Can Economic Globalization be Measured?

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ABSTRACT

Globalization has many meanings but it is generally defined as economic and political interdependence on a worldwide scale through the increasing speed, ease, and extent with which goods, capital, services, technologies, people, cultures, information and ideas cross borders all around the world. In this paper, three definitions, from IMF, WB and European Commission, of economic globalization were adopted. From this, four aspects of trade, capital movement, movement of people and spread of knowledge and technology were branched out into 11 variables. Each variable were looked at and discussed in its current relevance to economic globalization. It can be concluded that with this updated identified variables, it can be adopted to measure the level of economic globalization in future studies.

Keywords: Economic Globalization, Trade, Capital Movements, Movement of People, Spread of Knowledge.

Introduction

Globalization is a greatly debated topic over its advantages and disadvantages. Amongst its many advantages, globalization has highlighted the importance of emphasizing on growth in terms of economic indicators such as per capita income, Gross Domestic Product, Gross National product, external investments, external trade including import and export of goods, rate of economic growth, and new technology among other things. This means that economic globalization looks into the development patterns of economics in the world by state corporations nationally and internationally.

According to IMF (2008), there are many indicators that suggested that the world is more globalized: trade (goods and services) as a percentage of global GDP has increased from 42.1% in 1980 to 62.1% in 2007; the indicator of Foreign Direct Investment (FDI) to global GDP increased from 6.5% in 1980 to 31.8% in 2006; the level of international money demand (especially bank loans) as percentage of world GDP rose from around 10% in 1980 to 48% in 2006; the number of
persons working abroad increased from 78 million people (2.4% of the world’s population) in 1965 to 191 million people (about 3% of the world’s population) in 2005 and increased further to 232 million people (about 3.2% of the world’s population) in 2013 according to UN News Service Section (2013)

**Globalization**

Globalization is a term that is widely used, but it does not have a precise, agreed definition. The world is basically a knowledge-based society today, where the effects of globalization are felt but amazingly, the exact definition of globalization is still not known. According to Douglas and Wind (2001), the meanings attached to globalization only increases over time, taking on cultural, political, and other connotations instead of just remaining as economic.

Globalization is best understood as the increasing speed, ease, and extent with which goods, capital, services, technologies, people, cultures, information and ideas cross borders all around the world. It means economic and political interdependence on a worldwide scale (Gordon, 2004).

**Economic Globalization**

In this article, there are three definitions of economic globalization coined by International Monetary Fund, IMF (2008), World Bank, WB (2002) and European Commission (1997) that shall be referred to when discussing on the selected variables.

According to IMF, “Economic globalization is a historical process, the result of human innovation and technological progress. It refers to the increasing integration of economies around the world, particularly through trade and financial flows. The term sometimes also refers to the movement of people (labor) and knowledge (technology) across international borders. There are also broader cultural, political and environmental dimensions of globalization. (IMF, 2008)

The following four aspects of economic globalization covered by IMF (2000, 2008) would be looked into in this paper to determine the relevant variables that stood for economic globalization

1) Trade
2) Capital movements
3) Movement of people
4) Spread of knowledge (and technology)

WB (2002) defined globalization as “freedom and ability of individual and firms to initiate voluntary economic transactions with residents of other countries”. European Commission (1997) defined economic globalization as the process by which markets and production in different countries become increasingly interdependent due to the dynamics of trade in goods and services and capital and technology flows.
Significance & Objectives
This paper aims to take a look at the relationship of four identified aspects to economic globalization, based on the three identified definitions. These four aspects influence the level of economic growth to a nation, which in turn influence the level of economic globalization the nation achieves.

Methodology
This paper will use the analytical descriptive method through reports, journals, university dissertations, periodicals and books to provide an insight to the relationship of identified variables with economic globalization. Based on the information gathered from these documents and records, this paper will attempt to provide an accurate interpretation the influence of these variables on the level of economic globalization a nation could possibly achieve.

The Chosen Variables
Based on IMF (2008), WB (2002) and European Commission (1997) definition of economic globalization, the following aspects/dimensions were looked into to identify suitable variables.

1) Trade, 2) Capital Movements, 3) Movement of people 4) Spread of Knowledge (Technology).

