

On Tariffs and Price Dumping

Background

I recently saw a tweet by Stephen Miller, a Trump surrogate, who drew flak for supporting tariffs. Perhaps “supporting” is underplaying his views. A word like “worshipping” might be the better word. He further claimed that tariffs are what built America, which may be a questionable interpretation of history. Regardless, see for yourself the tweet as linked below.

Link: [\(1\) Stephen Miller \(@StephenM\) / X \(twitter.com\)](#)

Of course, Stephen Miller, who challenged conventional economics, was sharply met with detractors. Some posted supply and demand graphs as “proof” that tariffs are bad. These detractors believe that tariffs lead to stagflation because the aggregate supply curve shifts inwards. While I do question if tariffs “built” America, I have and will continue to question the economic theories used to justify absolute-free-trade. I do agree with Miller that some people view free trade (and other economic theories) as a religion. However, there is one poignant example, which has anti-trust applications (Khan, 2016; Khan, 2019) that undermines the animosity towards tariffs and that is predatory pricing.

Price dumping is when a company sells its products for below the cost of production. This can make it easier to drive competitors out of business. By hollowing out the competition, the price dumping firm can become a monopoly and then charge monopoly prices (Khan, 2019). Fundamentally, price dumping is a long-term strategy to forgo short-term profits in exchange for long term monopoly profits. From the individual perspective this is a reasonable business strategy if anti-trust enforcement is *laissez-faire*. Now economic theory may argue that price dumping is not possible because of the perfect competition assumption. These folks argue that if a company is price dumping, they would not be able to sustain the dumping indefinitely (Khan, 2016). Further, if they did become a monopoly then investors would flock to new entrants to be able to get some of that profit, thus ignoring high barriers that exist in practice (Ricardo, 1819; Khan, 2016). However, challenging a monopoly economically is no easy task as there are barriers to entry in the real world (contrary to perfect competition) and monopolies have both market and political power to wield (Khan, 2016). For instance, the railroad monopoly is a historical example and large technology companies are perhaps the more modern case where the fixed costs are so high, new entry was extremely difficult (Khan, 2019).

Now price dumping also has its implications in trade. Let us say there are two countries that compete in steel production. The domestic industry is well established, and the foreign industry is less established but has a lower cost of living and lower wages. Now some capital might naturally flow from domestic to foreign industry to save on labor costs which is all fine and good according to free trade¹. However, what if the foreign country, with the desire to have more jobs (can you blame them for this desire?) chooses to subsidize the foreign industry? These subsidies can be used to lower the price charged by the foreign steel industry which may drive the domestic industry out of business. Now, what should the domestic country do? Should they

¹ Let us also assume that domestic workers are able to find a new field easily. This is not what happens in practice (Bivens, 2005), but let us assume it for this paper which is about price dumping and tariffs rather than worker well-being explicitly.

do nothing in the blind faith to free trade? Of course not, and this may be a useful application of tariffs. A tariff will make the foreign product relatively more expensive and thus make the domestic industry's steel more competitive in the market. The domestic government could also subsidize the domestic steel industry similar to the foreign country.² If the domestic country does nothing, the consumers would have been better off in the short term due to the reduction in price. However, this fails to consider the long-term implications. After the domestic industry goes out of business there is nothing stopping the foreign industry from raising prices to recoup their losses since there is now less competition. As I laid out in my first comparative advantage [paper](#), the world can be zero-sum and thus tit-for-tat economic strategies may be warranted.

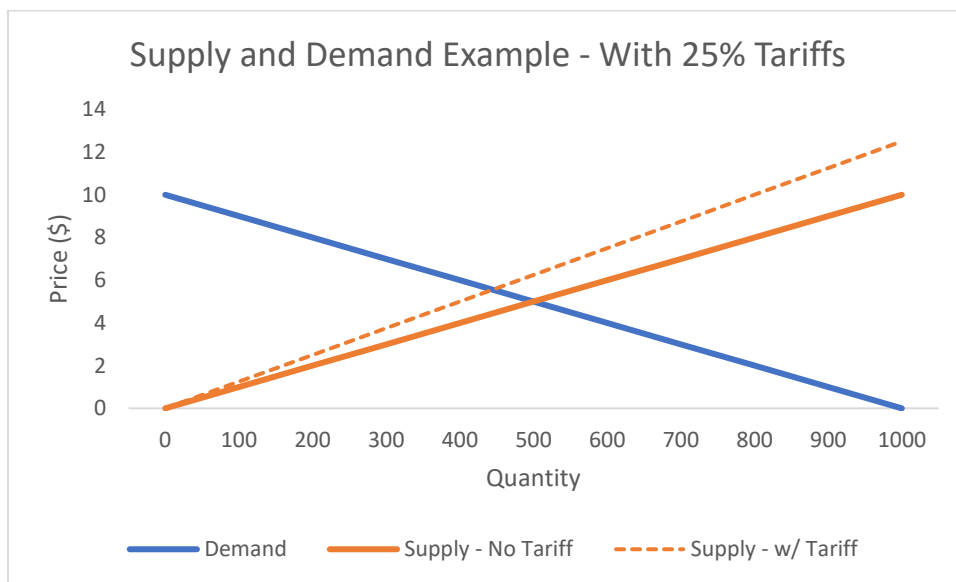
In the next section I will briefly present the classical argument used against tariffs. In the section thereafter, I will present a numerical example supporting the use of tariffs in the case of price dumping.

