, certain LMICs needlessly inflate their price through import tariffs. India is notable for the highest vaccine tariffs in the world at 10%, although a number of other governments impose tariffs of 5% or lower (Figure 4).

	Year	(%) Average of ad valorem duties	(%) Minimum ad valorem duties	(%) Maximum ad valorem duties
Nepal	2018	14.7	10	15
Pakistan	2018	11.3	3	20
India	2018	10	10	10
Laos PDR	2018	10	10	10
Brazil	2019	9.3	0	14
Uruguay	2019	9.2	0	14
Argentina	2019	9.2	0	14
Paraguay	2019	8.9	0	14
Thailand	2019	8.9	0	10
Dem. Rep. Of Congo	2014	5	5	5
Russia	2019	4	0	6.5

Figure 3: The ten countries with the highest average tariffs on medicine (HS3004)



On average across the world, countries have been increasing tariff coverage on medicines

	Year	(%) Average of ad valorem duties
India	2018	10
Djibouti	2014	8
Pakistan	2018	5.7
Bolivia	2018	5
Chad	2016	5
Central African Republic	2016	5
Laos PDR	2018	5
Mongolia	2019	5
Solomon Islands	2016	5
Tajikistan	2017	5
Yemen	2016	5
World Average	2016-2018	4.62
Venezuela	2016	2.2
Russia	2019	2

Figure 4: The highest tariffs on vaccines (HS300220)

| ...but tariff coverage is increasing.

Headline tariff rates are not the only factor relevant to this discussion. Within the broad category of pharmaceuticals (HS code 3004), there are many thousands of categories of specific products, each one potentially subject to different tariff rates. These individual tariff lines differ from jurisdiction to jurisdiction and are represented in the Harmonised System of tariffs as 6-digit categories and 8-digit sub-categories.

As we have seen, many governments apply no tariffs on medicines, and therefore can be said to have zero tariff coverage. Others place tariffs on

some, but not all, of the pharmaceutical-related 8-digit sub categories. The more tariff lines a jurisdiction has (“tariff coverage”), the larger the proportion of its imported medicines are potentially subject to tariffs.

As this paper has shown, jurisdictions at every level of socio-economic development have been reducing headline tariff rates since 2001. This does not necessarily mean that overall, patients are paying less duty. This is because since 2001 tariff coverage has been increasing. On average across the world, countries have been increasing tariff coverage: in 2001 the global average was 24 tariff lines per country. By 2018 it had risen to 37 (Figure 5). This means more categories of pharmaceuticals are now subject to tariffs, even if headline tariff rates are lower.

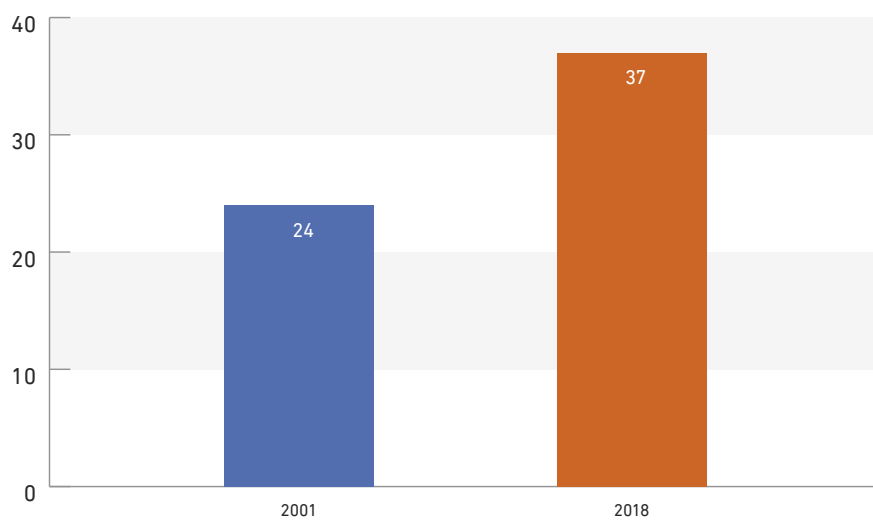


Figure 5: Global average of tariff lines per jurisdiction, 2001 & 2018

It may be the case that the Harmonised Tariffs System has become more granular and detailed since 2001, accounting for the rise in tariff lines. While a plausible explanation, evidence from India suggests this is not the case. The table in the appendix shows the numbers of tariff lines in India in 2001 compared to 2018. It shows that although some new subcategories have indeed appeared since 2001, pre-existing categories account for 95% of new tariff lines.

