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Why Has It Been So Difficult to Provide Assessments of New Tariffs?

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Abstract

President Trump has made tariffs the centrepiece of his second administration's trade policy. The announcement of new or revised tariffs has become an almost daily occurrence in the first months of the presidential term. This has led to a demand for assessments of tariffs – in particular pertaining to who bears the burden of the tax – the incidence of tax – tariff revenues and the effects on imports. This demand, however, has not been satisfied. This paper explains why the tariff assessments have not been done and are unlikely to be done.

Keywords: estimation, incidence of tax, regression, tariffs, tariff revenues

Introduction

I always say tariffs are the most beautiful words to me in the dictionary.

President Donald Trump
Bloomberg.com
January 20, 2025

…without contending for the superior productiveness of manufacturing industry, it may conduce to a better judgment of the policy which ought to be pursued respecting its encouragement to contemplate the subject under

> some additional aspects, tending not only to confirm the idea that this kind of industry has been improperly represented as unproductive in itself, but to evince, in addition, that the establishment and diffusion of manufactures have the effect of rendering the total mass of useful and productive labor in a community greater than it would otherwise be.
>
> Alexander Hamilton
> Report on the Subject of Manufactures, 1790

> The statesman who should attempt to direct private people in what manner they ought to employ their capitals, would not only load himself with a most unnecessary attention, but assume an authority which could safely be trusted, not only to no single person, but to no council or senate whatever, and which would nowhere be so dangerous as in the hands of a man who had folly and presumption enough to fancy himself fit to exercise it.
>
> Adam Smith
> The Wealth of Nations, 1776
> Book II, Chapter III, Paragraph 36

From 1947 and the advent of the General Agreement on Tariffs and Trade (GATT) and subsequently the World Trade Organization (WTO) the general interest in tariffs has been in their reduction, largely through *Rounds* of negotiations. Reductions in tariffs were slow, often iterative and implemented over time, Foreign firms perceived tariff reductions as beneficial and thus there was little urgency in determining the effect of the reductions – although firms in the country reducing tariff protection may have had a greater interest in assessing the effects of the changes, For the most part the negotiated reductions were relatively small – between 1947 and 1995 there were eight successful *Rounds* of GATT negotiations.[1] Tariff reductions were also important parts of GATT/WTO accession negotiations and the negotiations associated with the establishment and revisions to preferential trade agreements. In general, the focus of assessments was on the broader effects of liberalization rather than those of any particular tariff.

All of this changed with the advent of US President Trump's second term in January 2025.[2] Tariffs have become the central element in US trade policy (and at times its broader foreign policy). The President sees tariffs as a policy which can achieve multiple objectives including: (1) punishing countries that are perceived by the US as trading *unfairly*; (2) gaining advantage in bilateral trade negotiations; (3) reducing or eliminating trade deficits in goods; (4) encourage the re-shoring of manufacturing; (5) raising tax revenues that can be used to reduce the national debt or to fund reductions

in other forms of tax. The size of the threatened and implemented tariffs are generally very large, ranging from ten percent to twenty-five percent to fifty percent, but up to 145 percent and 500 percent. The threatened size of the tariffs has varied considerably – largely seen as a tactic central to negotiation strategies. Protection of domestic industries is only partly the motivation as tariffs are also seen as a way to force countries to open their markets to US exports or to punish countries for non-trade policies the Trump administration does not approve of.[3]

The threat of US tariffs, and sometimes tariffs threatened by other countries as retaliation against US goods, means that there is a demand for assessments of the likely effects of tariffs. Firms need to know the effect of tariffs on the goods they export to the US so that they can plan for their new export environment. Firms in the US that use imported products as imports need to have tariffs assessed so they can plan. Firms in exporting countries that are not threatened by new tariffs need to understand the effect of tariffs on competitors in the US market to form their strategies. Governments in exporting countries need an assessment of the likely effects of tariffs on economic activity and employment. The US government needs projections of tariff revenues to factor into their budgeting process. The US administration will want to know the expected effect on prices. All manor of businesses, governments and other economic actors would like information on the impact of tariffs as well as the general public. Despite this spike in demand for assessments of tariffs, little has been forthcoming and there is little agreement on the validity of those that have been forthcoming. This paper sheds light on why there remains a dearth of analysis and why attempting to do so would be resource intensive and likely not worth the effort.

