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IMPACT OF TRADE COSTS ON TRADE FLOWS

Shelly Gupta

Abstract:-The first theories of international trade dates back to time of Adam Smith (1723-1790) and David Ricardo (1772-1823), when they advocated that free trade will be mutually beneficial for countries entering into trade. Now in the present time of 21st century, we are again heading back to the concept of free trade with institutions like WTO preaching nations to lower their tariffs and encouraging the advancement of free trade.

INTRODUCTION:

The first theories of international trade dates back to time of Adam Smith (1723-1790) and David Ricardo (1772-1823), when they advocated that free trade will be mutually beneficial for countries entering into trade. Now in the present time of 21st century, we are again heading back to the concept of free trade with institutions like WTO preaching nations to lower their tariffs and encouraging the advancement of free trade. The major tariff and non-tariff barriers has decreased over the past few years with each successive round of GATT (now WTO). This lead to the positive result with the value of world merchandise exports increased by 20 per cent in 2011 while exports of commercial services grew by 11 per cent. Still around half of the world export of goods and services is being accounted by the top ten trading nations only. If the motive is to bring economies closer to each other through trade then what factors drive them apart?

> A look at the literature showcases few important theories which have been useful in understanding trade.

> ➤ The Gravity Model in its most basic form tells that the value of trade between any two countries is directly proportional to the product of the two countries' GDPs and diminishes with the distance between the two countries, ceteris paribus.

$$Tij = A \ X \ Yi \ X \ Yj/Dij$$
$$Tij = value \ of \ trade \ between \ country \ i \ and \ j$$
$$Yi,Yj = country's \ GDP$$
$$Dij = distance \ between \ two \ countries \ i \ and \ j$$

So from the Gravity model, we get that distance is one factor which acts as an impediment to trade. But in the present globalized and networked world, it is not difficult to transport a good from one country to another situated far away.

The question now arises is that if the tariffs are not a barrier and distance can also be covered by high technology advancements, then what acts as a hindrance to the trade in present globalized world? Despite technological advancement, why the cost of movement of goods across countries has not fallen?

The answer can be found if we account for various trade costs which drive a wedge between the export and import price. Even though transport costs have been neglected in the pure theory of international trade, as most of them assume it to be absent, various studies have found trade costs (including transport costs) and its components to be a significant drag on the international integration of markets.

The Classical theory of trade, first propounded by Adam Smith and then subsequently elaborated by David Ricardo assumed that there are no impediments to trade such as tariffs, transport costs, etc. and the driving forces behind international trade flows are technological differences between nations vested as (1) absolute cost differences and (2) comparative cost differences.

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The Heckscher-Ohlin Theory also propounds that comparative advantage is determined by cross-country differences in relative abundance of factor endowments. It assumes transportation and other costs to be zero. It believes that transportation costs inhibit and reduce trade volume but it does not reverse the trade pattern between the countries and hence can be ignored.

Finally coming to the New Trade Theory, Krugman brings increasing returns and transport costs into one model where transport costs play a pivotal role in integrating the countries. It explains why trade volume increases as transport cost decreases.

However, the empirical data has another picture to show. The studies on trade costs has been a work of the recent past only but the developing literature on the topic clears that trade costs has a negative impact on the volume of trade. It is one of a major determiner in the growth of international trade in the last few decades and can help explain the two major trade booms and one trade busts of the past.

Anderson and Van Wincoop providing an extensive literature on trade costs in their gravity equation showed that trade cost is as high as 170% ad valorem for a representative rich country whereas tariff accounts only for 5% (the figure is a little higher at around 10 to 20% for the developing countries). The 170% ad valorem for a developed country is broken down into three main components: 21 percent transportation costs, 44 percent border-related trade barriers, and 55 percent retail and wholesale distribution costs (2.7=1.21*1.44*1.55). Further breakdown suggests that the 21-percent transport cost includes both directly measured freight costs and a 9-percent tax equivalent of the time value of goods in transit. And the 44-percent border-related barrier is comprised by 8% policy related barriers, 7% language barrier, 14% currency barrier, 6% information cost barrier and 3% security barrier.

