

Trade Gains via Business Market Share: U.S.-Global Posturing with Insight from Previous Manufacturing Battles

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ABSTRACT

Newly elected U.S. President Donald J. Trump has ushered in a new but debated era of global economic repositioning in which trade policies, particularly those pertaining to manufacturing, may drastically change in the form of new tariffs or renegotiated agreements. This era, which might be termed the Washington-Nationalist Ambivalence, may greatly affect the business environment for managers. At the same time, the world is witnessing a greater divergence of economic policy between developed and emerging nations. In light of this fact, do any of the President's ideas meet the test of economic theory, traditional or modern? This paper combines micro- and macroeconomics with an understanding of business and market share, through several related models. Specifically, it uses concepts from orthodox trade theory, as well as comprehensible evidence from the 1970s-1980s auto and manufacturing battles, to propose an original concept that, under certain circumstances beyond the "optimal tariff," tariffs in competitive industries with low import market shares are justified. Managers might appeal these ideas to the Trump administration. In addition, the paper proffers a new measurement called "choice purchasing power" to reconcile global trade divergences, which future research could validate, while offering a lukewarm hypothesized hope that the new U.S. administration will heed such reasonable policies and turn away from many of the flagrant misnomers made during the 2016 U.S. presidential campaign.

Keywords: Comparative advantage, manufacturing, market share, President Trump, tariffs, trade

1. INTRODUCTION

In the United States, newly elected President Donald Trump's administration and its posturing policies appear to have some underpinning in economic theory, but is there further evidence? Whether his policies succeed, which ultimately will depend on his work with the U.S. Congress, those policies will have significantly changed what was known from the 1980s onward as the "Washington consensus." This reference is to the global world order led by the United States and Great Britain, which stressed low tariffs and taxes on businesses, and then was mollified in the last decade by the "post-Washington consensus," which put more emphasis on global social, health, and environmental concerns, particularly for developing G20 (Group of 20), countries. These changes had immense impacts for managers dealing with international business, supply chains, pricing, and marketing strategy (Gregory & Stuart, 2004).

The new era of political and economic nationalism is one of "Washington-nationalist ambivalence," in which the United States is weary of supporting its allies, economically and politically, and its allies are growing weary of the U.S. assurance of power. The ambivalence is generating uncertainty for managers. The vote for "Brexit" last year in Great Britain, the failure of Matteo Renzi's government in Italy, the talk in France of exiting the European Union, and the rise of other nationalistic leaders globally are further evidence of this divergence in economic policy, which is also shaping up to be a battle between developed and emerging nations. One could argue that economic nationalism emerged during the Obama administration as constant U.S. government shutdowns and political infighting signaled to the world a broken Washington leadership. America's "good neighbor" policy, in place since the Franklin Roosevelt administration, has been replaced, at least nominally so far, by Trump's "America first" agenda, which has typically been U.S. policy through political "realism," but not so strongly economically. Economics and managers have almost always fared subservient to political goals.

Two trade economic models now exist, more distinctly than ever before, among all of the countries in the world. The two models are practiced differently between developed and developing countries. One model focuses on increasing gross domestic product (GDP) through exports, which can result in greater productivity and buying power in the future. The second model centers on increasing utility, through real or "hidden" barriers to imports, which leads to more choices and increases overall happiness in the short term. Some countries, such as

the U.S., prefer utility through more imports and greater variety, whereas others, including many nations in Asia, prefer growth, or GDP, in the form of cash to spend on the same products or to invest or save, which can result in future utility.

This paper is organized into eight sections. Section 2 includes a literature review. Section 3 presents the study objectives and rational and refutes the most contentious of Trump's ideas. Section 4 describes the methodology used. In Section 5, the analysis of the results includes six parts focusing on:

- (1) the possibility of placing tariffs on competitive industries;
- (2) how to determine efficient or "optimal" tariffs;
- (3) how competitive industries should be defined by market share;
- (4) an evaluation of whether productivity-based tariffs empirically occur;
- (5) an evaluation of future competitive industries via investment; and
- (6) the true effects of trade deficits or surpluses long term.

Section 6 discusses study results; Section 7 presents conclusions; and Section 8 explores implications for managers who will have to deal with the new economic environment.

Overall, the paper contributes to the literature by refuting many of the contemporary ideas being discussed by President Trump and by suggesting new ideas on using tariffs for products with low business market share and for using the concept of "consumer purchasing power" as a cause to lessen account deficits. Tariffs on low-market-share products would fall on the more inelastic party, typically the supplier in oligopolistic markets because, in microeconomic settings, firms cannot switch production as easily as consumers switch products. These ideas, if attempted, would have the potential of helping competitive industries in the United States or elsewhere, and they would make Trump's dogmas more consistent with mainstream economic theory.

2. LITERATURE REVIEW

The world of trade and tariffs is constantly changing, as Linder (1961) noted, but the fact is often overlooked. Capital is flowing, managers are moving their firms' headquarters, and education is changing around the world. All of these factors affect resources. In general, from David Ricardo (1817) in the 19th century onward, economists have disliked tariffs. Ricardo (1817) originated the idea of comparative advantage; that is, the cost advantage in producing one product compared with another in a country and then compared with another in a foreign country. The idea was that countries should specialize in comparatively advantaged goods and trade freely for comparatively advantage goods from other

countries. This discussion was enlivened by researchers that followed in the early to mid-20th century, such as Hecksher-Ohlin (1919, 1933), who theorized on the benefits of resources to owners; Stolper-Samuelson (1941), who wrote about “winners and losers” in trade; and Leontief-Linder (1953, 1961), who discussed empirical paradoxes in American trade. It was further enlivened by Paul Krugman (1981) and by Joseph Stiglitz (2003) who wrote on multi-national firms and globalization, respectively.