Tariffs in Theory

Tariffs are a tax. The way economists assess tariffs is by examining the *incidents of tax*. The *incidents of tax* is used to determine how the distortion to a market is borne by each of the parties to the transaction.

Figure 1 depicts an international market for a product which has a domestic classification – a tariff line – to which a tariff can be applied. The export supply curve shows the quantities that will be offered for export at various prices. The import demand curve shows the quantities imports that will be purchased at various prices. Where the export supply and import demand intersect is the price at which the quantity of exports offered exactly equals the quantity imports desired – an international market equilibrium. The equilibrium quantity is the quantity traded – the quantity of imports. There are no distortions in this market.

Figure 2 shows the effect of the imposition of a tariff on an international market. The tariff imposes a wedge between the import demand and export supply functions. As a result, the import price rises from P_e to the *import price* and represents the price that consumers in the importing country must pay for imports and the price import competing firms must compete with. The revenue – receipts – received by exporters falls from P_e to *exporter receipts*. Imports decline.

Figure 1 – The International Market

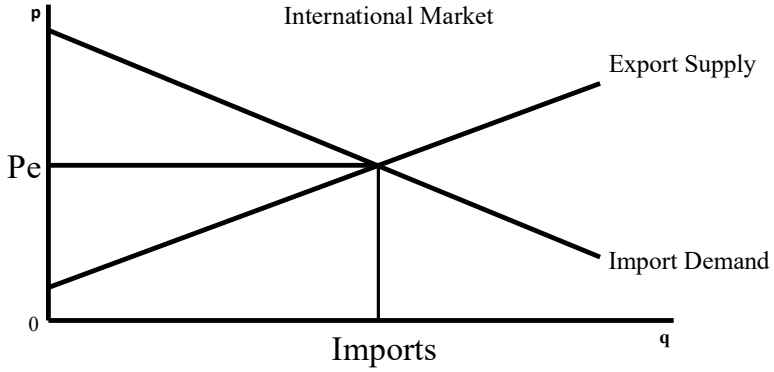


Figure 2 – The Imposition of a Tariff

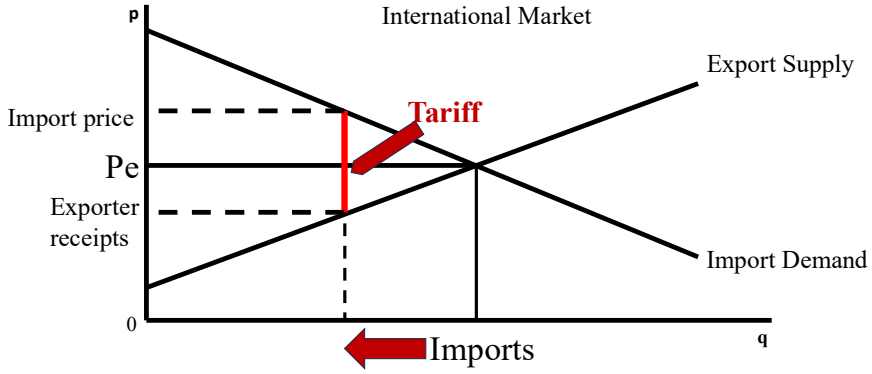


Figure 3 illustrates how much of the tariffs reduction in welfare is borne by consumers – the reduction in consumer surplus due to the rise in the import price.

Figure 4 shows how much of the reduction in welfare – reduction of produce surplus is borne by the exporters due to the decline in exporter receipts.

Figure 3 - Incidence of Tax – Who Bears the Cost of a Tariff?

