Effects of trade barriers

Chapter 1

Introduction

Trade is an exchange of services and goods for other services and goods or for money, Trade (2010). The paper discusses about the effects of trade barriers on international trade, i. e. to identify one or more variables (inflation, transportation cost, tariff, remittances, population, GDP deflator and exchange rate) in the study that effect international trade the most.

A trade barrier is a general term that describes any government policy or regulation that restricts international trade (Trade barrier, 2010).

The problem discussed is the effect of trade barriers on international trade. In order to address the problem, two hypotheses have been developed and tested. Each hypothesis explains the effect of variables as barrier to international trade.

Secondary data of three years comprised on year 2005-2007, collected from the source " World Trade Organization" (WTO). The statistical tool applied to test the hypothesis is multi-variate regression model as there are more than one independent variable and one dependent variable. The independent variables identified in this paper are (Inflation, Exchange Rate, Remittances, GDP, Tariff, Population and Transportation Cost) the dependent variable are (Imports and Exports). The statistical result of the hypothesis testing can be seen in the following chapters.

Inflation

Generally inflation is defined as a rise in the general level of prices of goods and services over time, where as most of the economist define inflation as a

rise in the prices of some specific set of goods or services, it is important to understand that the rise in prices is for specific set of goods and services and it should be constant, as well as a rise in price of one good or service as compared to other does not mean an increase in inflation it should be increased for every product or service. Inflation is measured as the percentage rate of change of a price index (Haq & Hussain, 2008).

Measures of Inflation

There are many measures of inflation each for different sector,

- Consumer Price Indices (CPI)

CPI measures the price of goods and services purchased by a " consumer" (Haq & Hussain, 2008).

Cost-of-Living Indices (COLI)

Are indices similar to the CPI which is often used to adjust fixed and contractual incomes (Haq & Hussain, 2008).

- Producer Price Indices

(PPIs) measures the prices acknowledged by producers. This differs from the CPI in that price subsidization, income, and taxes may cause the amount acknowledged by the producer to differ from what the buyer paid. Producer price inflation measures the pressure being put on producers by the costs of their raw materials. This could be " passed on" as consumer inflation, or it could be absorbed by profits, or offset by increasing productivity (Haq & Hussain, 2008).

- Commodity Price Indices

(CPI) measures the price of a selection of commodities. In the present commodity price indices are weighted by the relative importance of the components to the “ all in” cost of an employee (Haq & Hussain, 2008).

GDP Deflator

GDP deflator is a measure of the price of all the goods and services included in Gross Domestic Product (GDP) (Haq & Hussain, 2008).

- Capital Goods Price Index

So far (CGPI) has not been established, where as several economists have recently pointed out the necessity of measuring capital goods inflation (inflation in the price of stocks, real estate, and other assets) separately.

Indeed a given increase in the supply of money can lead to a rise in inflation (consumption goods inflation) and or to a rise in capital goods price inflation.

The growth in money supply has remained fairly constant through since the 1970s however consumption goods price inflation has been reduced because most of the inflation has happened in the capital goods prices, Haq & Hussain (2008), where as there are two common known measures widely reported in many countries, i. e. CPI and GDP Deflator.

The above chart shows the trade of world developed countries in terms of exports and imports, the amount is in US billion dollars, the next chart is of inflation of the developed countries of the world, the purpose is to compare and analyze the countries inflation rate and trade in order to examine the impact caused by inflation on countries trade.

As it can be seen that each country has different impact of inflation on its imports and exports, for instance Australia inflation rate was 2. 30% in year 2007 where as its exports were 142 billion dollars and its imports were 160 billion dollars, similarly for Canada its inflation rate was 2. 10% and its exports were 431. 1 billion dollars and its imports were 386. 4 billion dollars, therefore if a comparison is made between these countries it can be seen that every country has a different impact of inflation on its trade, hence it can be said that the reason for this difference of change is the size of country's economic and financial structure.

Tariff

A tariff is a tax forced on an imported or exported commodities. In general dialect, however, it has come to mean " import duties" charged at the time goods are imported (Parkin, 1996).