Trade
IMF (2000, 2008) defined globalization as a point when the world trade and financial markets becomes more integrated. As such, trade is one important aspect of globalization. Trade is basically defined as goods exchange, transfer of ownership of goods from one person or entity to another by getting something in exchange from the buyer. This mainly refers to import and exports.

Through trade growth, the level of globalization of the involved countries increased through forming or increasing links with their trading partner countries (Šliburytė and Masteikienė, 2011). Preble (2010) and Singh (2010) mentioned that the intention behind wanting to trade was that these countries look at trade as a way to further their economic growth. Economic growth is beneficial to the country. Based on this aim of economic growth through trade, the country would also achieve a more globalized economy as an effect. Several other studies, (Wacziarg and Horn Welch, 2008; Lee and Sohn, 2010; Nenci, 2011), also indicate that countries through free trade, also enjoyed greater economic growth and increase foreign links – thus more integrated (globalization).

The variables that should make up the trade aspect would be the actual flow of trade which consists of import and exports, and the movements towards trade liberalization that makes up of a positive driver, such as the global organization membership and a negative driver for trade such as average tariff rates that make up restrictions to trade. Overall, these variables would allow a comprehensive understanding in the trade aspect within a country, and as such determine the overall level of globalization of that country. With this, this aspect is further broken down into three variables – Import and exports, average tariff rates and global organization memberships.
Import and exports

Import and exports were usually the main measured components in trade intensity, to determine the trade flow. Imports obviously show the links of the importing country to the country where these imports came from. However, exports are important too. According to Saad (2012), increasing exports is an important factor for a country’s growth and development. Exports are a way a country can get foreign exchange reserves for the import of goods such as energy and investment goods into another country. Exports are also another way for a country to increase its attractiveness into attracting foreign capital, brings countries’ economies closer together. As such, the relationship between imports and exports serve as an indication to show the actual flow of trade in a country.

Trade Liberalization

In order to truly measure trade globalization, there is a need to consider the factors that bring about market openness and liberalization of trade. Just looking at the actual trade flows is not sufficient to reflect a complete picture of a country’s economy. As such, there is a need to also take into account the restrictions or barriers to the trade flow. As mentioned by Leitão and Shahbaz, (2012), the lesser restrictions, the more trade will be liberalized, paving for more goods and services to be exchanged globally.

One of the ways to liberalize trade would be through the country government actions. Leitão and Shahbaz (2012), indicate that government support in the liberalization of trade policies to remove some barriers would help with the growth of international trade to increase market openness.

These two variables average tariff rates and global organization memberships reflect the ways trade is liberalized.

Average Tariff rates

Lee (2005), loosely defined trade liberalization as a move towards freer trade through the reduction of tariff and other barriers, and is considered the primary “driver” of globalization. Agreements were established by many developing countries to cut tariffs and lowered non-tariff barriers, and introduce foreign competition to their markets. (De and Pal, 2011; Li, 2012), General Agreements on Tariffs and Trade (GATT) that was signed in 1947 and lasted till 1994, to regulate global trade, through tariff reduction, created at the end of World War II to stabilize the world economy and prevent a recurrence of the Great Depression of the 1930s. World Trade Organization replaced GATT in 1995 (Noshab, 2006 and Wto.org, 2011).

Dornbusch (1992), believed that high tariff rates would hinder multinationals (MNCs) from doing their best through FDI, technology and knowledge. Hummels (2007), found that trade negotiations have steadily reduced tariff rates, with average U.S. import tariffs dropping from 6 to 1.5 percent since 1950 and worldwide average import tariffs dropping from 8.6 to 3.2 percent between 1960 and 1995. As such, the
lower the mean tariff rates, the higher is the level of economic globalization, especially pertaining to trade.

According to Topalova and Khandelwal (2011), when India reduced her average tariffs from 87 percent in 1990 to 43 percent in 1996, the number and volume of imports from abroad increased, trade volumes grew up to a point where India’s manufacturing trade to GDP ratio increased from 13 percent in 1980s to 19 percent in 1999/2000.