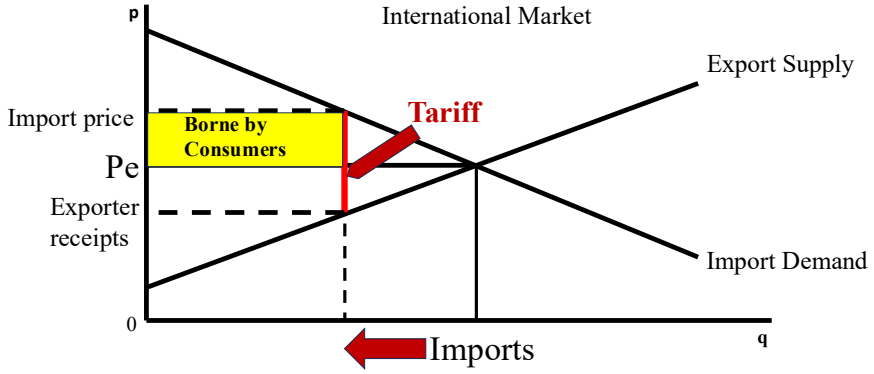


Figure 4 - Incidence of Tax – Who Bears the Cost of a Tariff?

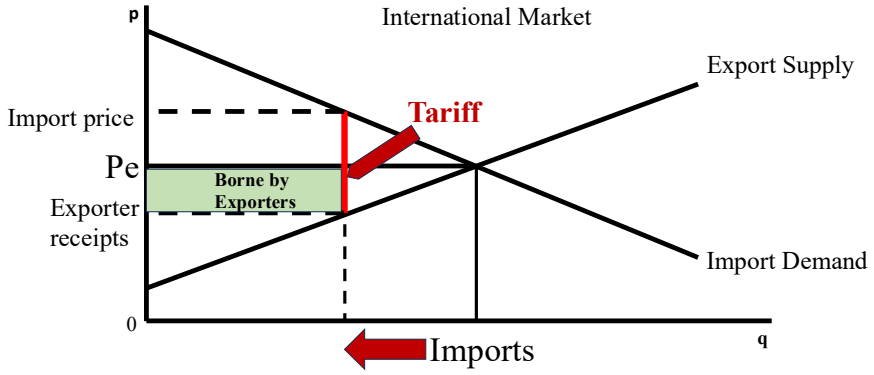


Figure 5 illustrates how the burden of the market distortion arising from the imposition of a tariff is split between the import consumers and exporters.

Figure 6 illustrates the value of the tariffs collected with the imposition of the tariff, It is the per unit tax collected on the quantity traded. The taxes collected accrue to the government. It should be noted that the taxes collected are smaller than the loss of economic welfare – the sum of consumer and producer surplus. The difference is the *dead weight loss*.

Figure 5 - Incidence of Tax – Who Bears the Cost of a Tariff?

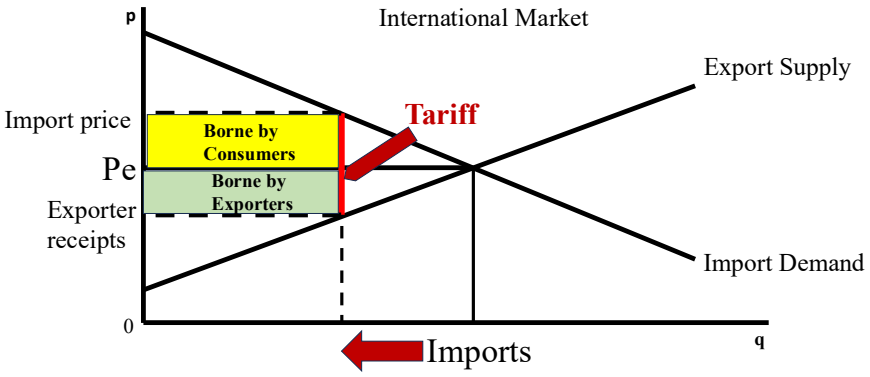
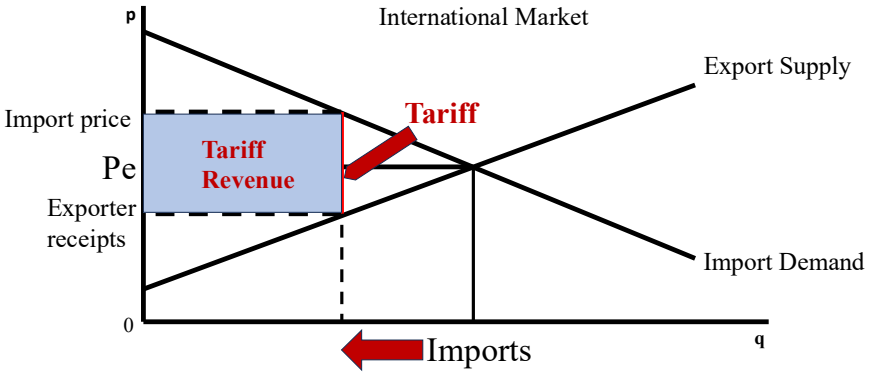


