

Growing costs: free trade, industry location and environmental effects*

Costos de crecimiento: relación entre libre comercio, expansión industrial e impactos en el medio ambiente

O crescimento dos custos: relação entre o comércio livre, a expansão industrial e os impactos sobre o meio ambiente.

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Abstract

Despite the efforts of many developing economies to create national welfare by attracting foreign investors, industry location seems a key point to focus since industries should be placed in areas with low agglomeration to attract people to leave crowded cities and foster new environments with sustainability. Nowadays developing economies promote their industrial sectors to grow by providing supportive regulations, subsidies and credits, also they encourage foreign companies to invest in these countries, by creating labor force in marginal zones, where utilities and facilities are hardly found in the hope of raising its economy and making it sustainable. Agglomerations in large city raise costs for the local and national governmental institutions, because it creates a bench in wages, utility levels diminish and congestions costs arise. These are the reasons why countries encourage industrial sectors to move to smaller cities, with low government frictions in which population may find incentives in the short and long run, as low taxes, new infrastructure with new policies to make the economy grow. This document will explain the relationship between free trade affecting developing economies and how they promote the industry location in areas where people should be reallocated to create welfare and how these chain of events create an environmental impact.

Keywords

Developing economies, industry location, free trade, environmental effects.

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Resumen

A pesar de los esfuerzos de muchas economías en desarrollo para crear el bienestar nacional mediante la atracción de inversores extranjeros, la urbanización de la industria parece un punto en la intención de desarrollar sus economías. Estas deben ser puestas en zonas con baja aglomeración, para atraer a la gente que vive en ciudades altamente pobladas y fomentar nuevos entornos sustentables. El debate actual entre desarrollo y comercio, presenta un reto hacia las economías en crecimiento, promoviendo a los sectores industriales a realizar un acercamiento con los tomadores de decisiones en políticas públicas para la construcción en conjunto, de regulaciones, subsidios y créditos; también anima a las empresas extranjeras a invertir en estos países, mediante la creación de mano de obra en las zonas marginales, donde los servicios públicos e instalaciones apenas se encuentran con la esperanza de elevar su economía y por tanto, sostenible. Las extensas aglomeraciones en las grandes ciudades, elevan los costos para las instituciones gubernamentales locales y nacionales, ya que crea índices en los salarios, los niveles de servicios públicos disminuyen y se generan costes de congestión. Estas son las razones por las que los países fomentan a sectores industriales a trasladarse a las ciudades más pequeñas, con fricciones bajas con el gobierno y en los que la población puede encontrar incentivos a corto y largo plazo, como impuestos bajos, nueva infraestructura con nuevas políticas, para hacer incentivar el crecimiento de la economía. En este documento se explicará, cómo la relación entre el libre comercio afecta a las economías en desarrollo y cómo promueve la ubicación de la industria en las áreas donde las personas deben ser reasignadas para crear bienestar y cómo estas cadenas de acontecimientos crean en el fondo un impacto ambiental.

Palabras clave

Economías en desarrollo, ubicación de la industria, libre comercio, efectos ambientales.

Resumo

Apesar dos esforços de muitas economias em desenvolvimento para a criação de bem-estar nacional, atraindo investidores estrangeiros, o desenvolvimento da indústria parece apontar na intenção de desenvolver as suas economias. Estes devem ser colocados em áreas com baixa aglomeração para atrair as pessoas que vivem em cidades densamente povoadas promovendo novos ambientes sustentáveis. O debate atual entre desenvolvimento e comércio representa um desafio para o crescimento de economias, promovendo indústrias para fazer uma abordagem para tomadores de decisão em políticas públicas para o conjunto de construção de regulamentações, subsídios e empréstimos; Também incentiva as empresas estrangeiras a investir nesses países através da criação de trabalho em áreas marginais, onde os serviços e instalações públicas estão apenas esperando para aumentar a sua economia e, portanto, sustentáveis. multidões vastas nas grandes cidades aumenta os custos para as instituições governamentais locais e nacionais, porque cria índices em salários, níveis de serviços públicos e reduzir os custos de congestionamento são gerados. Estas são as razões pelas quais os países incentivam indústrias para se deslocar para cidades menores, com baixo atrito com o governo e onde as pessoas podem encontrar incentivos para curto e longo prazo, tais como impostos baixos, novas infra-estruturas, com novas políticas para incentivar o crescimento da economia.