According to Japans customs tariff law a tariff " a tax based on the standard of assessment of prices or volume of imported goods" (Tariff, 2010).

Functions of Tariff

There are three major functions of tariffs:

1. To serve as a basis of income;
2. To protect domestic industries; and
3. To remedy trade distortions (corrective function) (Functions of Tariff, 2010).

The Income Function

The income function simply means that the income from tariffs provides governments with a source of tax revenue. In the past, the income function

was indeed a major reason for applying tariffs, for instance Japan generates about 845 billion yen in tariff revenue per year, which represents approximately 1. 9 percent of total tax revenue (Meti, 2010).

Protection of Domestic Industries

Tariffs are also used as a policy tool to protect domestic industries from competition of importing goods, as well as tariffs are also used as a source of protection of market access from foreign exporters (Meti, 2010).

Remedy to Trade Distortions

Corrective tariffs are used as a remedy for trade distortions caused by companies to injure domestic industry, for instance anti-dumping agreement is used to impose duties on companies exporting goods that are specifically banned and cause damage to domestic industry of importing country (Meti, 2010).

Remittance

Remittance can be defined as sums of money that a migrant worker sends back to his or her country of origin (Wimaladharma, Pearce & Stanton, 2004).

Remittance plays a vital source of income for developing country economies, as well as millions of individual households, predominantly poor women and their children. Unlike aid or concealed investment flows, remittance reaches the poor directly, and the poor decide how the money is spent. Importantly, remittance services also offer a means for monetary institutions to increase their outreach and significance to poor clients (Wimaladharma, Pearce & Stanton, 2004).

For instance the largest remitting countries in terms of volume are the United States with remittances amounting to $28. 4 billion, Saudi Arabia with remittances amounting to $15. 1 billion and Germany with remittances amounting to $8. 2 billion (Wimaladharma, Pearce & Stanton, 2004).

In the study, Ratha (2003), it was found that more than three-quarters of remittances go to lower mid-income and low income developing countries. India receives the largest volume of remittance mounting to $10 billion, then Mexico with $9. 9 billion, followed by the Philippines with $6. 4 billion (Wimaladharma, Pearce & Stanton, 2004).

Exchange Rate

The price of one country’s currency expressed in another country’s currency. In other words, the rate at which one currency can be exchanged for another. For instance, the higher the exchange rate for one euro in terms of oneyen, the lower the relative value of the yen (Investopedia , 2010).

Exchange Rate and Trade

Exchange rate is one of the important factors in an open economy since it affects so many business, investment and strategic decisions. Various empirical studies have been conducted to assess the influence of exchange rate on trade balance, with the objective of providing valuable inputs to policy makers on the usefulness of exchange rate policy such as devaluation-based alteration policies (effected through nominal exchange rate) to balance a country’s foreign trade for instance, Greenwood (1984), Himarios (1989), Rose & Yellen (1989) provided the evidence of relationship between exchange rate and trade balance.

In a study, Oskooee (2001) stated that appreciation of exchange rate directly affects a country trade as it can be used as an effort to increase international competitiveness and help to improve its trade balance. On the other hand it was also reported in the study that depreciation of exchange rate increases exports by making exports fairly cheaper, and daunt imports by making imports fairly more expensive, thus improving trade balance(Liew, Lim, & Hussain, 2000).

Japan and ASEAN

A study conducted using trade balance data from year 1986 to 1999 between Japan and 5 ASEAN countries to examine the impact of exchange rate on countries trade balance. It was found in the study that the role of exchange rate changes in initiating changes in the trade balances has been overstated. It is widely expected that the decrease of ASEAN-5 exchange rates with respect to Japanese yen would improve these economies' trade balances with Japan during the sample period of study (Liew, Lim, & Hussain, 2000).

Gross Domestic Product

Gross domestic product is the value of collective or total production of goods and services in a country during a given time period (Parkins, 1996).

Measures of GDP

There are two common measures of GDP namely:

1. Expenditure Approach.
2. Factor Income Approach.

Expenditure Approach

In expenditure approach the GDP is measured by adding consumption expenditure, investment, government purchase of goods and services and net exports (Parkins, 1996).