Traditionally, the idea of an “optimum tariff” is based on the elasticities of goods and on “terms of trade effects,” which apply to markets where large buyers in large countries act as a monopoly and essentially force, via market pressure, lower import prices. The loss of production and consumption because of higher prices is traditionally balanced against the government revenue that is gained and the terms of trade gains (Kreinin, 2010). All models are separate, however, and do not amalgamate concepts such as the substitution of cheaper domestic goods and the comparative advantage concept of efficiency, which has traditionally been theorized separately, as first conceived by Ricardo (1817). It is little reasoned why the optimum tariff depends on the “size” of the countries, whether GDP or GDP per capita, or market power, and not on market share, which could have important implications for trade policy that affects managerial decisions. More specific theories on the “optimum tariff” are revisited in this paper in the analysis of the model shown in Figure 2.

3. OBJECTIVES AND RATIONAL

Trump seems fixed to change the orientation of the United States inward, away from imports. But, will this meet the test of traditional theories? To start with, he was clearly erroneous in his campaign rhetoric when he said that the United States is “giving money” to other countries in trade. The U.S., like all other countries, trades specifically for goods in the free market, and there is little evidence of impending harm from such practice, other than possible currency crises, which have not been seen for decades, and, even then, in smaller countries. The trade difference is a matter of cultural consumerism preferences; the U.S. likes trampolines, the Chinese rice. As will be shown in the model of choice purchasing power in Figure 4, the main drawback of trade deficits is that they reduce cash for investment, which could benefit long-term productivity. Also erroneous is the belief that the government’s budget deficit could be erased or reduced through the trade deficit, since research shows that the procedural flow is in the other direction.

Bonds sold by the U.S. government generate cash from foreigners that goes, in part through the exchange rate, to purchase goods through trade in an open national income accounting equation.

The question remains, however, whether tariffs can benefit a sluggish economy or certain competitive industries in which imports are only a certain percentage (market share) of the industry. Another question concerns the true implications for countries that run trade deficits, which Trump disdains. Though Trump at first called for 5% tariffs, which are about the average for U.S. tariffs, and then more recently called for 35% tariffs, it is rational that some tariffs and a change in trade policy might be beneficial to the United States, provided that the change is in moderation and does not start trade wars. The current literature leaves a gap because it assumes that 100% of one country's market share is traded for 100% of another's and because it fails to recognize that domestic markets consist of two distinct goods – the domestically produced and the foreign produced. The latter come to the market at a lower price because of comparative advantages, but a tariff can raise the price, thus potentially increasing domestic competitiveness.

4. METHODOLOGY

This paper assesses these topics in a conceptual model of account balances that examines the trade theory of comparative advantage, the “optimal tariff” and “terms of trade effects,” possible policies based on theories of market share, the productivity of the empirical manufacturing battles of the 1970s-1980s that shaped Trump's outlook, current investments for future productivity, and choice versus purchasing power. The data is from the Organization for Economic Cooperation and Development (OECD) and the St. Louis Federal Reserve Bank.

5. ANALYSIS

Imported goods typically have a drop in prices since the world market is typically so large. In addition, imports typically represent a greater efficiency through comparative advantage. Imports also benefit from economies of scale, the size advantage of companies (Sawyer & Sprinkle, 2009). Tariffs do not affect all goods, however. They affect imported products and are thus fundamentally a tax and price increase only on these products. It is true that, if the market is monopolistic competition, then the domestic firms are price-takers. But, even if they are, or if they are oligopolistic as in the automobile industry, they will be slightly lower priced than the tariffed goods, which will cause a substitution to the domestic producers. If domestic firms produce less efficiently than the producers

of foreign goods that have the comparative advantage, this situation will indeed result in a deadweight loss. These imported comparative-advantaged goods, therefore, should have a lower tariff. Consequently, consumers will be more inclined to switch to the domestic goods, thus increasing domestic quantity produced and future efficiency, similar to the “infant industry” argument, with the low tariff not hurting current efficiency that greatly.

Likewise, inefficient goods coming from abroad could be imposed with a tariff, which will reduce deadweight loss by switches to the more efficient goods. The deadweight loss from tariffs, then, is not from higher prices necessarily, but from loss in comparative advantage efficiency. The tariffs for an industry should involve the relationship between productive efficiency so that deadweight loss is minimized in relation to government revenue and other gains (Kreinin, 2010). One would expect the U.S. to have high tariffs at home for domestically productive industries such as technology and low tariffs for domestically inefficient industries such as manufacturing, especially for textile products. The ostensible clash over tariffs in the 1980s was likely due to the fact that many countries, such as the U.S. and Japan, were reaching convergence in their manufacturing productivity, as shown in Figure 3.

Traditional economic theory primarily deals with trade of goods that are comparatively advantaged, since disadvantaged goods are assumed not to be traded. This belies the fact that comparatively disadvantaged goods are in fact traded, and this trade constitutes some of what is known as intra-industry trade, since the comparative advantage country is trading as is the comparative disadvantaged country, or, the two are similar in efficiency respective to their nation as a whole. The tariff on comparatively disadvantaged goods thus further supports the home country and efficiency, but can raise prices on consumers and can result in fewer choices demanded or supplied (see Figure 2 and Table 2).

