

The Nature of the Game: Optimal Trade in an Imperfect Landscape

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1.0 EXECUTIVE SUMMARY

World trade is observed through a lens of aggregate actors, usually sovereign states, protecting or liberalizing access to their technology and endowments. Unfortunately, this is not consistent with a reality where actors or organizations can exert pressure on the institutional processes of governance (Chase 2008). This is a single scope survey of modern protectionism in the context of evolving trade theories. It attempts to answer the questions: 1) Why would a government advocate protectionism? And, 2) Is it ever optimal? Research curated for Feenstra and Taylor (2012), acts as a guidepost to explore concepts related to optimal trade policies with respect to imperfect competition, infant industries and trade agreements. When addressing whether protectionism is ever optimal, it should address the question of optimal for whom?



(Figure 1 - Stakeholder Visualization)

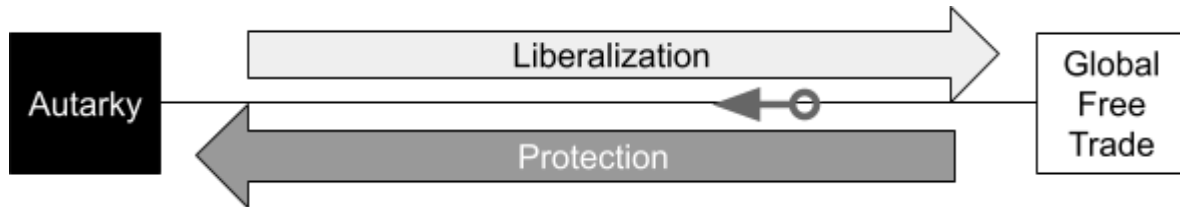
To begin, one assumes that a firm has no sovereign preferences and will expand until it cannot. Quite literally, it will sell as much output to as many destinations as possible, given all the available resources. This is the nature of the firm, defined by its purpose (North, 1990; Coase, 1937 p. 53). Firms will continue to grow as the price of factors continues to lower and the greater and/or more efficient the number of transactions. Many modern firms are operated by actors rewarded for growth; therefore they will look for conscious strategic activities that can assist those objectives (Demsetz 1991). Organizations are a function of their purpose and have a competitive interest in influencing global institutions toward either discriminatory or liberalized trade (Chase 2008, p. 16 - 18).

Optimal Trade is considered in terms of total macroeconomic system optimization within an area of jurisdiction. Firm centered approaches to production decisions and macroeconomic theories do not complement one another in analysis; therefore the focus of this brief is on concepts from classical trade literature with elements of firm-centric analysis from Vernon (1966) Krugman (1980)(1983), Melitz (2003) and Chase (2008). For the purpose of this analysis, it is assumed that actors, incentivized by growth, operate organizations and attempt to influence industries, sectors and governments. Those that are able to exert their collective power, can leverage favorable environments for their interest; however, what is optimal to some, is often not optimal for others.

Optimal Protection is defined as the maximum increase in welfare for the importing domestic economy. Whether or not this welfare is equally distributed or absorbed by opportunity costs is unclear; however, these relevant topics, in addition to the effects on the rest-of-world, are out of scope for this brief. With this in mind, the following summary provides three possibilities for the advocacy of protectionism. These are, 1) Optimal tariffs in imperfect markets; 2) Optimal support for infant industries; and 3) Regional protectionism after the formation of a trade agreement (Feenstra/Taylor, 2012; Chase, 2008).

2.0 THE CASE FOR OPTIMAL TARIFFS

Once the theoretical absolute positions of autarky and global free trade are established; movement by a sovereign state in one direction or another can be seen as protection or liberalization (Figure 2). Following this logic any tariff, quota or subsidy that would strive to decrease dependency on other economies, or establish independence at the cost of deadweight loss, can be considered protection. More recently this collection of tools is being referred to as statecraft.



(Figure 2 - Trade Theories Visualization)

The optimal tariff is described as the amount that maximizes the welfare of the importer. It is assumed small countries face a fixed price, therefore, their optimal tariff should be zero, since any tariff will lead to deadweight loss. Inversely, for a large country like the United States the optimal tariff is positive because theoretically terms of trade gains can exceed the deadweight loss. While the domestic importer can see a gain from trade the foreign exporter and often rest-of-world definitely lose; therefore this win will be at the expense of foreign economies (Feenstra/ Taylor p. 260 - 275). In order for this to work, it requires dependable estimations of trade gains and precision application.