Factor Income Approach

In factor income approach the GDP is measured by adding all the incomes paid by the firms to household for the services of factor of production, for example compensation of employees, net interest, rental income, and profits paid for entrepreneurship (Parkins, 1996).

Chapter 2

Literature Review

Transportation Cost

Europe

A comparative study, Conlon (1981), was conducted in 1981 between Australia and Canada to investigate the role of transportation cost as a trade barrier in trade flow of both the countries. It was found in the study that in Australia nominal transport costs contribute over 40 per cent of the trade barrier in its trade flow, where as in Canada transport costs provide over 17 per cent of the total barriers.

In the study by, Casas & choi (1985), it was found that transportation cost being the trade barrier has two affects on the country economy 1) implicit tariff effect, 2) resource cost effect.

The Implicit Cost Effect

In the implicit cost effect, Casas & choi (1985) an increase in transportation costs affects the trade flows by increasing the domestic comparative price of the imported goods.

Resource Cost Effect

In the resource cost effect, Casas & choi (1985) an increase in transportation cost, shifts productive resources from traded goods to the transport sector, i. e. in case of increase in transportation cost, the resources used to produce goods domestically were allocated for payments of transportation bills due to which production of domestic goods suffered.

United Kingdom

Similarly an empirical study, Binkley & Harrer (1981), conducted in the United Kingdom to examine the role of transportation cost as trade barrier, it was found that Transportation costs between countries pose a formidable barrier to trade, similar to other trade barriers such as tariffs. This study was further supported by the study of Sampson and Yeats in which it was concluded that " transport costs to be a more significant trade barrier for United Kingdom exports than tariffs", (Sampson & Yeats: Binkley: 1978 & Harrer: 1981). Similarly another study conducted in the United Kingdom also concluded that transportation cost is more effective trade barrier as compared to tariffs (Sampson & yeats, 1978: Binkley & Harrer: 1981).

United States

A similar study by, Finger & Yeats (1976), conducted in the United States gave the similar conclusion that that effective shield through international transportation costs is at least as high as that due to tariffs, Geraci & Prewo

(1977). In a study it was concluded by the author that progressive reduction in the transportation cost resulted in the growth of trade between United States and Europe, Shiue (2002). Similarly another study conducted in the United States also concluded that transportation cost is more effective trade barrier.

Africa

A study conducted in Africa to examine the effect of transportation cost on African trade, the results indicated that there is a very little trade flow within the Africa and the rest of the world, due to strict trade policies, for example according to, Collier (1995), Collier & Gunning (1999), Limão and Venables (2001), " There is a common belief that Africa trades " too little" both with itself and with the rest of the world. The poor performance is typically attributed to protectionist trade policies and high transport costs. Similarly another study concluded that the reason behind the low trade is the poor infrastructure and inappropriate transport policies (Amjadi & Yeats 1995: Limão & Venables, 2001).

Australia

A study conducted in Australia, Sampson & Yeats (1977) to identify the trade barriers causing decline in Australian exports, it was found in the study that transportation cost is a major contributor to decline in export as compared to tariffs, in other words it can be said that 66 percent of the total Australian exports are decline due to transportation cost.

China

A study conducted in china by studying various trends in trade barriers, the purpose of the study was to identify trade barriers affecting Chinese exports,

and it was found in the study that transportation cost is a major trade barrier as compared to tariffs and local markups (Li, 2007).

Tanzania

An empirical study, Kweka (2001) conducted for developing countries such as Tanzania it was found in the study that transportation cost as a trade barrier have two impacts on the economy:

1. It reduces the export competitiveness, Kweka (2001), since the cost incurred by the producer and cost paid by the buyer is widens by the high transportation cost. In other words it can be said that due to the increase in transportation cost most of the export orders to developing countries such as Tanzania are declined.
2. The second impact, Kweka (2001) on the economy of developing countries is a positive impact, due to high transportation cost the trade of locally produced goods increases, this is due to the fact that the gap between the prices of locally produce goods and imported goods become so wide that it becomes nearly impossible for the people of importing country to buy imported goods as a result 95 percent of the purchases are made off locally produce goods. Ultimately leading a growth in the overall economy.