If countries are to seek the most gain in efficiency, they should tax (or tariff) the inefficient goods, particularly ones that are more inelastic, so as to generate revenue such that the revenue gained equals the uncompensated efficiency and accompanying loss to consumers from higher prices. In this case, however, the tax or tariff will most certainly raise prices, particularly through input goods, and will greatly lessen choices for varied consumers, the utilities of whom cannot be fully measured. Still, over time, governments should change the tariff based on the flow of resources; thus, it is wise to put policies in place to review tariffs every several years. Placing tariffs on comparatively disadvantaged goods can also be helpful if

such tariffs increase domestic profits, a situation that will lead to greater employment and higher GDP through Okun’s rule of thumb: greater growth with more manpower. However, a negative consideration is that freely trading non-comparatively advantaged goods can reduce supply-chain risks.

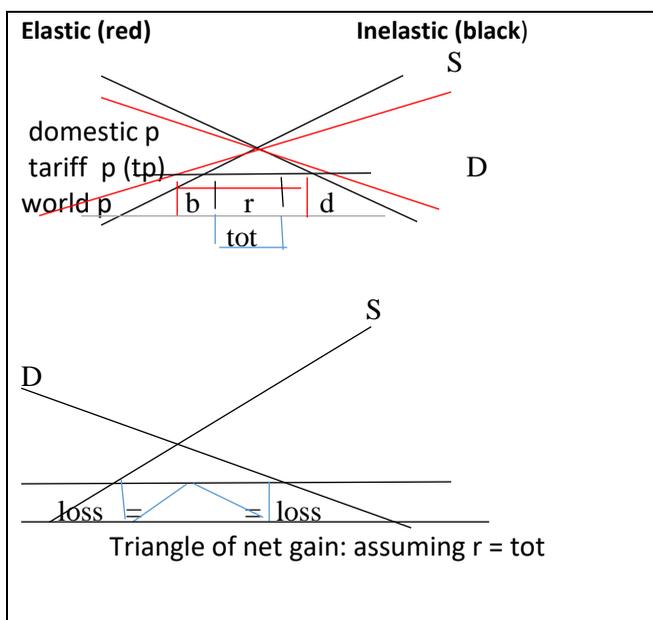
Domestic (U.S.)		World		U.S. Import Policy
Inefficient goods	➔	Efficient	➔	Tariff the domestic (low world tariffs)
Efficient goods		Inefficient		Tariff the world (U.S. tariff on high-tech goods)
World		Domestic		World Import Policy
Inefficient goods	➔	Efficient	➔	Tariff the world (low U.S. tariffs)
Efficient goods		Inefficient		Tariff the U.S. (a foreign tariff on U.S. textiles, etc.)

Figure 1. Model of Tariffing Little-Traded, Non-Comparatively Advantaged Goods

To be more specific, an optimal tariff has been theorized about by minor economists since the early 1800s. Some say that an optimal tariff depends on elasticity of demand of imports whereas others say that it depends on the elasticities of supply of exports. Some use Ricardian budget constraint models; others such as Torrens, Edgeworth, Mill, Marshall, and Kaldor offer curves (the prices at which countries are willing to pay), with terms of trade amounts (the prices that countries’ consumers agree upon). Moreover, some use supply and demand graphs, of either individual or combined countries, showing the gains and losses to society, as in Lerner, Kreinin (2010), and Sprinkle-Sawyer. Others are conceptual, involving utility or happiness, whereas some are able to be estimated provided certain assumptions.

All of the models assume, without explanation, that only comparatively advantaged goods are traded and that consumers cannot switch to domestic goods. Only one model, by a little known economist named Bickerdike (1906), includes both supply and demand elasticities in an equation: $t = [(1 - (1/E_d)) / [1 - (1/I_s)]]$, where (E_d) is export demand elasticity and (I_s) is import supply elasticity (Humphrey, 1987). Optimal tariffs are not infinitely high because imports fall, and

gains are washed away with limited terms of trade (Suranovic, 2016). Therefore, too high or low a tariff might result in losses. The only way that the government can create a benefit from a tariff to offset the deadweight losses to producer and consumer surplus with gains to the government's coffers, and terms of trade, which overall nearly all authors thought was impossible because of political pressures. The graphs in Figure 2 are two conceived versions of the same model of world trade. The graph on top has different elasticities or slopes.



**Figure 2. Model of Optimal Tariffs for Large Countries
and the “Triangle of Net Gain”**

Assume that tp is the optimum tariff price. If supply and/or demand become more elastic, then the optimum tariff – if elasticities are close to unity and if the optimum tariff is located as depicted – must change (fall in this case) so that the gains from government revenue (r) balance the losses to consumer and producer surplus (the changed areas beneath their curves). The ideal tariff would capture the most gain through a “terms of trade triangle” shown in the model at the bottom, an original concept. Most economic theory holds that mid-sized countries will lose from tariffs because of deadweight loss in productivity (b) and in lesser goods

bought from abroad (d), unless nations are large enough to have monopoly power in being able to force countries to lower their prices, a “terms of trade” effect (tot), although the importers must still pay the tariff. In the graph at the bottom in Figure 2, the losses are equal to the loss above the triangle of net gain.

Simple Optimal Theory Math Derived Here:

Q= quantity

tot= t (Q – Qlost)

Qlost= t*elasticity of demand (ted) + t*elasticity of supply (tes)

Efficiency/amount lost = $1/2ted + t/2 tes$

Gain= t [Q – (ted + tes)] – ($1/2ted + 1/2tes$)

Maximum gain= $1/2Qt$ since the area of a triangle is $1/2$ its base times height.