One likely explanation for why governments have increased the numbers of tariff lines is that they are seeking to replace the revenue they have foregone due to reductions in headline tariff rates by extending the numbers and categories of products subject to tariffs.

For instance, we have seen in Figure 2 that India has reduced its average tariff rates by 24% since 2001. However, it has increased the categories of medicines subject to tariffs from 9 to 141 in the same period. This extension of its pharmaceutical tariff regime likely balances the revenues lost due to those tariff rate cuts. Other major countries that have notably increased tariff coverage for pharmaceuticals are Thailand, South Africa, the Philippines and Indonesia (Figure 6). Given that most of these new tariff lines are on pre-existing HS categories it is likely that these increases in tariff coverage are deliberate moves to maximise tariff revenues.



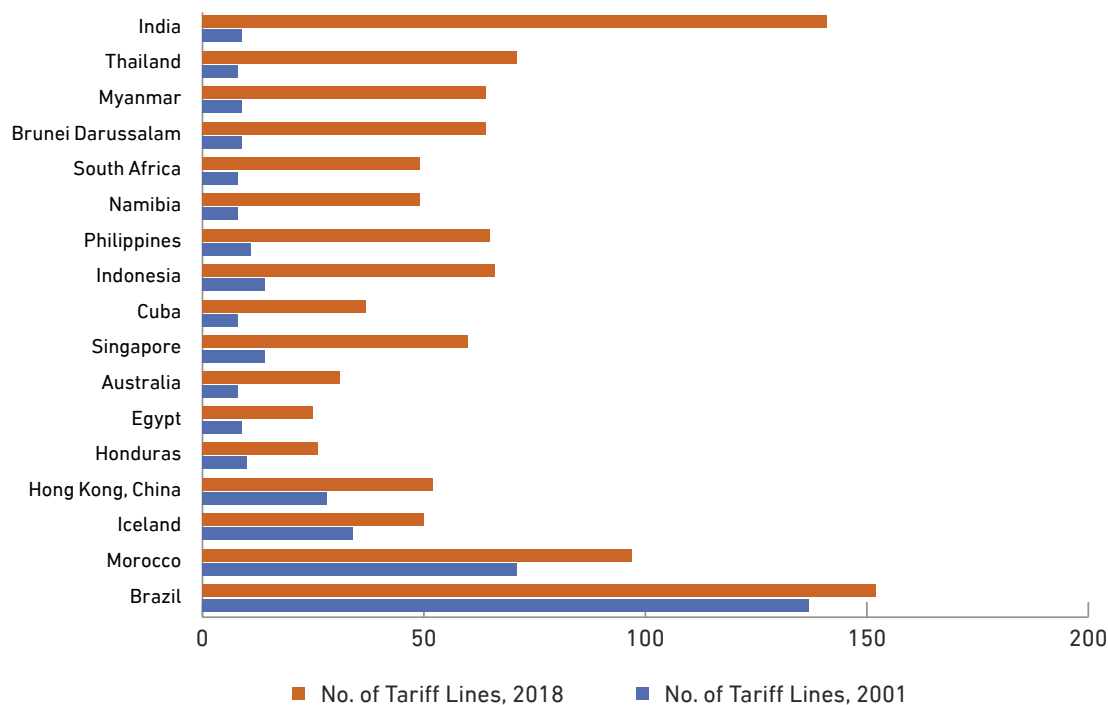


Figure 6: Increases in tariff coverage between 2001 & 2018 (ranked by percentage increase)

Emerging markets constitute a growing share of global pharmaceutical trade

The supposition that the benefits of headline tariff reductions have been cancelled out by increases in tariff coverage is supported by trends in pharmaceutical trade flows within two major emerging economies, India and Brazil. The overall trend shown in Figures 7 and 8 show for these major countries as a whole there has been an increase in imports. Both countries have reduced headline tariff rates but increased tariff coverage. As these two countries both apply tariffs on imported pharmaceuticals and vaccines, this implies that the overall value of medicines available on the domestic market in these countries subject to tariffs has increased.