Tariff rates reductions are usually focused in studies about globalization as they are relatively easier to measure when compared to non-tariff barriers like import licenses and quotas. Tariffs are usually imposed as “ad valorem” or “according to value” taxes on imports, and are deemed as price based form of trade protection. As such, tariffs are more transparent, and more reflective of restrictiveness of the trade barrier when compared to non-tariff barriers where information is not often available at the same level of product/industry aggregation and are usually imposed to limit the quantity of imports allowed, thus more difficult to measure (Goldberg and Pavcnik, 2007; Topalova and Khandelwal, 2011; Novy, 2013).

**Global Organization Membership**

Governments could adopt a couple of policiessuch export processing zone (EPZ), (Kinunda-Rutashoby, 2003), and the African Growth and Opportunity Act (AGOA), (Seyoum, 2007), to open the market. However, it is difficult to look at the many different policies that a government introduces to measure support in trade liberalization and market openness. Also, a country would need global support to facilitate these pro-globalization policies. Many individuals and firms can represent a country towards trade liberalization. According to Nye (2001), many global organizations are hybrid organizations that combine governmental, inter-governmental and non-governmental representatives. In this way, these organizations have more power and are more accountable to drive globalization successfully worldwide. As such, international organizations play important roles in international relations within their area of focus and issues of expertise (Diehl and Frederking, 1997).

A more clearer and simple approach to measure trade openness of a country would be to look at the global organization membership the country belongs to. When a country tries its best to join a global organization, it shows that it is very interested in pursuing its interests through directly or indirectly creating links worldwide – trade, financial and so on. Forging links through bilateral agreements is possible but global organizations are centralized and independent, allowing them to perform several functions efficiently. These organizations also promote global community values (Diehl and Frederking, 1997, Helfer, 2006)

One prominent organization that contributes to world trade growth would be the World Trade Organization (WTO). As per its official site (Wto.org, 2011), WTO consists of 158 member states and deals with regulation of trade between participating countries through providing frameworks for negotiating and formalizing trade
agreements, serves as a forum for nations to settle trade disputes. Its main primary function is to ensure that trade flows smoothly, predictably and freely as possible. Results of a study by Balding (2010), on the impact of WTO on trade, indicate that imports and exports improved.

Bas and Strauss-Kahn (2012), showed China’s membership to WTO was effective in ensuring that the country commit to liberalize trade within their borders. China joined WTO in Dec 2001, and since then, its authorities had took on a series of commitments toward opening the economy for trade and foreign investments. The tariffs, non-tariffs measures, licenses and quotas were reduced. Chinese foreign trade was drastic within the period of study (2000-2006), yearly exports growth increased by 50% over the period and leading to an obvious significant period of trade liberalization. Chowdhury (2012), also echoed the effectiveness of WTO towards freer trade.

Gaburro and O’Boyle (2003), summarize the trend at which global organizations are governed and provided some examples of international organizations. There are two trends – international integration and international cooperation. For international integration, European Free Trade Association (EFTA), 3 May 1960, and North American Free Trade Agreement (NAFTA). 1 Jan 1994, are examples for free exchange and customs unions, EC for common markets, The Economic and Monetary Union (EMU), Jun 1988, for monetary unions. For international cooperation, General Agreement on Tariffs and Trade (GATT), 1947, and WTO, 1995, for commercial cooperation, IMF, 1945, and Bank for International Settlements (BIS) (in French, Banque des règlements internationaux (BRI)), 1930, for monetary and financial cooperation, World Bank, 1944, regional-continental banks for development, Mercosud, 1991, for regional-continental aggregations, OECD, 1948 and International Labor Organization (ILO), 1919, for other forms of functional or sector coordination.

As such, trade liberalization is an important factor that determines if a nation is on its way to improve its level of globalization. It is also a sign, pointed out by Lawrence and Edwards (2012), in which the policy makers of that nation is very much in tune to the reality of trade liberalization and on how to make use of its effects to the nations advantage. As such to measure this, the number of global organizations a nation is a part of, is a good indicator of globalization.

**Capital movement**

When another country invest on another country, or vice versa translates to a connecting relationship the two countries have that is formed between the investing country and the host country. This dimension is broken into four variables - Foreign direct investment (FDI) flows, portfolio equity flows, capital controls and foreign ownership/investments restrictions.