It would seem visually that the more elastic the supply and demand, the less the gain to the government and the greater the deadweight losses, but the amount lost in particular will not be affected if consumers can switch to domestic goods, albeit at higher prices. Visually, in moving from unit elasticity to infinite elasticity, or lower from unit elasticity to zero elasticity, either way, the terms of trade effect tapers off. Another idea, the tax wedge theory of “sales taxes,” would hold that the incidence of the tariff would fall more on the inelastic party, suppliers or consumers. But, there is no tax wedge in this model because the tariff price is below the market price, except for the change in supply (or quantity supplied) between the world and domestic producers. Still, if a large change in demand can result in greater loss of efficiency, a greater switching from world to domestic products that are less efficient, tariffs need careful attentiveness, or higher prices and losses will result.

But, it is not absolute efficiency that matters, but the opportunity cost of efficiency; that is, not the efficiency of producing one goods, but in relation to the efficiency of producing other goods, which can be quite complex, making bilateral decisions easier. Each market needs to be thought of individually, such as that of manufacturing. Terms of trade are measured aggregately by indexes, and the more countries that are involved, unilaterally rather than bilaterally, the more complex trade negotiations become, which is a fact that even Trump has acknowledged. Productivity can be indicated by the terms of trade of the goods, which is the relationship of the prices of the goods to the relationship of the terms of trade indexes of the total output of countries, expressed as a percentage, or, they can be

indicated simply by comparing productivity output of one goods to the country's goods as a whole, compared with other countries, as shown later in Table 1.

More important and beyond this, international trade does not always begin empirically with countries trading 100% of their market shares of comparatively advantaged goods for 100% of the other countries' comparatively advantaged goods. And, goods do not always stay the same, as comparatively advantaged or comparatively disadvantaged. This fact raises the question of Say's Law, named for the medieval French economist, of whether supply or demand comes first, as in the "chicken or the egg" question. Most agree now with Say that supply comes first for primitive societies, whereas demand comes first for developed economies that are able to anticipate needs and wants, with consumers saving rather than bartering until their needs have been met. The early trade theorists, though, assumed that countries would produce 100% of their competitively advantaged products and trade a portion for the 100% produced competitively advantaged products of another country. Constantly, one hears how a tariff is a tax on the consumer. This statement was made by U.S. Senator Ted Cruz in the debate with candidates Donald Trump and Senator Marco Rubio. In response to the criticism of his idea for higher tariffs, Trump said, "Swing for the fences, gentlemen."

In Ricardo's case, tariffs were indeed a tax on the consumer, since the demand curve for both countries was completely inelastic, meaning that consumers had to buy the foreign products because they had no other choice given the disparities in market share and productivity. Beyond higher prices, tariffs would also cause the home importing country to lose in overall productivity gains through trade. This would apply to a situation today like textiles, where India has a competitive advantage with its low-paid labor and abundance of capital (sewing machines) whereas the United States does not make any textiles, save for perhaps Levi's jeans. Tariffs would hurt the United States.

But, in the real world, there are other examples, as a country's businesses are constantly in flux and do not start by producing or trading "all for all." One instance would be how a highly productive, or so-called competitively advantaged country, which may sell only part of the market share of an industry to another country, such as 10% or 15%, as Japan and German in the 1980s were becoming increasingly productive in manufacturing automobiles, but still their companies made up only a share of the U.S. market. They were entrepreneurially searching for new markets, just as the United States was. In this regard, the tariff would affect prices only on the imported goods, which would typically start lower than

domestic prices because of greater productivity. This is also possible because, despite competition, oligopolistic industries and even monopolistic competition industries can change prices to some extent. There is therefore a difference between the world market and the domestic market, the latter of which consists of both domestic and foreign goods. A tariff in such markets should affect imported products solely.

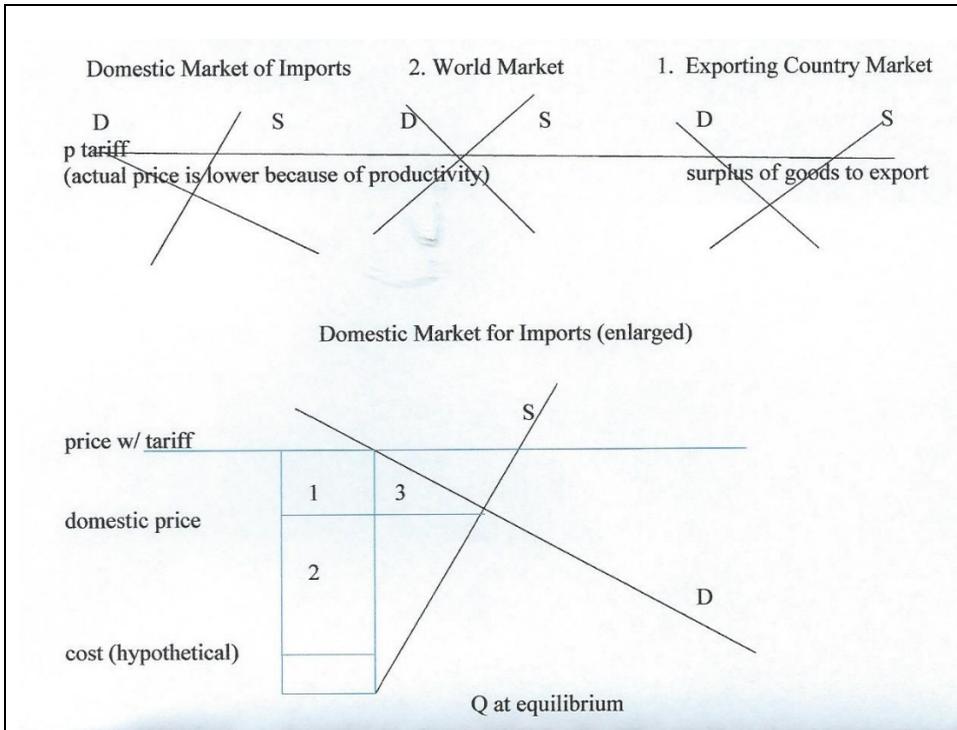


Figure 3. Model of Foreign Trade of Comparatively Advantaged Goods With Less than 100% Market Share