Tariff

There are number of studies conducted to examine the impact of tariff as a trade barrier, for instance in a study it has been found that tariff and capital controls lead to trade deformation. Where as on the other hand it has also been that found tariff barriers in the importing countries tend to have a

negative, though insignificant, effect on exports of countries (T. Tamirisa, 1999).

Another study examining the impact of tariff as barrier on trade found that tariff has a significant negative effect on mutual exports, in part because of significant trade cost, where as in presence of tariff barrier the impact on imports is comparatively weak (T. Tamirisa, 1999).

One more study examining the impact of tariff as a barrier in trade found that tariff is one of the significant factor of mutual trade in-between countries, as compared to country' size wealth, exchange and capital controls, while tariff rate significantly reduce export of developing and transition economy (T. Tamirisa, 1999).

A study conducted to examine the relationship between trade barriers and trade flow. The study identified number of barriers such as exchange control, tariff, NTBs, it has been found that tariff is one of the major trade barrier as compared to exchange control and NTBs. The study also concluded that tariff with other barriers of trade tend to reduce the volume of trade, as well as tariff alone have a depressing impact on the mutual trade of countries (Lee & Swagel, 1997).

The study also provided the evidence that country having bi-lateral trade is affected by tariff charges as a result it does not only have a strong negative effect imports but it acts as a substantial barrier to export also. Final study concluded that tariff act as a barrier to both imports and exports of a country (Lee & Swagel, 1997).

Another study conducted in year 1993 by lee to examine the distortion caused by tariff in international trade found that tariffs charges lower the long-run growth rates more significantly in a country that needs to import more under a free trade regime. As well as government intervention in terms of imposing a tariff on the imports of foreign goods leads to the increase in price paid by the domestic purchaser i. e. (1 + 7) times the price received by foreign exporters (lee, 1993).

Therefore it can be said that, tariff has two effects on the economy, namely the deformation of resource distribution and the transfer of income, distortion effect of tariffs always decrease the steady-state levels of the capital stock, output, and consumption. Where as transfer of income help to retain the income earned through exports within the country, in presence of tariff where as in absence of tariff same income earned through export is used to settle import bills. On the other hand the study also concluded that when the tariff rates are high, the productivity of public input diminishes; thus, higher tariffs always lead to lower growth rates (lee, 1993).

Empirical studies have found that tariff liberalization would transfer trade from the rich to the poor and from the local to the global. It has been estimated that the elimination of tariffs would create more trade for poor countries than for richer countries. They also imply that tariff elimination would divert trade away from continental preferential trading areas (lai & zhu, 2004).

The study provided the evidence that tariffs, and distance-related barriers and production costs are important factors affecting bilateral trade flow,

where as tariff being the major element affecting the trade flow (lai & zhu, 2004).

For instance the trade among OECD countries is free form tariff charges where as non OECD countries have the highest tariff charges. As a result, the impact of tariffs on trade within OECD countries is likely less than 3. 7% whereas the impact of tariffs on trade among non-OECD countries likely exceeds 3. 7% (lai & zhu, 2004).

Population

There are number of studies conducted to examine the impact of population on trade. These studies discussed various questions regarding the benefits of openness of trade between countries for instance, who gains from an opening of the borders between two neighboring countries? Will any country lose as borders are opened? Is it the small country or the large country that benefits most? (Shachmurove & Spiegel, 2004)

It is general perception that countries with large populations having no trade tend to have larger profits at the expense of consumers i. e. since there is no foreign producer in the country all the profits earned through production is solely taken by the country it self in simple words it can be said monopoly. Where as if the same country having trade with other countries or foreign producers are trading in the country tends to reduce its profits, as part of the profit is taken by foreign exporter. On the other hand keeping the same scenario for a country with small population tend to have lower profits in the absence of trade and it will further see a decline in its profits with the presence of foreign producer (Shachmurove & Spiegel, 2004).