Este documento irá explicar como a relação entre o livre comércio afeta as economias em desenvolvimento e como promover a localização da indústria em áreas onde as pessoas devem ser realocados para criar riqueza e como essas cadeias de eventos criam profundo impacto ambiental.

Palavras-chave

As economias em desenvolvimento, localização da indústria, do comércio livre, efeitos ambientais.

1. Introduction

The economic performance of a country can be influenced by political and social factors. Nevertheless, the development of different economies and the welfare of its citizens can be slow or be hindered by growing costs of different factors such as free trade, industry location and environmental effects (Stiglitz, 2002).

Free trade involves different concerns to be covered like investment policies, environmental issues or multilateral negotiations, but labor standards have been an outcast for so long, not taken care of as it should have been. The article “Free Trade and Labor” by Jagdish Bhagwati (2011) talks about the major concerns of why it has been so difficult to cover the linkage between labor and free trade and how it has affected the majority of developing countries. Although, the author has some good points, his ideas lacks main examples that can best support his ideas and become a reliable source.

Economic activities are unevenly distributed over space (Melnik, Sroufe & Calantone, 2003). Explaining this simple but widespread phenomenon is the main purpose of economic geography. Economic geography helps to explain why economic growth and its two main sources, human capital and innovation, are local phenomenon whose diffusion in space is slow and imperfect. The part of industry location mentioned in this paper is going to focus on chapter two from the book “Geography and Trade” written by Paul R. Krugman (1991), which talks about the sources of industry localization. Also, some other projects written by the same author will be taken into account for the review as well.

Furthermore, trade has had a tremendous influence on economic growth and technological development. But it has also adversely affected the environment and although, growth is bad for air and water at the initial stages of industrialization, we have all seen that through the current developed countries that as they became richer, with it the same pollution has been reduced. In the article “Environmental Effects of International Trade,” the author Jeffrey Frankel (2008) discusses both the benefits and negative effects that international trade has on the environment.

2. Methodology

This paper is written based on a descriptive, analytical and explicative analysis while considering the relationship that bonds the free trade with the developing economies. This helps to develop the industry in mainly rural areas. Analyzing this concept the pa-

per state that the location of the industry in areas that are not populated helps to increase the welfare of that sector and reduce the overpopulation of big cities.

Within the investigation, it informs the importance of the three components of a city that makes them determinants of the size distribution. The components are efficiency, amenities and frictions. Also, the document makes a detailed explanation about the relation between them. For example, if a society has a higher level of efficiency helps a city to develop faster. But this creates friction between them and also causes agglomerations that also increase taxes.

The documents is made up based on a qualitative research, because it recollects information about the relationship between free trade and how it affects the location of industry in developing countries, and as a consequence of a detailed explanation and analysis of this the investigation can be completed.

But also, is based on the quantitative research when the econometrics formulas, and different tools like linear regression model are used. All this mathematical models are used to have a clear picture of how economy is developing, basically when its referred on free trade. With a numerical analysis countries have a better image of the countries they are going to trade or create an economic relation.

3. Theoretical framework

3.1. Free trade

Free trade is an economic concept based on the free exchange of goods and commodities, without restrictions or limitations. As such, you can refer to trade that takes place within a national market or a foreign trade as well.

It is true that one of the escalated benefits brought by free trade is the reduction of labor costs and overhead costs. Many countries can export their cheap labor to many developed countries, whose costs tend to be very high. For instance, in the United States, there have been a lot of income inequalities. But since the North American Free Trade Agreement was implemented, there were more than 800,000 transferring jobs from the United States to Mexico, especially in the manufacturing industry (Economic Policy Institute, 2010). However, this in the long run will affect the labor importer countries' economies as they will have job losses, especially in the manufacturing and engineering sectors.