For the graph in Figure 3, Bickerdike (1906) created a similar model, but his point was to highlight the terms of trade effect that could be gained in box 2 by large monopolistic countries, which would, with an optimal tariff, have to exceed the deadweight loss in triangle 3. However, box 2 could also represent, and it is argued for here, that it is a portion of consumers who have switched their foreign market share back to U.S.-made products. This would be the (tot) representation shown in the model in Figure 2, but the quantity is limited by the market share that

returns domestically. Box 1 represents loss to consumers in higher prices, but it is offset by the government revenue, whereas triangle 3 is the losses to efficiency and fewer goods bought, which were represented by (b) and (d) in Figure 2.

In Figure 3, the demand curve of U.S. consumers would most likely be very elastic, since buyers could change and switch to a handful of other U.S.-made products, which have greater market share, assuming that quality and the tastes and preferences of the consumers stay the same. The supply of products from the foreign countries would be inelastic, since they have smaller market share and cannot easily change in what they supply. Bickerdike (1906) similarly reasoned this (Humphrey, 1987). Therefore, the burden of a tariff in such markets, which raise lower, more productive foreign prices to U.S. or world prices, would fall more heavily on the more inelastic party, between the producer or consumer. In this case, it would be the producing firms of the foreign country, just as a sales tax falls more on the producer if its supply curve is more inelastic than the consumer's demand curve.

Let us now consider comparative advantage, which is a productivity cost advantage. Table 1, which relates to the U.S. and Japanese automobile industry from 1966-1994, is used here to illustrate how a policy based on market share, for which the two were competing, and productivity and comparative advantage could be implemented.

Table 1 compares productivity of the automobile to the U.S. as a whole and Japan's automobile industry to the country as a whole. The results show that U.S. manufacturing output per employee began to fall behind Japan's in the late 1960s, that U.S. manufacturing output per employee to total factor productivity began falling behind in the late 1970s, and that U.S. total manufacturing output to total factor productivity began falling in the late 1980s, after which it did not recover in this time span. Japan has a smaller population than the United States, but this may not truly matter in companies with small market share. Recessions in this time frame are easy to spot because of reduced productivity.

Tariffs, therefore, not only protect infant industries and declining, senile industries, but, more important here, they can also be used to protect increasingly competitive industries. In this specific case of manufacturing, both countries developed an equal comparative advantage in productivity, but one is increasing while the other has a terms-of-trade advantage. The 1970s and 1980s saw a convergence of productivity as Japan, Germany, and other nations began catching up with the U.S. in manufacturing automobiles. It makes sense, therefore, that

there was disagreement about who had the competitive advantage and many disputes over tariffs at that time. At present, China, Korea, and Taiwan are catching up to Japan in productivity in terms of certain electronics and other goods, and to the U.S., which saw a boom in productivity primarily in the mid- to late 1990s (Kazuyuki, 2016).

Table 1. U.S. & Japanese Productivity Metrics, Automobile Industry, 1966-1994
(Calculated Based on Indexes from the St. Louis Federal Reserve Bank)

Year	Suggested U.S. Policy to Be Taken	United States				Japan			
		Output Mfg per Worker	TFP	Comp Advan Ratio	Total Empl Ratio	Output Mfg per Worker	TFP	Comp Advan Ratio	Total Empl Ratio
1966		31.40	0.71	44.20	42.50	21.90	0.91	24.09	23.10
1968	Tariff*	31.90	0.72	44.31	43.62	30.30	1.01	30.12	26.34
1970		32.60	0.71	44.32	33.30	40.10	1.13	35.62	29.58
1972		35.70	0.74	48.35	47.94	45.90	1.16	39.69	32.77
1974		35.90	0.73	49.15	49.70	50.30	1.12	45.10	36.14
1976		39.00	0.75	52.22	53.03	51.80	1.09	47.62	40.64
1978	Tariff**	41.00	0.76	54.08	54.74	55.10	1.07	51.43	44.90
1980		40.70	0.74	54.64	55.98	62.00	1.04	59.73	51.25
1982		42.60	0.74	57.59	60.02	65.80	1.03	64.07	54.72
1984		48.80	0.78	62.80	62.80	70.60	1.03	68.80	56.53
1986		51.40	0.80	64.46	64.46	77.40	1.05	73.81	60.37
1988	Tariff***	57.80	0.81	71.50	70.64	86.60	1.07	80.69	65.41
1990		58.20	0.82	71.02	70.90	99.00	1.08	91.73	71.81
1992		62.50	0.84	74.38	73.78	102.40	1.03	99.36	75.78
1994		68.30	0.85	80.32	77.97	97.60	1.00	97.43	79.36

Mfg = Manufacturing

Comp Advan = Comparative advantaged

Empl = Employees

TFP= Total factor productivity of all goods. One should tariff just before losing a productivity advantage.

*Temporarily tariff all goods.