Figure 6 – Tariff Revenue



The size of the price changes, the change in the quantity of imports and the values of the various areas will change depending on the shapes of the export supply and import demand functions. In the absence of empirical estimation this can lead to

differences in the expectations surrounding the imposition of a tariff. For example, President Trump and his administration insist that the effect on consumer prices in the US will be minimal and that the tariff will be paid for by foreigners – that exporters will bear the burden of the tax. This conclusion can be arrived at if the international market is configured as in Figure 7. The rise in the price paid for imports is very small and is dwarfed by the decline in the price received by exporters. Figure 8 shows that most of the incidence of tax is borne by the exporters. Consumers in the importing country will only bear the cost of the small area – not shown – defined by {(Price paid by US Consumers – P_e) x the quantity of imports}.

Figure 7 - Incidence of Tax – As Perceived by President Trump and His Supporters

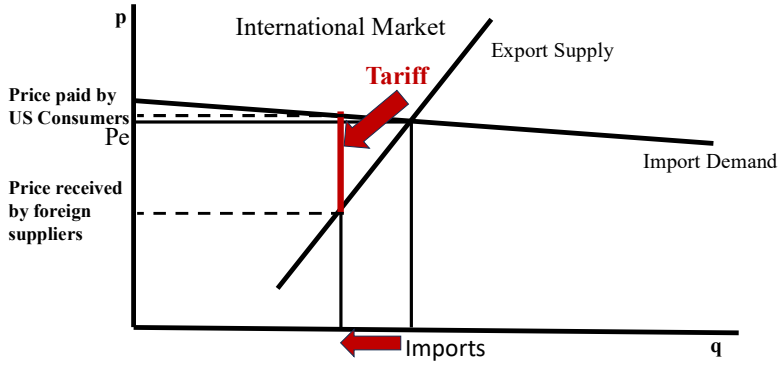
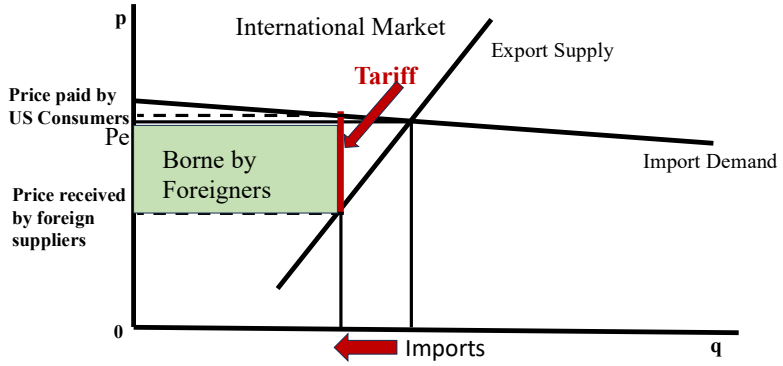
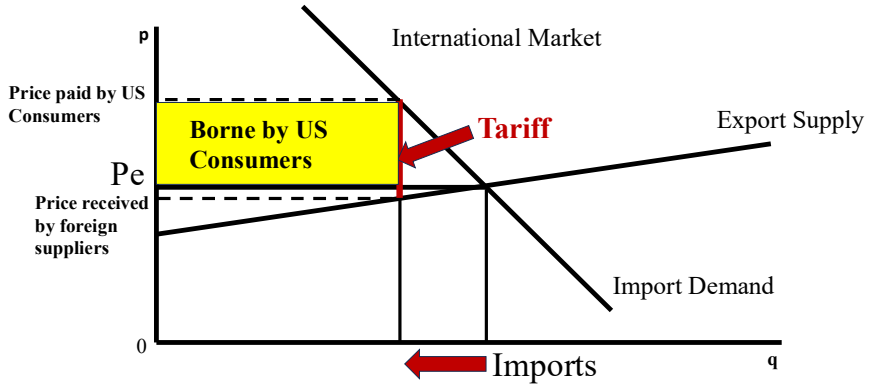