The Classical Theory of Tariffs

David Ricardo detests the use of tariffs because tariffs raise the cost of production (Ricardo, 1819). Ricardo is credited with developing the theory of comparative advantage in his groundbreaking book, "On the principles of Political Economy and Taxation." A tariff is a tax paid by a foreign industry to the domestic government. This tax is then typically passed along to the consumers. The tax being passed along to the consumer is a reason cited by detractors since consumer welfare appears to be a dominant framework in mainstream economics (Khan, 2016). I do not dispute this claim, tariffs will make imports more expensive, but that is the point. What Ricardo views as the great crime here is that it leads to inefficient allocation of resources. However, wouldn't price dumping also lead to inefficient allocation of resources? I think in practice, it seems the goal of individual players has been market power (e.g. Amazon and Southeast Asia's manufacturing dominance), rather than optimal efficient allocation of resources for collective global production. Now, I do not disparage any of these individual players for doing this, it was after all, in their economic interests to do so. What I do disparage is not responding to these trends because the real-world rarely aligns with theory. Assuming non-zero sum does not magically make the real world non-zero sum. Now, let us look at some supply and demand curves for steel with and without a tariff as seen by Table 1 and graph below.

² "Picking winners and losers" (or industrial policy) will also attract a high number of detractors.

Price	Quantity		
	Demand	Supply - No Tariff	Supply - w/ Tariff
0	1000	0	0
1	900	100	80
2	800	200	160
3	700	300	240
4	600	400	320
5	500	500	400
6	400	600	480
7	300	700	560
8	200	800	640
9	100	900	720
10	0	1000	800



In this simple example I assumed a 25% tariff which was assumed to increase the marginal cost of production by 25%. At equilibrium this model indicates 500 units will be produced and sold for a price of \$5 per unit. The tariff shifts the supply left which has the impact of raising the equilibrium price and reducing the quantity produced. This stagflation appears to be the worst of all worlds as both production is reduced, and prices increase. Thus, it may be concluded from this graph that tariffs are adverse.

A Counter to the Classical Theory

Now let get into the weeds with a simple numerical example to highlight how it may be in the domestic country's interests to implement tariffs. Let us assume there are two firms, a foreign

firm and a domestic firm. The domestic firm is well established and has a net worth of \$1,000. Let us assume for simplicity that the cost of production for both industries is equalized at \$4 per unit. This may not be the case as the marginal cost of production may be lower in the foreign country, but we are ignoring that for now and choosing more simplistic assumptions. Further, assume for simplicity all consumers of steel are in the domestic country. The foreign firm is blessed with an investment from the government of \$1 million. Before the foreign firm entered the picture, the domestic firm was operating at a 4% profit margin adding \$100 per year to its net worth (profit = units * (price – cost of goods sold) – fixed costs). However, once the foreign firm enters the pictures and charges \$2 per unit, well below the cost of production, the domestic firm’s steady business begins to decline. The foreign firm can do this since it has a subsidy from the government to capture market share. This is not unsimilar to the investments/funding that Amazon was able to garner when it was still in its infancy. Amazon made relatively small profits during its growth years by charging low prices, which allowed it to grow its user base which it then levered to push competitors out of business (Khan, 2016).

Going back to the numerical example, after a foreign firm’s entry, the domestic firm begins to lose its equity until it goes bankrupt at the end of time 4³. The foreign firm, on the other hand, would be able to generate jobs for its citizens, which is beneficial to that country. Now, if the domestic country is able to assimilate these laid off workers into new careers, the domestic country may be able to win out. However, the effectiveness of these programs appears to have been oversold (Bivens, 2005).

Table 2: Competition without Tariffs	Time 0		Time 1		Time 2		Time 3		Time 4	
	Foreign Firm	Domestic Firm	Foreign Firm	Domestic Firm	Foreign Firm	Domestic Firm	Foreign Firm	Domestic Firm	Foreign Firm	Domestic Firm
Cash Balance (BOY)	1,000,000	1,000	900,000	1,100	898,800	900	897,400	600	896,000	300
Fixed Cost	-100,000	-400	-400	-400	-400	-400	-400	-400	-400	-400
Cost of production	N/A	4	4	4	4	4	4	4	4	4
Price	N/A	5	2	5	2	5	2	5	2	5
Units Sold	N/A	500	400	200	500	100	500	100	500	100
Tariff - Impact	0	0	0	0	0	0	0	0	0	0
Net Profit	-100,000	100	-1,200	-200	-1,400	-300	-1,400	-300	-1,400	-300
Cash Balance (EOY)	900,000	1,100	898,800	900	897,400	600	896,000	300	894,600	0

Now free market economists may say this result is fine because total production actually went up (production in steady state went up from 500 to 600). However, one country is the clear loser and one country is the clear winner. Perhaps, they may counter that prices are now lower. Well, they are lower for now, but now, the foreign firm has all the leverage in this hypothetical steel market. Short-term price reductions may not equate to long-term price reductions. Further, how is it a free market if one government back stops all of the foreign firm’s losses so it can build market share? While this may be unfair to the domestic firm, it is a good strategy from the foreign country’s perspective.