**Temporarily tariff all manufactures.

***Temporarily tariff market share.

6. RESULTS

Examining the historical empirical data, did the U.S. in practice follow the suggested theory and policy advice shown at the left in Table 1. In the 1980s, Japan was superior to the U.S. in auto manufacturing, not through labor but through technological manufacturing and management (Cusumano, 1988). The

Japanese constituted approximately 17%-22% of U.S. market share in cars and were able to bring cars to the U.S. at lower costs. A 2.5% U.S. tariff on cars and a 25% tariff on trucks already existed, but, in 1981, President Ronald Regan negotiated on Voluntary Export Restraints (VERs). Under the agreement, Japan would hold back exports at 1.68 million per year, which were later raised in 1984 and 1985 (Aizcorbe, 2007). This arrangement denied government revenue, but government revenue makes up only a portion of the gain from tariffs. Japanese negotiators think longer term and use few tariffs, but firms, banks, and consumers are tied together via family “kereitsus,” so-called “hidden barriers.” The U.S. auto market share in Japan is 6%. Without tariffs, Japanese market shares in the U.S. have risen to 40% (U.S. House of Representatives, 2016). The VERs were ended in 1994 (Benjamin, 1991).

The study by Benjamin (1991) found that VERs caused Japanese car prices to rise 14% from cutbacks in supply, which is to have been expected. The price increase caused many to switch to U.S. cars, raising their prices 1% from increased demand. Consumers, however, are estimated to have lost \$13 billion across all years, and the overall loss, minus the gain, was \$3 billion in total. The VERs program, however, became more effective as it went along as the U.S. economy recovered from recession and buying power improved. The 1981 VERs saved 44,000 jobs, at an estimated cost of \$193,000 per job, at a time when employees were earning about \$10,000 to \$15,000, but people do not realize that jobs last for not just one year, but for many years (Arnold, 1998). Tariffs would have been more effective, resulting in more U.S. gain, but were politically unpopular (Benjamin, 1999), especially in light of the “Washington consensus,” despite some support from managers.

In a separate study of the U.S. sugar market, Douglas Irwin found that tariffs cause foreign companies to lower their prices to compete, but that little historical evidence exists on who bears the burden of this action. His research on sugar suggests that buyers anticipated tariffs, buying the goods before implementation, and then not readily reacting after tariffs were lowered because lower tariffs are assumed to last longer term. He found that domestic consumers bore 40% of the tariffs and foreign sugar companies 60%, as would be expected given market share elasticities (Bowen, 2015).

A study by Broda, Limao, and Weinstein found no evidence that countries abide by economic theory in setting tariffs based on optimal tariff equations (Broda, Limao, & Weinstein, 2006).

In cases such as the ones discussed here, a tariff on autos could indeed have benefited the U.S. and protected U.S. businesses since it could have caused consumers to switch more to U.S.-made products. The only loss, theoretically, would be in the sacrificed higher productivity of the albeit smaller foreign market share. But, in aiding U.S. companies, in general, a tariff could encourage them to increase their own productivity by using their additional profits to purchase more capital. A tariff could also cause a switch to different comparative advantaged goods in the home country. If there are today any “upstart,” highly competitive/productive foreign industries, then the US could levy a small tariff against them, provided there is no retaliation, unless it goes to benefit the foreign country in the exact same way, in which case both countries gain from the hypothesis, as shown later in Table 2.

The elasticity of demand would affect how many consumers switch from the newly tariffed foreign products, but how many return to domestic products also depends strongly on quality and preferences. Conceptually, the number who switch, multiplied by the original price, added to government revenues from the tariff (consumer and producer), must exceed the cost to consumers of the tariff for those who remain with the foreign product, added to the cost of the loss of overall productivity. Those who switch to other products lose productivity in total, unless they switch to a domestic comparatively advantaged goods, and those who switch back to domestic products benefit the domestic home country (price times quantity), but with a slight loss in overall productivity considerations. This equation is fundamental to welfare economics, that of gains and losses. The size of the best tariff depends on supply and demand elasticities, not on a comparison of productive supplier power, although this may affect the former.

The U.S. currently has comparative advantages in technology, particularly with regard to computers, cell phones, and banking. The Transpacific Partnership (TPP), just repealed, and the proposed Transatlantic Trade and Investment Partnership (TTIP) with Europe, which fell apart after allegations of spying by Edward Snowden, but may be revived with the U.K., both aimed to lower foreign tariffs on high-end financial services, as well as on architecture, giving indications of U.S. comparative advantages, for the time being. In the George W. Bush and Barack Obama administrations, most foreign disputes were with Asia and related to steel, tires, and solar panels, most likely indicating a convergence of productivity in these industries (Wikipedia, 2012). Industries in which the U.S. retains comparative advantages, but in which other nations are advancing, would include those, as well as pharmaceuticals, semiconductor equipment, alternative energies,

food processing, food stores, biotech, and residential wood (Schuler & Buehlmann, 2003), suggesting they might be protected by small but pliable tariffs. Table 2 shows share of investment in research and development in four industries for the period 2011 to 2014. The countries were chosen based on Levinson's (2016) list of leading global manufacturing countries.