This large figure of 170% ad valorem affirms the need for studying trade costs in detail. In explaining trade costs, Anderson and van Wincoop (2004) referred the example of Mattel's Barbie doll, indicated that the production costs for the doll were US$ 1, while it sold for about US$ 10 in the United States. The cost of transportation, marketing, wholesaling and retailing represent an ad-valorem tax equivalent of 900 percent.

Not only this, trade costs have large welfare implications too. Anderson and van Wincoop (2002) argue that current policy-related costs are often worth more than 10 percent of national income.

It also helps explain various international trade puzzles- the trade booms and busts in the history.

This detailed split up shows that trade costs include a range of factors which goes beyond the traditional tariff and non-tariff barriers.

➢ Trade costs are defined are defined as the costs incurred in exchanging of goods across national borders or in simple words, it includes all the costs in getting a good to a final user other than the marginal cost of producing it (as defined by Anderson and Wincoop).

The above beak up gives us a wide range of factors determining trade costs. Besides these, geographical proximity, trade policy, membership in Regional Trade Agreement (RTA), connectivity (both maritime and air connectivity), exchange rate regime, logistics performance, infrastructure facilities, contract enforcement costs, etc. are believed to be associated with trade.

There have been numerous approaches being framed to explain the trade costs. One is to consider price differences across borders. In the absence of trade, the arbitrage would have equalized the prices. Other approach could be to directly take the data on the cost of shipment. Also, trade costs also drive a wedge between export and import price. So one could take a difference between the two which will give all the costs incurred by the exporter in sending the good abroad.

So we learnt from the literature that trade costs are found to be large and highly variable. As already noted in the above example, the trade costs are as high as 170% and the number for developing country is expected to be even higher. But despite the importance of trade costs as one of the major factor affecting the pattern of international trade and inhibiting international integration, the empirical literature on the same is not found to be so extensive.

So the question now is about the relative contribution of various factors to trade and trade costs.
Of the various studies, the most prominent is by Anderson and Wincoop (2004).

The traditional gravity equation found by them is as follows:

$$xij = (yiyj/yw) (tij/ \quad iPj)1-$$

xij - nominal exports from country i to j

yw - nominal world output

Elasticity of substitution across goods

i and Pj – multilateral resistance variables (average trade barriers)

tij - bilateral cost of importing a good(1+ tariff)

This equation implies that bigger countries trade more with each other and the bilateral trade costs tij decreases bilateral trade.

The other important study in this field was by Novy (2012). He takes a different approach to trade costs. He takes a top-down approach where trade costs are derived based on the observed pattern of trade and production.

$$tij = tji = (Xii\ Xjj\ /\ Xij\ Xji\ )\frac{1}{2}(\ -\ 1\ )\ -\ 1$$

This trade cost measure implies that trade cost are higher when they trade more with themselves than they do with each other i.e. as the ratio of (Xii Xjj / Xij Xji) increases. As ratio falls, international trade costs fall relative to domestic trade costs.

This particular methodology has been used by various economists in their respective studies. Jacks et al. has used it to examine what has driven the trade booms and busts in the past century and half. Was it changes in global output or changes in international trade?

Three important periods were identified: the first wave of globalization (1870-1913) - the pre-World War I period, the receding period (1921-39) - the interwar period and the comeback period (1950-2000) - the post-World War period.

Covering this period from 1870 to 2000 covers a major portion of developments in global trade and covers around 70% of global trade.

The results explained that for the first wave of globalization, there was an estimated decline in international trade costs of 33%. And this decline help explain 55% of the world trade boom during this period.

During the inter-war period, attempts were made to restore order and hence protectionist trade policy was followed. Also at the onset of Great Depression, trade costs increased dramatically and jumped by 18 percentage points between 1929 and 1932 only.

Finally in the second era of globalization, it registered a steep decline of 16% which explained the 33% of post-World War trade boom.

With the empirical evidence, one can conclude that the trade costs are found to be one of the major drivers of global trade.

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