There are number of studies conducted that provided the evidence that countries having population aging problems have direct impact on the country trade, for instance a study by, Kenc & Sayan (2001), showed that changes in age composition of population are likely to affect saving and expenditure patterns, the resulting changes in composition of demand are expected to affect comparative prices between expenditure and investment goods. On the supply side, the decline in labor supply and the slow down in capital formation associated with population aging had cause changes in capital-labor ratios. As a result it alters relative factor prices and leads to second-round effects on resource allocation. Furthermore, since the changes in the relative capital intensities across traded and non-traded sectors affect real exchange rates and trade patterns, they are expected to create additional effects on partner country economies as well (Sayan & Uyar, 2002).

On the other hand if the countries experiencing population aging are large in the international trade, where as their partners are small and have not yet faced a population aging problem themselves. In other words, commodities and capital traded at the terms set by large economies may make these small countries vulnerable to the effects of population aging even if they have relatively young populations (Sayan & Uyar, 2002).

Gross Domestic Product (GDP)

There are number of studies conducted to examine the impact of gross domestic product (GDP) on trade (imports & exports) of a country, for instance a study conducted using gravity equation to examine the impact of gdp on exports of a country, the study classified the sample into three

categories a) homogeneous goods, b) differentiated goods, and c) an in-between category (Feenstra, Markusen & Rose, 2001).

It found in the study that if a trade of one country with another move from homogeneous goods to differentiated goods, then the stretch of exports with respect to GDP rises considerably (Feenstra, Markusen & Rose, 2001).

The finding of the study is empirically strong and significant both economically and statistically, as well as the study also stated that the GDP of the exporting country is found to be a powerful illustrative variable in the comparative strength of bilateral trade relations (Feenstra, Markusen & Rose, 2001).

Another study conducted in India to examine the impact of various economic variables such as (distance, GDP, population, tariff, and exchange rate) on Indian trade flows. Previous studies have also been conducted using gravity model to examine the impact of economic variables on trade flows, it was reported in the previous studies that distance has a negative and significant impact on trade where as GDP and population have a positive and significant impact on trade flows (Srinivasan & Archana, 2008).

Likewise the previous studies, the study conducted in India reported the similar findings, i. e. larger distance reduces mutual trade and a larger GDP and population of the trading countries increase trade. It was also found in the study that size of the economy is an important influential factor explaining the inflow and outflow of goods and services.

A study similar to previous studies was conducted to examine the impact of gdp on trade flows of a country. The study supported the findings of the previous studies that tariff barrier of importing country have a negative and significant impact on exporting countries, where as the study also reported that the larger gdp and population have a positive impact on bilateral exports of countries (Tamirisa, 1999).

A study conducted by, Ghartey (1993), using economic data of three countries (United States, Japan and Taiwan) to examine the impact of gdp of each country on its trade flows, it was found in the study that United states GDP promoted its exports, where as for Japan and Taiwan the impact was opposite (Chen, 2009).

Similarly another study conducted by, Jung & Marshall (1985), to examine the relationship between GDP and exports, the study used thirty one years of GDP and exports data from year 1950 to year 1981 for 37 developing countries, it was found in the study that there is no relationship between GDP and exports of 37 developing countries except Israel (Chen, 2009).

China

A study conducted in china by, Shen (1999) to examine the relationship between exports and GDP, the study used twenty one years of exports and GDP data from year 1977 to year 1998, the study found that there is a short term relationship between the Chinese GDP and exports, where there is no long term relationship between the two variables (Chen, 2009).

Pakistan

A study conducted in Pakistan to examine the impact of GDP on Pakistan trade flows, it was found in the study that an increase in GDP i. e. increase in domestic income results in increase in imports, for instance a one-percent increase in Pakistan GDP increases imports from US and Japan by an equivalent percent. Where as if compared to UK and Germany the trade flow is positive and small but not significant (Akhtar & Malik, 2000).

Inflation

What exactly is inflation? A persistent increase in the level of consumer prices or a persistent decline in the purchasing power of money, caused by an increase in available currency and credit beyond the proportion of available goods and services. Inflation occurs when the price level rises from one period to the next (Robinson, 2007).