Table 2. OECD Investment Chart for Four Industries, 2011-2014

Year/Country	Chemicals	Pharmaceuticals	Computers	Automobiles
2011				
U.S.	4.66%	22.82%	30.84%	5.81%
U.K.	4.42%	8.23%	15.22%	20.17%
South Korea	7.00%	2.58%	55.92%	13.57%
Japan	6.87%	11.41%	29.14%	25.32%
Germany	7.54%	9.31%	15.00%	37.30%
China	9.28%	3.71%	18.65%	Not Available
2012				
U.S.	4.36%	23.10%	31.22%	7.00%
U.K.	3.84%	7.37%	14.28%	21.62%
South Korea	6.02%	2.75%	56.84%	12.89%
Japan	6.98%	12.20%	27.65%	26.23%
Germany	7.54%	8.83%	15.95%	37.50%
China	9.01%	4.14%	17.40%	8.34%
2013				
U.S.	4.17%	23.67%	30.34%	7.55%
U.K.	4.93%	6.25%	13.94%	23.82%
South Korea	6.44%	2.62%	58.30%	12.79%
Japan	6.68%	12.76%	25.86%	26.98%
Germany	7.28%	8.85%	15.94%	37.32%
China	9.15%	4.37%	17.63%	8.56%
2014				
U.S.	Not available	Not available	Not available	Not available
U.K.	4.70%	5.14%	12.93%	25.90%
South Korea	5.36%	2.51%	59.80%	13.27%
Japan	6.41%	12.72%	24.56%	29.10%
Germany	7.33%	8.15%	15.17%	39.75%
China	9.25%	4.40%	17.58%	8.86%

Numbers are calculated from the database of the Organization of Economic Cooperation and Development (OECD).

Investments in manufacturing would over time affect productivity and possibly comparative advantage. From 2011 to 2014, Great Britain and Japan slowly increased their investment in automobile research while South Korea rapidly increased research in computer technology. Not shown here, Taiwan was at the same time making enormous investments in computer technology while Belgium was doing so judiciously in pharmaceuticals, South Korea in insurance and financial services, in which the U.S. has the comparative advantage, and Japan in telecommunications, with a surprising jump in 2014. Germany, one of the strongest economies in the world, is staying steady and stable, while Mexico, which Trump talks about most, is switching from textiles, chemicals, and general manufacturing to computer equipment, cars, and food products.

Investment information on all countries is not available. Table 2 is just a snapshot of the descriptive statistics on which managers and trade policy makers should keep an eye. It is conceivable that the TTP, which was in part political, could be replaced with an OECD-type political or military coordinating body for the U.S., several of the Pacific nations discussed here, and other countries.

Finally, to reconcile the differences raised in the introduction concerning the diverging trade preferences among countries with regard to imports and exports and low tariffs versus high, such as with the U.S. and Asia, respectively, a new measure called “choice purchasing power” is presented in Figure 4. Much trade is indeed trade for an abundance of a variety of products, but only so much can be financed. Such choices have touched on by Indian economist Amartya Sen. The empirical development of this concept will be left to future researchers.

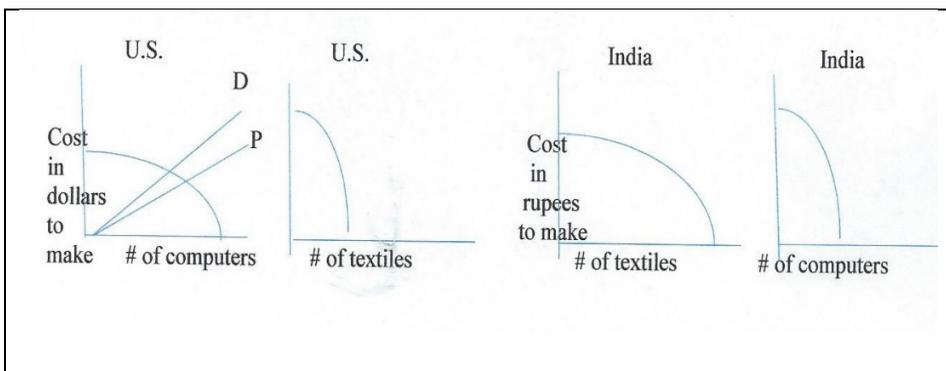


Figure 4. Model of Choice Purchasing Power

A country's trade deficit is more symptomatic of larger problems, rather than being a problem in and of itself. Yet, Ricardo and those who followed complicated trade models by explaining them as goods traded for goods in barter, rather than more simply in terms of prices and costs. The graphs in Figure 4 show how these models would look as amended, using the U.S. and India as classical examples.

Assuming that the value of dollars and rupees are the same or at a stable exchange rate and that prices are determined by demand, terms of trade effects, and the exchange rates, then, by running a trade deficit, the U.S. is buying more goods for more dollars because of greater demand, greater wealth, or greater borrowing. In contrast, by running a trade surplus, other countries such as those in Asia use the dollars to save or invest, which results in fewer choices but greater productivity and wealth in the long run.

Long-term Model of Choice Purchasing Power:

Δ choice in products from imports and policies / (1/ Δ amount of buying power from long-term saving due to gains in productivity traded and polices)

In other words, when a country goes into a trade deficit, it loses on purchasing power, and when a country goes into trade surplus, it loses on utility and choices by producing goods that may or may not be comparatively advantaged, shipping them rather than gaining utility through domestic consumption, and by not importing varied goods. "Choice purchasing power" is therefore most likely greatest for a country when its trade deficit is zero over the long term; at this point, the relationship between overall productivity/wealth and utility are here theoretically declared maximized. Trade amounts, though, are affected by many factors: tariffs, fiscal financing, exchange rates, and monetary, regulatory, and political policies, not to mention consumer culture and demographic trends. This is the true impact of trade deficits or surpluses.

7. CONCLUSION

As Paul Samuelson noted in the 1960s, if wages and capital flow internationally to their most valuable uses, then efficiency should even out in the long term, and all tariffs may over time equalize as comparative advantages balance out (Pressman, 2014). Still, the founder of modern economics, John Maynard Keynes, might disagree over stickiness (Arnold, 1998) and assumptions about resource mobility (Pressman, 2014). Business managers worry about only

the profits, not the overall efficiencies. This situation can create a conflict of interest with governments, which crave revenues and welfare gains, yet both parties negotiate together.