The reality of the situation is that there is no perfect competition and the concept of optimal tariffs is questionable. Many trade models are built around countries trading because they are different, but the reality is a lot of world trade is between countries that are similar. Krugman (1980) offered a model that suggests differentiated goods can be imported and exported from countries producing the same type of goods and still see gains from trade. Structural gravity models identified that countries with large GDPs that are closer to one another, are more likely to have the largest bilateral trade accounts (Yotov, 2016). It is more likely that small, accidental or acquired advantages, get built into larger advantages that persist over time.

To explore strategic options for protection, models have been developed to predict the effects of monopolistic competition, oligopoly and monopolies. The case for protection arises in all three; however it is most evident in the case of a single monopoly. An important distinction is that quotas and tariffs are no longer equivalent in a reality without perfect competition. Quotas limiting the number of imports can allow domestic monopolies to charge higher prices than under a tariff, increasing costs to buyers. To protect against foreign monopolies a tariff can be applied that will raise the price, but it will be less than the full amount of the tariff, and it will be shared between the increase in domestic price and the decrease in foreign net-of-tariff price.

This can be a small win for an economy protecting against a foreign monopoly, but has negative effects on total welfare.

If the goal is to protect against dumping, tariffs can be applied to these imports; unfortunately it is a terms of trade loss and foreign firms often influence the duty. This is a case where a government would advocate protection, but the outcome would still be suboptimal for the area of jurisdiction, as well as the firm trying to profit from dumping. This can also be abused by wealthy firms in high income countries by regularly bringing dumping charges to court to increase the costs of imports and improve the competitive position of domestic firms; depending on how this position is used, general welfare would increase at the expense of trading partners (Feenstra/Taylor 280 - 318).

It has been argued that production subsidies and export subsidies can increase welfare in the presence of domestic consumption. Government policies that benefit domestic firms can be socially beneficial. In the presence of oligopolistic competition, trade policy may be a substitute for antitrust policy. Additionally, export subsidies can be optimal if a government can commit itself to the trade policy prior to firms making production decisions.

And lastly, under increasing returns to scale, protection can create an advantage if it lowers the marginal cost of production and allows access to new markets. The most recent developments in trade literature include the power of markets when considering optimal tariffs (Broda et al. 2008). The larger a country is, the greater the relative average productivity. This type of protection can be destructive to the development of small, low income economies and although they could be considered optimal economically in the short run; it may not be in the long run given the contagious global consequences (Felbermayr et al. 2011).

3.0 THE CASE FOR OPTIMAL PROTECTION OF INFANT INDUSTRIES

Infant industries are defined as too young and vulnerable to compete internationally, and would suffer major losses if faced with the competitive forces of free trade. Although there are many political, industrial and special interest arguments for infant industry protection; currently, there are two generally accepted economic justifications. The first is, that the cost of temporary tariffs to increase domestic output and reduce transaction costs, are an investment in the future; therefore, short term losses from the tariff will not be comparable to long term gains from future optimization. In other words, the gain from endogenous technology development and the reduction of transaction costs, outweigh the temporary costs of protection. For this to work, the infant industry must achieve global competitiveness by shifting average costs down until it can be competitive at world prices.

The second argument for infant industry protection is if a tariff in one period leads to an increase in output or reduction in cost for firms and/or other industries given the emergent technology in the next period. It has been argued WTO standards prevent the optimization of this growth curve. The WTO provisions require a gradual tariff reduction; where if this was relaxed it could be calibrated to the actual demand curve of the industry creating increased welfare for all stakeholders (Duong, 2012).

For small countries export subsidies lead to a fall in welfare if they face a fixed world price similar to an import tariff. In large countries, export subsidies will decrease the export price for the world, but will generate terms of trade loss for the domestic country. Additionally, export subsidies in large countries create a net benefit for foreign importers. If the subsidies are removed carelessly, it will shock vulnerable low income net importers. A tariff in this case is a strategically superior position. If a government would advocate for subsidies to domestic producers, to increase domestic production, the deadweight loss is less than that of an export subsidy and the terms of trade loss is smaller.