³ This analysis ignores the steel workers who would inevitably be laid off by the domestic firm due to lower demand for its “overpriced” goods. This cost should not be ignored in practice.

Now let us assume that the domestic country imposes a 50% tariff (which effectively increases the price by 100%, $\text{Old Price}/(1-0.5)$). This assumes that the full cost of the tariff is passed along to the domestic consumer in pricing. Further, let us assume that receipts from this tariff are paid out directly to the domestic firm to keep it in business. There are of course other uses for tariff revenues and that can be debated. What happens is the units sold by the foreign firm will decrease since their price is closer to the domestic price and the units sold by the domestic firm will be higher than before. The price of steel will go up since we are imposing a tax, and the cost of that tax is borne by buyers of steel. However, in this scenario a monopoly can be avoided to the great benefit of everyone. Further, the domestic industry avoids dramatic job losses and less exports are garnered by the foreign firm.

Table 3: Competition With Tariffs	Time 0		Time 1		Time 2		Time 3		Time 4	
	Foreign Firm	Domestic Firm	Foreign Firm	Domestic Firm	Foreign Firm	Domestic Firm	Foreign Firm	Domestic Firm	Foreign Firm	Domestic Firm
Cash Balance (BOY)	1,000,000	1,000	900,000	1,100	898,600	1,500	896,800	2,000	895,000	2,500
Fixed Cost	-100,000	-400	-400	-400	-400	-400	-400	-400	-400	-400
Cost of production	N/A	4	4	4	4	4	4	4	4	4
Price	N/A	5	4	5	4	5	4	5	4	5
Units Sold	N/A	500	250	300	350	200	350	200	350	200
Tariff - Impact	0	0	-500	500	-700	700	-700	700	-700	700
Net Profit	-100,000	100	-900	400	-1,100	500	-1,100	500	-1,100	500
Cash Balance (EOY)	900,000	1,100	899,100	1500	897,500	2000	895,700	2500	893,900	3000

Now, what happens here? With tariffs there is less total production than in table 2, consistent with the supply and demand graphs. This may be enough for economists to reject my argument that tariffs can be useful. However, the workers in domestic firms will be happy to take this tariff deal than the no-tariff scenario. It is after all, in their economic interests. In this example, the domestic firm is in a much better position and actually profits profusely in this example. This would not necessarily be the case in practice as the tariff revenues would not necessarily be earmarked to the domestic firms. Regardless, the domestic firm would have stayed in business as of year 4. I should again caveat of course, that these are made up numbers. However, it appears the claim I am attempting to disprove is tariffs are always adverse in all situations. I dispute this claim as this economic “game” has effectively become zero-sum. Thus, I think a single simple example is all that is required to disprove a claim that is believed to hold absolutely. Now of course, it is possible that the foreign firm will respond in kind, but if you are in a trade deficit the domestic firms are less sensitive to tariffs, since they don’t export as much.

Further, if we take the zero-sum view (which I think is appropriate), we see the net revenues going into the foreign country is less than before. It is appropriate since the foreign country funded anti-competitive practices (not showing a propensity for non-zero sum thinking) and the domestic country responded with protectionists measures. Fundamentally the domestic company employed a tit-for-tat game theory strategy.

Further, another value add is that we thwarted the predatory pricing technique implemented by the foreign country as the domestic firm was left standing in the end. In Table 2, it was a winner-

take-all model where the foreign firm achieved a monopoly by the end of time 4 and thus could wield its market power thereafter. By using the receipts from the tariffs in a sort of reverse Robinhood manner, the domestic firm is able to persist and drastically reduce the effectiveness of predatory pricing.

Thus, the question on the validity of tariffs appears to depend on the context. If another economic actor is going to use anti-competitive actions against you, I think it fair to use protectionist measures in response. We are fundamentally in a game of prisoner's dilemma but where we have more time to react to your opponents' choices. The most irrational choice is to choose trust if you know that your opponents choose to defect (by price dumping). Now it would be best if everyone chose to abide by free-trade principles but that is not always the case as countries will selfishly do what is in their best interests (and the US is no better in many areas). In this paper I have shown that tariffs can be used as a tool to brunt anti-competitive price dumping techniques by foreign countries based on recent anti-trust theory (Khan, 2019, Khan, 2016). Tariffs can be a valid policy tool to protect US producers. Further, I would contend that tariffs are just like any other tax. Fundamentally tariffs are an incentive to produce in the US and this is likely no worse than other taxes this country has to offer.

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