Keynes suggested a tax on trade surpluses, although fairness would dictate that imports be taxed just as domestic companies are. This might be feasible if Trump is able to lower the corporate tax to 15%, which would likely boom investment from abroad. It was an idea that former President Obama toyed with, but never pushed for. The early economist David Hume, through his price-specie-flow mechanism, hypothesized that trade, through currency and gold exchanges, causes the price levels in all nations to balance (Pressman, 2014), as well as conceivably to comparative advantages and tariffs. However, economists like to look ahead, to make “expectations,” so we see here that tariffs on a foreign, non-comparatively advantaged, but increasingly productive, goods may be an advantage to the industry of the domestic, comparatively advantaged goods. Even if the foreign goods are comparatively advantaged, if they constitute low market share, tariffs may still be beneficial because of low elasticities.

Beyond imposing new tariffs, Trump has called for renegotiation of the North American Free Trade Agreement (NAFTA). Such a call is reasonable in the sense that all deals should be renegotiated periodically as they are at the World Trade Organization (WTO) with its rounds. One must realize, however, that doing so could take as long as a decade. No trade deal, though, should go without renegotiation because of the vast changes in trade and comparative advantages discussed here.

Trump’s proposed 20% across-the-board tariff on Mexico, not specified in the campaign, would conflate economic policy with immigration policy, when no connection exists. Each should be dealt with separately, and need not be addressed with animosity. Furthermore, the percentage of the tax – apparently decided because the \$60 billion trade deficit times 20% equals \$12 billion dollars, the presumed cost of the immigration “wall” – makes no sense because total imports from Mexico are \$300 billion dollars a year [Office, 2017], which could raise funds equally with only a 4% tariff, not accounting for the reduced quantity supplied and demanded. Being “across the board,” Trump’s plan would be in part a “tax” on the U.S. consumer since it would not target only those increasingly competitive industries.

Trade wars might be prevented if each country agreed to tariffs based on mutual understanding of the analysis, despite strong political lobbying, powerful financiers, and union pressures, all favoring certain interests. Perhaps the best

negotiations, past the microeconomic ones that Trump touts as his primary skill, will take place with the best statistical knowledge of all elasticities and other data that both countries understand. On the other hand, managers and officials might be tempted to conceal some information, using it instead for strategic national gain. Information replaces weapons, whether aggressively or as a deterrent. Trade wars, though, depend on the complexities of game theory. In Keynesian fashion, higher taxes on businesses that gain from trade could be used to compensate others that face higher foreign tariffs. This would be controversial, however, since governments that “choose[s] winners and losers” are currently frowned on, though all trade policies inherently do (Pressman, 2014).

Trump’s proposed tariffs on outflows of capital seem positive in protecting jobs but may hurt efficiency in the very long run. And, the crux of his policies is oriented to the short term at a time when America’s largest problem – the stress put on entitlement programs by the retiring baby-boom generation – is longer term. Looking ahead, one can surmise that the current strong dollar will probably drive down exports and that an aggressive fiscal policy that could create trillions in debt will result in a portion of inflation.

Trump’s infrastructure spending is aimed at emulating the benefits China has experienced from such projects, although Trump has scaled back his proposals, now intended for public-private partnerships and revenue-generating projects such as airports and tolled roads (Zanona, 2017). Ultimately, Trump will most likely not re-nominate Federal Reserve chair Janet Yellen, whose term as chair expires in 2018. The replacement could be someone who Republicans believe will be “hawkish” toward inflation – inflation that Trump’s policies will have helped to create – or it could be someone else who would be expected to lower rates if the country is in recession. This situation is quite possible in the next two years, despite today’s optimism and regardless of who is president, if higher bond costs drive out borrowing for investment.

8. MANAGERIAL IMPLICATIONS

Whether the climate for managers stays strong in the new trade era, however short or long it lasts, will ultimately depend on whether domestic consumption at 15-year highs, as measured by confidence (Bartash, 2015) and hiring of the long-term unemployed, stays steady and compensates for the strong dollar’s drain on exports. They must balance the investment falloff in past quarters. Important will be the mix of policies that develop politically with a Congress that, it is hoped, will

not be too naïve, nor too political, and whose policies will impact managers' decisions most strongly toward investment. The strong dollar will void Trump's claim of Chinese "currency manipulation," yielding little economically and probably causing more harm geopolitically if he chooses to "play the Taiwan card" against the "One China Policy." The two are countries that the U.S. needs differently as partners. Foreign wages are rising, making the U.S. competitive for managers to manufacture again, if joined with small tariffs on competitive industries argued for here.

If Trump is able to organize his administration efficiently, the best way to restore the balance of trade might be through the targeted tariffs suggested. It is also possible to restore the balance by closing financing to the trade deficit, that of the budget deficit. President Bill Clinton did this in the 1990s and helped generate 23 million new jobs (shown in Figure 4). This policy created the greatest choice of products, given the increased consumer purchasing power. This policy would also lower interest rates and make it even easier for managers to borrow money for projects.

The Trump administration and its top economic advisor, Peter Navarro, will soon come to realize the flaws of their own their quixotism; namely, that the trade deficit can somehow ameliorate the budget deficit, for which little nexus exists, given the low tariff revenue. A growth outlook of 3.5% to 5% is overtly sanguine. However, a moderate new trade policy might prove beneficial to the business climate, especially for the wage-disparaged manufacturing middle class, but only if it is thought out, modest, and not administered ad-hoc, but based on the changing elasticities and productivities, such as through the concepts offered here, and if the American public and the managers of its companies are patient enough to endure its coming vicissitudes.

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