Game theoretical analysis predicts, in markets with only a few global competitors, export subsidies can be worthwhile when they increase the profits to a firm by more than the subsidy cost. Generally this requires competing firms to exit; leading to suboptimal market conditions in the long run. Both large and small countries that advocate for high-tech industry subsidies argue that the costs are an acceptable investment in strategic advantages for domestic firms on the international market; as if it were a kind of acceptable marketing cost. This can be seen in what is considered a successful motorcycle tariff on behalf of Harley Davidson in the mid 20th century (Feenstra/Taylor 2012, p.325 - 355).

A government would try to advocate that long term optimization can be achieved at the cost of short term losses.

For this to be true, costs for the firm or the industry overall, need to fall, thereby allowing it to compete at world prices in the future. Without this, the protected industry will become dependent on the distortion and cultivate forces of imperfect competition. Subsidies are also forms of protection; these also have their costs.

4.0 THE CASE FOR REGIONAL PROTECTIONISM

Preferential trade and investment agreements are negotiated to reduce trade barriers among member countries. In a reality of perfect competition, game theoretical analysis of large countries projects an equilibrium where they apply tariffs against one another despite calculated losses. Despite the knowledge that an agreement that removes tariffs and binds both parties to the reduction of uncertainty makes both countries better off, it is clear that in a continuous game one party will attempt to defect from this arrangement for a temporary competitive advantage. As is true in the prisoner's dilemma, both parties will be worse off by not having collaborated.

A feature of preferential trade agreements (PTA) is that they give preferential treatment to members, but allow for tariffs on outsiders. Member countries have common, often zero tariffs, and can maintain their own tariffs on non-member countries. More often than not, there is a welfare gain for trading member countries. The downside is trade diversion will occur when a country starts to import from another member country, when it used to import goods from a natural low cost trade partner that is a nonmember. Depending on the context of this, trade diversion can lead to losses for the original partner, but also losses for the importing country and eventually losses for all members of the trade agreement. However, it is believed the long run gains of trade agreements can outweigh these losses (Chase 2008).

Members of these agreements are a part of a patchwork regulatory system modified by each new reciprocal and nonreciprocal agreement, as well as the network of bilateral investment treaties (BITS). In them are various forms of government intervention and support for select sectors in an economy that end up being indirect forms of protectionism (Aggarwal/Simon 2013, p554-555). Without care, this form of protectionism can become disjointed and deviate from originally intended effects in the best case, but also holds the potential to increase the probability of hot conflict in the worst case.

5.0 CONCLUSIONS

Protectionism can be harmful to the world and it can lead to conflict. This does not mean that there are no times when it is optimal, or that it should not be allowed. There have been about twelve generations of trade theory over the past 200 years; however, there have been no one-size-fits-all theories that can fully explain modern patterns of trade. During each generation there have been arguments in favor of some kind of protectionism under some set of circumstances. Arguments against protectionism created in a vacuum of unrealistic assumptions can provide little value to the real world challenges of development and international trade.

Countries will resort to movement away from free trade when the realities of size and income differences threaten domestic competitiveness. Moreover, decision makers must feel confident they can absorb the forecasted costs, and that the effects on the rest of the world are justified. Whether protection can improve welfare and terms of trade, produce considerable disagreement; however, evidence shows that tariffs may be set according to market power, and stronger markets can do so when they can support tariffs on products with lower export supply elasticities. This does not guarantee there will not be net losses in welfare, it simply means that the country with market power is predicted to lose the least.

It is considered conventional wisdom that tariffs will increase prices, but under the right conditions they can increase wealth inequality and inflation. In a reality where firms would like to sell as much as possible, to as many destinations as possible, organizations can lower the average costs by selling more in their home markets; however, they can attain even lower costs if they expand to reach a minimum efficient scale (Feenstra/Taylor 2012).

Obstructing that process to incubate domestic competitors carries a significant risk with uncertain returns and must be considered with the greatest care, as well as the expectation it will generate disruptive forces in a normalized economy.

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