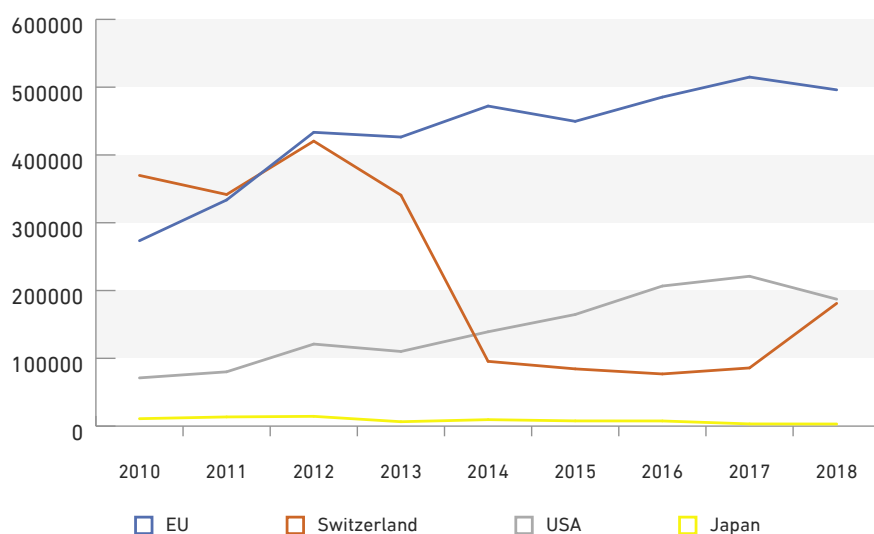


Figure 7: Imports by India from the four Big Exporters (HS3004, Figures in USD Thousands)

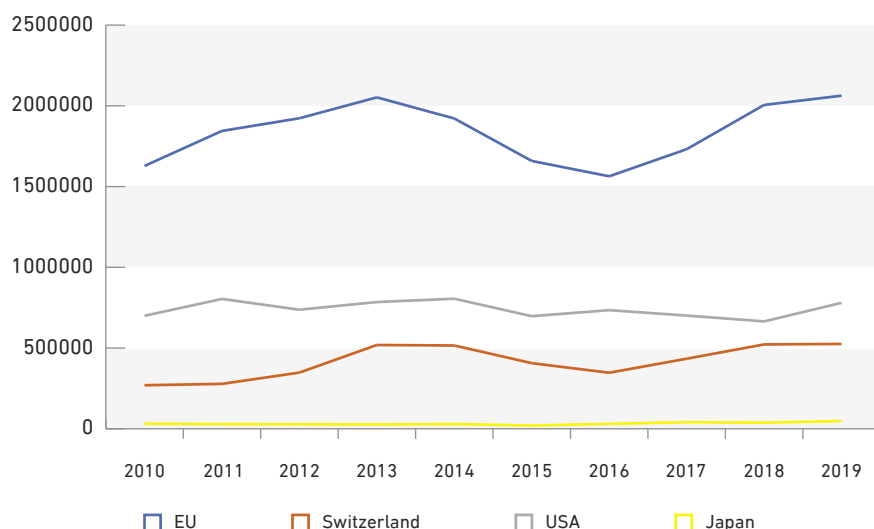


Figure 8: Imports by Brazil from the four Big Exporters (HS3004, Figures in USD Thousands)

I The need to update the WTO “Zero for Zero” initiative

Following the creation of the World Trade Organization (WTO) in 1995, 22 trading partners agreed to the reciprocal elimination of import duties on approximately 7,000 formulated or dosed medicines, medicines traded in bulk, active pharmaceutical ingredients (APIs) and other chemical intermediaries in finished pharmaceuticals. This WTO Pharmaceutical Agreement, also known as the “Pharmaceutical Zero-for Zero Initiative”, came into force on January 1, 1995, and the signatories thereto agreed to eliminate tariffs on the listed pharmaceuticals for all WTO members on a Most Favoured Nation (MFN) basis. At the time, this represented 90 percent of the world’s total pharmaceutical production.

The original list of 7,000 items has been updated periodically. The first update in 1996 saw duties eliminated on a further 496 pharmaceutical items; 642 items in the second update in 1998, and 823 items in the third update in 2006. In the fourth update of 2010 the US International Trade Commission proposed an additional 735 products to receive duty-free treatment. There are now 34 signatories to the Pharmaceutical Agreement (see Figure 9).