Figure 8 - Incidence of Tax Borne Primarily by Foreign Firms – As Perceived by President Trump and His Supporters



The detractors of President Trump and his administration have a different view of how markets are configured – as illustrated by Figure 9. In this case the incidence of tax is borne largely by US consumers due to the rise in import price. The incidence borne by foreign suppliers – not shown – is small by comparison {e.g. (P_e – Price received by foreign suppliers x Quantity of Imports}.

Figure 9 - Incidence of Tax – As Perceived by President Trump's Detractors

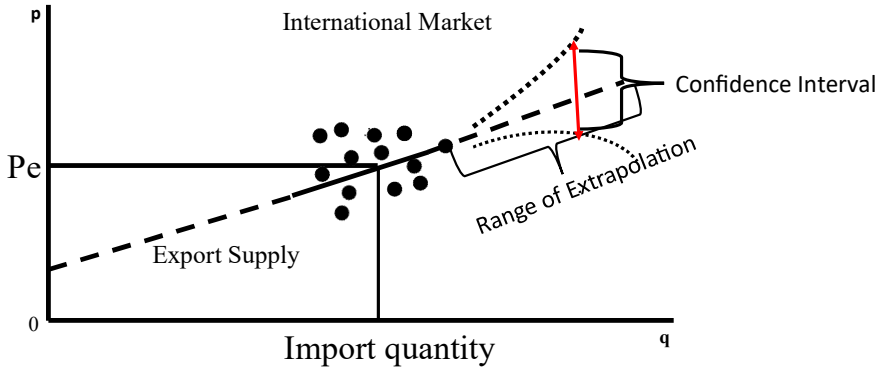


To establish the actual configuration of the international market in question requires empirical estimation. The textbook approach is to estimate the elasticity of the import demand function and the export supply function at equilibrium and then impose the announced tariff to derive the new import price and the new price received by the export suppliers – and then calculate the incidence of tax and the tariff revenue. Elasticities are, however, only useful for the imposition of small tariffs. For the size of tariffs threatened and imposed by the Trump administration elasticities cannot safely be used. What is required is econometric estimations of the import demand and export supply functions.[4] With the fully specified import demand function and export supply functions one can calculate the equilibrium and then impose the tariffs to determine the incidence of tax, tax revenue, effect on exports, etc. Few will bother to undertake these estimations.

Empirical Estimation Challenges

To undertake econometric estimations requires data of prices and quantities (as well as other factors that may affect import demand and export supply functions), Historically, in many markets prices and quantities vary within a relatively small range – much smaller than the changes that can be expected from the size of tariffs threatened by President Trump. That means that the new prices and quantities are far outside the data used in estimation – they must be extrapolated using the estimated functions. The problem is illustrated in Figure 10.