According to Kose, et al., (2009), financial globalization is measured by considering the capital controls (De Jure - negative) and the actual financial flow (De facto - positive). Through a combination of these variable types, then the global linkage to international markets can be determined.
De facto financial flows would be presented through the FDI flow and the portfolio equity flow. While the De jure financial flows that will be looked into are the financial openness variables such as the capital controls and the foreign ownership/investment restrictions which are basically the restrictions to the De facto financial flows. According to IMF (2008), FDI and portfolio equity flows have become the leading form of capital flows into developing economies.

**Foreign Direct Investment (FDI)**

The International Monetary Fund (IMF) / Organization for Economic Co-operation and Development (OECD) defined FDI as an investment that involves a long-term relationship reflecting a lasting interest of a resident entity in one economy (direct investor) in an entity resident in a foreign economy (IMF/OECD, 2008).

Global markets offer greater opportunity for domestic firms to tap into larger markets around the world. This translates to the possibility of increasing access to more capital flow, technology, cheaper imports, and larger exports. One of the ways to integrate the domestic economy with the global economy, is through FDI. (IMF, 2008)

According to Stephan and Pfaffmann, 2001; Samimi, et al., (2011), FDI is a non-debt flow of foreign investment, generally categorized as a positive type of globalization indicator. FDI has long been established as a basic form of foreign capital that is defined as an economic globalization indicator.

**Portfolio Equity flow**

According to Kose et al., (2009), portfolio equity flows refer to foreign investors’ purchases of domestically-issued equity in a company. When a foreign investor buy a local firm’s securities without exerting control over the firm, this investment is referred to as portfolio investment (Alfaro, Kalemi-Ozcan and Volosovych, 2007).

IMF defined an investment as FDI if a foreign investor holds at least 10 per cent of the firm’s equity, and the remaining equity purchases are defined portfolio equity investment.

World Bank reports a sharp increase of portfolio equity inflows to developing countries from $11 billion in 1999 to $145.1 billion in 2007. The total foreign investment inflows (FDI and portfolio investments) to developing countries were $536 billion in 2008.

**Financial market openness**

De jure financial flows look at the negative side of financial globalization. These are all the barriers that are in place to slow down the progress of financial integration. The variables in this section complement the De facto financial measures identified - FDI and Portfolio equity. Market openness measure would only be complete if the barriers to financial freedom are reduced. (Samimi et al., 2011)

Prasad and Rajan (2008), had mentioned that looking at capital flows are inadequate and had suggested that the existence or absence of formal capital controls should be looked into to paint a whole picture of the financial liberalization that a country goes through.
Edison and Warnock (2003), also looked at capital control as an obstacle for foreign equity ownership

According to Konukoglu (2010), financial liberalizations are the most common de jure financial integration measurement. As such, based on the de facto choice of this thesis (FDI and portfolio equity flows); these two financial liberalization variables would be looked at to measure the de jure dimension. 1) Capital controls 2) Foreign ownership/investments restrictions.

**Movement of People**

As per IMF, (2000, 2008) definition, globalization also refers to the movement of people (labor) across international borders. According to World Bank (2002), globalization also refers to when an individual has the freedom and ability to start voluntary economic transactions with residents of other countries.

As such, there are a couple types of people movement to consider for this aspect – 1) migration, 2) tourism.

**Tourism**

Tourism by Hjalager (2007), is known as “hyper-globalizer,” with a great potential to increase the level of globalization to a country. An example is illustrated by tourism countries is generally one that is pretty accessible for many citizens from many other countries. Travel into the country is made easier so as to facilitate more growth in the Tourism industry. Furthermore, Vitić-Ćetković, Jovanović and Krstić,(2012) indicate tourism as one of the avenues in which nations should strive to take advantage of due to its potential to ensure greater economic growth.

**Migration**

The European Commission (1997), indicated that globalization is a process where markets and production in different countries become interdependent due to trade in services. This would mean that migrants can be seen as both the result of globalization and its expression as they treat the globe as a common space for markets and production. International migration is widely regarded to potentially contribute to development that brings about many governments and development agencies to seek ways to maximize its benefits (Saravia and Miranda, 2004; DeWind and Holdaway, 2005).