However, since the Pharmaceutical Agreement was ratified the complexion of global trade in pharmaceuticals has changed considerably. Overall trade has increased in both value and volume, with emerging markets far more significant trading partners than previously. As a result, the Zero for Zero initiative, while still important, represents a declining share of global pharmaceutical trade.

We calculate that between 2006 and 2018, pharmaceutical imports by jurisdictions and customs territories outside the WTO Pharmaceutical Agreement have increased from US\$39.7bn in 2006 to US\$65.73bn in 2018, a Compound Annual Growth Rate of 4.28% over those twelve years (Figure 10). This implies that the total value of trade in pharmaceuticals outside the WTO Pharmaceutical Agreement and therefore potentially subject to tariffs has increased significantly over the last decade and more.

In addition to the increase of the importance of LMICs to global pharmaceutical trade, it must also be noted that the categories of products covered by the WTO Pharmaceutical Agreement have not been updated since 2010.



Pharmaceutical imports by countries outside the WTO Pharmaceutical Agreement have increased from US\$39.7bn in 2006 to US\$65.73bn in 2018

Australia	Lithuania (EU-27)
Canada	Luxembourg (EU-27)
Austria (EU-27)	Malta (EU-27)
Belgium (EU-27)	Netherlands (EU-27)
Bulgaria (EU-27)	Poland (EU-27)
Cyprus (EU-27)	Portugal (EU-27)
Czech Republic (EU-27)	Romania (EU-27)
Denmark (EU-27)	Slovakia (EU-27)
Estonia (EU-27)	Slovenia (EU-27)
Finland (EU-27)	Spain (EU-27)
France (EU-27)	Sweden (EU-27)
Germany (EU-27)	United Kingdom
Greece (EU-27)	Japan
Hungary (EU-27)	Norway
Ireland (EU-27)	Switzerland
Italy (EU-27)	United States
Latvia (EU-27)	Macau

Figure 9: Signatories to WTO Pharmaceutical Agreement

2006	2018	CAGR
\$US39.73bn	\$US65.73bn	4.28%

Figure 10: Pharmaceutical imports (HS3004) by countries outside the WTO Pharmaceutical Agreement

Since the agreement's 1994 inception, new products and active pharmaceutical ingredients (APIs) have emerged. Periodic updates have not kept pace, with the latest one occurring a decade ago. According to some estimates, there are now up to 1,000 finished products and 700 ingredients not currently included in the list and therefore subject to tariffs when traded on WTO terms.⁸

Given that pharmaceutical manufacturing value chains are increasingly globalised, even low tariffs will have a cumulative impact on the end price of the finished product. This price is ultimately paid by patients. A 2017 study by the European Centre for International Political Economy determined that tariffs add a cumulative burden of up to \$6.2 billion per year in China. In Brazil and India, tariffs on medicines may increase the final price by up to 80 percent of the ex-factory sales price. Abolishing tariffs on medicines would deliver to patients aggregate savings of up to US\$6.2bn in China, US\$2.8bn in Russia, US\$2.6bn in Brazil and US\$737m in India, the study says.⁹ If the goal is to increase access to medicines, there is a strong case for reducing tariffs with legally-binding WTO commitments.



Governments should commit to permanent tariff reductions on medicines and vaccines via legally binding WTO commitments

Conclusion – reducing tariffs is vital to the global Covid-19 response

While tariff reductions are beneficial for promoting access to all medicines, they are particularly pertinent to addressing the Covid-19 pandemic. Covid-19 is a newly identified disease and as yet, there is no approved treatment or vaccine. Innovation will therefore be crucial to a long-term solution to the crisis – not just in the invention of new therapeutics and vaccines, but also in their mass manufacture and rapid distribution throughout the world. International trade will therefore be key as new treatments and vaccines become available. Trade is vital as very few jurisdictions are self-sufficient in the production of medicines and vaccines with the EU, for instance, sourcing 32% of its Covid-19 related imports from outside its borders. That figure is far higher for the majority of developing countries. New Covid-19 therapies and vaccines are likely to be complex and will rely on globally dispersed supply chains for their manufacture. In both cases, tariffs will drive up the price of new Covid-19 therapies, particularly for the developing countries that can least afford them. Meanwhile, many governments levy tariffs on non-pharmaceutical medical supplies vital for tackling Covid-19.

Tariffs on other Covid-19-related medical supplies

All countries need access to medical supplies as cheaply as possible to mitigate the worst effects of Covid-19. Yet many governments raise their price by levying import tariffs and other taxes.