Figure 10 – Estimation



Suppose one wants to estimate the export supply function for a particular market. Assuming data exists on past prices and quantities[5] - the black dots in Figure 10 – then regression can be used to estimate the export supply function. Beyond the range of data, the values on the supply function must be extrapolated (illustrated by the dashed line). Given the size of the tariffs threatened by President Trump, a considerable degree of extrapolation will likely be involved. As the degree of extrapolation increases however, the confidence one can have in the estimated values declines so that one can only be confident in a range of estimated values – shown by the confidence interval defined by the dotted lines at each quantity. Given the size of the tariffs proposed by President Trump, one could have little confidence in any chosen estimated values. In other words, one can only have confidence that the extrapolated values for any quantity in Figure 10 lie between the dotted confidence lines and would only lie on the regression line by chance. Any assessments of tariffs can thus be easily challenged. Hence, there is little point in undertaking such estimates (Viju and Kerr, 2009) – and, hence, why few estimates of the effect of tariffs exist.

Tariffs are levied on individual products – tariff lines – which are often divided into very narrow product categories. In the US these are published in the Harmonized Tariff Schedule (https://hts.usitc.gov/). President Trump has, for example, threatened tariffs on copper. "Copper and articles thereof" are listed in Article 74 of the US harmonized Tariff Schedule. There are approximately 140 tariff lines listed. Hence, to provide an assessment of the proposed tariff on copper on should estimate the import demand and export supply functions for each tariff lines – the functions will be different for reach product and, hence, the incidence of tax and projected tariff revenues will differ. This would represent a very large effort, In many cases no data is likely to exist for products included in the narrowly defined tariff lines. Given the diversity of the markets for the products in each tariff line, aggregation can only yield approximations that can easily be disputed.

Any estimation of import demand and export supply functions are only likely to be valid in the short run as both consumers and exporters adjust to price changes over time. Hence, over time, estimates of the incidence of tax or tax revenues will become outdated.

President Trump threatens tariffs, reduces the threatened tariffs, raises them again, cancels the threat, etc. so that any effort to assess the impact of tariffs may be futile in any case. This makes it very difficult for firms faced with investment decisions such as re-shoring production facilities very difficult in the absence of assessments of the tariffs they may face. Further, do they simply chose to *wait it out* over the four years of the Trump presidency before making major investment decisions. After all major investment projects often have development timelines longer than four years. If history has any lesson, however, it is that once put in place, tariffs are *sticky* – they are hard to remove. After all the GATT/WTO has spend the time from 1947 to the present attempting to reduce or remove tariffs put in place in the 1930s – with the task not yet completed. Even if they did not ask for them, firms in importing countries will benefit from the imposed tariffs and, hence, have an incentive to expend resources to prevent their removal.

Conclusions

The administration of US President Trump has embraced an aggressive tariff strategy as a central tenant of its trade policy, ignoring its international commitments. As a result, there is a demand from firms – in both exporting and importing countries – governments, citizens and journalists, among others, for assessment of the effects of tariffs. This paper explains why such assessments have not been undertaken and are not likely to be undertaken. As a result, those with political or ideological agendas can make

irrefutable claims about who will bear the cost of tariffs – the incidence of tax – the size of tariff revenues and the effect on exports. With trade policy in flux, firms are left with even more difficult decisions given that they have no reliable information on the expected effects of tariffs. This exemplifies one positive externality of the previously agreed international rules of trade.

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Endnotes

[1] In 2001 the WTO initiated the Doha Round but it was unsuccessful.

[2] There were threats of, and the putting in place of, tariffs, particularly against China, during the first Trump presidency, but tariffs were not a central focus of US trade policy.

[3] For example, Canada's tax digital services tax on technology companies and the treatment of former President Bolsonaro by Brazil.

[4] This is also required for the estimation of the import demand and export supply elasticities.

[5] And other factors that are expected to impact export supply. Data for direct estimation may not exist as export supply functions are derived from the domestic supply and demand functions in the exporting country – the various quantities that will be offered for export at different prices (i.e. the difference between demand and supply at prices above the domestic equilibrium, The export supply can be derived using estimates of domestic supply and demand curves.