According to the Centre of Global development (2008), about three per cent of the world's population is living in a country which is not their country of birth. This would amount to about 200 million people. Akman (2011), noted that only 10 – 15 per cent of the world’s countries can be reasonably described as ethnically homogenous. Due to the increase of capital movement around the world, the demand for cheap labor continues, the world’s poor would seek faraway places for higher paying jobs, as compared to the jobs at home. The flow of workers is throughout all directions, however, one prominent flow can be observed – South to North. The UN said that on a yearly basis, about 2.3 million people move from the developing nations to the west. Also it is found that immigration provides
a supply of low cost labor for host countries, while remittances from emigrant workers can be an important source of foreign income for origin nations. (Al-Shawaf and Almsafir, 2014).

**Spread of Knowledge (Technology)**

Direct foreign investment not only results in expansion of physical capital stock, but also brings about technical innovation. Despite being essential, knowledge transfer is often overlooked as an aspect of globalization (IMF, 2000, 2008), this aspect represent a highly valuable resource for a nation.

**Knowledge transfer**

Le (2012), indicate that one of the most traditional methods for the spread of knowledge to cross the borders would be for the students (from a less developed country) to migrate to another country (usually an industrialized one) to advance their studies. Through education and post-schooling job experience in an advanced country of study, students from a developing nation would be able to learn and contribute to the productivity growth of their home country by returning home or maintaining close contacts with people back home. Because of this advantage of technology transfer, a developing country would increase its links with a developed country by having a more open education policy, to facilitate more international tertiary students into the developed country.

International student numbers in a country highlights that through education and post-schooling job experience in an advanced country of study, students from a developing nation would be able to learn and contribute to the productivity growth of their home country by returning home or maintaining close contacts with people back home. As such it would be beneficial for developing nations, such as those African nations, to adopt further trade liberalization and have a more open education policy as part of their development agenda. As the nation’s people be more educated, this would result in a more skilled workforce, and in turn would attract more FDI into the nation.

**Technology transfer**

It is more advantageous for a developing country to set up strategic technological agreements, instead of just hosting production facilities of foreign corporations (Wang and Hong, 2012). As per Wahab, Rose, and Osman (2011), a substantial transfer of technology, will positively lead to higher innovation performance, increase technological capabilities of the local industry, enhance the firms’ competitive advantage, increase firms learning effectiveness, improve productivity and thus ultimately improve the economic growth and country integration of the host country. This economic growth, being favorable to the host country, will result in further links with the investing country and/ or other countries in. Increase links, would mean, the nation being more connected to the world, therefore being more globalized.

University-industry technology transfer become increasingly popular to allow for technological innovation in a variety of areas. Academic inventions by the universities are
protected by patents, are advertised and then transferred to interested private firms in licensing markets. As these gets popular, licensees took a step further by directly forming a relationship with the universities themselves towards working together, thus allowing these licensees exclusive rights to any technological advances, directly produce from the formed relationship (Lee, 2012 and Spinesi, 2012).

Mowery (2011), had mentioned a particular legislation, the Bayh-Dole Act of 1980 that was said to improve university-industry collaboration and technology transfer in the US national innovation system. Many other initiatives were also embarked on to bring about this collaboration through creation of science parks located nearby the research university campuses, supporting business incubators and public seed capital funds and so on. With the success of the Bayh-Dole Act, other countries started similar policies to further capitalize on these university-industry collaborations. This is also echoed in Spinesi (2012). Ahmed (2011), studied the technology transfer capabilities of East Asian countries and found that only Japan and South Korea show technical progress through their MNEs international competition via high quality products that are accepted worldwide. Furthermore, the most significant part of the literature by Ahmed (2011), on MNEs emphasizes technology as a driving force for the economic globalization of the operations of such firms. As powerful as technology might be in driving the globalization of firms, it is not the only intangible asset that firms may seek to exploit worldwide.

**Conclusion**

This paper is trying to reflect the current status of economic globalization. It will not attempt to quantify the other dimensions of globalization – social, cultural or political. But it will attempt to combine some of the variables that are traditionally social and political with significant economic contributions into an updated economic globalization. Many of the variables that traditionally belonged to the social and political dimensions have proven over the years to have significant economic contributions. Through defined variables of economic globalization would then it be able to take a step further into looking at a viable, updated measurement of the level of economic globalization of a country.

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Centre of Global development (2008),