- » The average applied tariff for hand soap is 17% and some WTO members apply tariffs as high as 65%;
- » The average global tariff for Personal Protective Equipment is 11.5%;
- » Five Latin American countries (Ecuador, Bolivia, Venezuela, Brazil, and Argentina) have the highest tariffs on facemasks, ranging from 17% to 55%;
- » Ventilators are frequently subject to tariffs: Brazil, Argentina, and Venezuela levy a 14% applied import tariff. India's duty on ventilators is 10%

Source: World Trade Organization, "Trade in Medical Goods in the Context of Covid-19", April 2020

Some governments have shown leadership by temporarily exempting Covid-19 related medicines, vaccines and medical supplies from import duties and taxes including Pakistan, Brazil, Colombia and Norway. Meanwhile, APEC governments are currently discussing proposals to eliminate for at least one year taxes and tariffs on COVID-19 medical products.

Such reforms are only temporary. Although a positive step, they create uncertainty for exporters over the long-term direction of individual markets and undermine preparation for future pandemics.

Governments should therefore commit to permanent tariff reductions on medicines and vaccines via legally binding WTO commitments. Most obviously, this means more WTO members should accede to the WTO Pharmaceutical Agreement as swiftly as possible. Existing members of the agreement should look to updating and expanding its coverage, to ensure all new medicines are brought into its scope – including those for Covid-19.



| About the authors



Nilanjan Banik

Professor of Economics at
Bennett University, New Delhi



Philip Stevens

Executive Director
of Geneva Network

Appendix

Analysis of Ad valorem Tariffs Rates

Statistics	Ad valorem Tariff Rates 2001	Statistics	Ad valorem Tariff Rates 2018
Mean	4.887159072	Mean	3.473805
Standard Error	0.622179384	Standard Error	1.084135
Median	3.75	Median	0
Mode	0	Mode	0
Standard Deviation	10.22771	Standard Deviation	5.869628

Change in Distribution Function

t Stat	1.380955094
P(T<=t) one-tail	0.058394893
t Critical one-tail	1.66235403
P(T<=t) two-tail	0.170789786
t Critical two-tail	1.987289823

The above table shows that the average applied ad-valorem tariff level on category HS 3004 has fallen between 2001 and 2020. The t-statistics is significant at 5% level. Also, variance as reflected through standard deviation has come down from 10.22 to 5.86, implying that the range between the highest and lowest tariff rates have fallen over the years.

Analysis of Tariff Coverage or Tariff Lines

Statistics	Tariff Coverage (Tariff Lines) 2001	Statistics	Tariff Coverage (Tariff Lines) 2018
Mean	24	Mean	37
Standard Error	4	Standard Error	5
Median	14	Median	21
Mode	8	Mode	12
Standard Deviation	33	Standard Deviation	45

Change in Distribution Function

t Stat	3.299922997
P(T<=t) one-tail	0.000698776
t Critical one-tail	1.66235403
P(T<=t) two-tail	0.001397552
t Critical two-tail	1.987289823

We find between 2001 and 2018, the number of pharmaceutical items on which individual countries have imposed tariffs (measured in term of number of tariff lines) has increased. The t-statistic is significant at 1 percent level. Also, the variance (as measured through standard deviation) has gone up from 33 to 45, implying that the range between the highest and lowest number of tariff lines have increased over the years.

Are changes to the HTS responsible for growth in tariff coverage? The case of India.

HS codes, 2001	No. of Subheading	No. of Tariff Lines	HS codes, 2018	No. of Subheading	No. of Tariff Lines
3004	8	9	3004	12	141
300410	1	1	300410	1	8
300420	1	1	300420	1	29
300431	1	1	300431	1	2
300432	1	1	300432	1	1
300439	1	1	300439	1	8
300440	1	1	300440		
300450	1	1	300450	1	11
300490	1	2	300490	1	70
			New tariff line on existing codes = 252		
New 6 digit HS codes, 2018			300441	1	1
			300442	1	1
			300443	1	1
			300449	1	8
			300460	1	1
			300439	1	8
			New tariff line on new codes = 12		

Endnotes

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7. 'Cabinet approves tariffs reductions', 6 November 2019, **Bangkok Biz News**, available at <https://www.bangkokbiznews.com/news/detail/853502>
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