The Impact of Inflation on International Trade

A study conducted in U. S, Robinson (2007) to investigate the impact of inflation on international trade and small business. It was found that inflation creates uncertainty that discourages productive activity, savings and investing and ultimately reduces the competitiveness of a country in international trade. It was also found that if inflation is not offset by a nation with a less valuable currency, the U. S.’s exports become more expensive and less attractive. This makes other countries’ imports more attractive. As a result this forms an economy of unbalanced trade with more reduced U. S. economy and international trade (Robinson, 2007).

Inflation has many disadvantages; it creates uncertainty, in that people do not know what the money they earn today buy tomorrow. This uncertainty

discourages productive activity, saving and investing. Inflation reduces the competitiveness of the country in international trade. If inflation is not offset by a nation with a less valuable currency, the U. S.’s exports become more expensive and less attractive. This makes other countries’ imports more attractive. This forms an economy of unbalanced trade which results in a much more reduced U. S. economy (Robinson, 2007).

Inflation and Trade

A study conducted, Fitoussi (2007), to investigate the impact of inflation on trade found that in the last 15 years or so, disinflation and the increase of world trade seem to have gone hand in hand. It was found that in the past three decades a downward trend in inflation caused an inward trend in world trade (Fitoussi, 2007).

The first fact that can be observed is that the past three decades were characterized both by an upward trend in world trade (measured as exports over GDP) and a downward trend in inflation (measured as yearly change in CPI) (Fitoussi, 2007).

Remittances

In general remittances are defined as a portion of the earnings a migrant sends to relatives back home, IMF (2010). It has been estimated that workers migrated to different countries send home between US$ 2000 to US$ 5000 a year, i. e. in terms of percentage around 20% to 30% of their income.

It has been found in the previous researches that poor countries receive larger amount of remittances as compared to high income countries for instance In 2007, the top three recipients of remittances India, China, and

Mexico-each received over $25 billion. But smaller and poorer countries tend to receive relatively larger remittances when the size of the economy is taken into account. Expressing remittances as a share of GDP, the top recipients were Tajikistan (36 percent), Moldova (36 percent), Tonga (32 percent) and Kyrgyz Republic (27percent).

Remittances as a share of GDP amounted to 3. 6 percent of GDP in low-income countries in 2006 compared to 1. 7 percent in middle-income countries (Ratha & Mohapatra, 2007).

Numbers of studies have been conducted to examine the impact of remittances on the trade of a country; these studies provided a mix of evidence regarding the impact of remittances on countries trade, for instance some studies provided the evidence that remittances can improve a country’s creditworthiness and thereby enhance its access to international capital markets for financing infrastructure and other development projects, in other words it can be said that increase in inflow of remittances increase the foreign reserves of a country, hence it enhances the ability of a country to meet its foreign trade obligations (paying of import bills).

This enhancement of country ability indicates a sign of increase in its economic activity as a result it attracts foreign investors and foreign export orders (Ratha & Mohapatra, 2007).

For instance the ratio of debt to exports of goods and services, a key indebtedness indicator, would increase significantly if remittances were excluded from the denominator.

Exchange Rate

Turkey

A study conducted, Vergil (2001), to investigate the impact of exchange rate volatility on Turkish trade flows comprising on 10 years data from year 1990 to year 2000. It was found in the study that exchange rate volatility has a negative impact on Turkish trade flows.

Africa

A study conducted to analyze the impact of exchange rate volatility on African countries trade flows. The study used 33 sub-Saharan African countries exchange rate macro-economic performance indicators data. It was found in the study that exchange rates contributed a great deal towards Africa's poor economic performance, Ghura & Grennes (1993), i. e. overvaluation in exchange rate resulted in lower level of exports, lower level of real GDP per Capita and lower level of Savings (Shatz & Tarr: 1990).

G-7 Countries

A study conducted by international monetary fund to investigate the impact of exchange fluctuation on world trade, in the study the G-7 countries trade was taken as world trade. The purpose of the study was to compare the results of IMF 1984 study a