The free trade agreement between Europe and the United States also destroyed 600,000 jobs and resulted in a loss of up to € 5,000 per person per year. This must have caused a domino effect on the European economy overall, as the tax revenue and Gross Domestic Product (GDP) reduced considerably in all of the European countries. These are the results of the first independent study on the impact of NAFTA TTIP prepared by a department of the University of Massachusetts, USA (Economía y Finanzas, 2014).

The Transatlantic Agreement for Trade and Investment (known by the acronym TTIP), is a treaty that was being negotiated between the United States and the European Union to increase

trade and investment between the EU and the USA actually by doing the untapped potential of a genuine transatlantic market by creating new economic opportunities for job creation and growth through improved market access and greater regulatory compatibility and making a pattern on global standards. Nevertheless, according to a study made by the Economic Policy Institute, the TTIP lead to many job losses. It was estimated that about 600,000 jobs would be lost. The Northern European countries would be hit the hardest (223,000 jobs), followed by Germany (134,000 jobs), France (130,000 jobs) and the countries of Southern Europe (90,000 jobs) (Capaldo, 2014). So, as it can be seen, the result could potentially be quite devastating for Europe and its economy of course. The study showed that this was not only an attack on social costs, living standards, labor rights, environmental protection, sustainable agriculture and democracy, but also for employment and growth in the continent.

In some cases, free trade of labor gives job opportunities to people who migrate. The author of the article, Jagdish Bhagwati (2011), stated that “even in the highly competitive apparel industry, where many firms have gone abroad to the poor countries, sweatshops have not broken out in the rich countries in response, and its reliance on illegal immigrants” (Bhagwati, 2011). Nevertheless, when people transfer for job purposes to one country to another and the host country does not have any trade barrier or limits for that, many social and economics displacements can be originated in many sectors, especially in majority of the most influential industries in which an economy develops or grows the most, like the manufacturing sector (Duggal, 2007). Such displacements can take place in immigration or emigration (Lumina, 2008).

By moving manufacturing and production to lower-cost nations, many previously industrialized nations are losing the capability to manufacture certain types of products. Paul Craig Roberts, author of “Supply Side Revolution: An Insider’s Account of Policymaking in Washington,” stated the advantages in lower prices and corporate profits of free trade at the cost of losses in occupations, production knowledge and capabilities, and lower Gross Domestic Product (GDP) in importing nations. Proponents of free trade argued that the loss of manufacturing capabilities is offset by lower prices on consumable products and growth in other areas of the economy, such as knowledge-based industries.

Some of the other costs brought are the labor exploitation (Lumina, 2008) in order to produce at a lower cost in other countries. According to the author of the article, he stated that in order to function well, the linkage between labor and free trade, two problems might arise. One of them is that it would force the usage of trade sanctions and that in the majority of cases child labor cannot be solved by this means of trade sanctions but with external agents such as NGOs. For instance, the case of Nike few years ago is a clear example of this.

3.2. Industry location

Recent studies highlight the forces shaping the new spatial division of labor, which is mainly based on large urban cities or regions (Christmann, 2000). Paradoxically, the reduced costs of transfer of goods and information have enabled this development (Stiglitz, 2002). The accelerated globalization of recent decades is not that of a flat world; it has its peaks and prosperity leaves behind or upsets many territories, while in some least devel-

oped countries poverty appears as an indelible mark of misfortunes combined of history and geography (Krugman, 1991).

The recent work of the “new economic geography” deeply renewed the analysis of industrial locations. The geographical distribution of firms is understood to be the result of conglomeration forces and dispersion, which are more dependent on exogenous features spaces. The concentration of industrial jobs and population, and therefore, the training process of the cities have essentially focused the attention of these theoretical works (Krugman, *Increasing Returns and Economic Geography*, 1991). Different levels of analysis were considered; intra-urban models, models with two regions and urban systems. But all these types of models particularly stress agglomeration forces. Therefore, the location of activities and men in rural areas is concerned by these approaches. A closer reading of these new theories of location, however, shows that some results can be applied to contemporary rural areas. Indeed, the work extending general models incorporate, increasingly, various forces of dispersion benefiting outlying regions, rural areas.

Since the end of the 1980s, economic geography has been experiencing a rebirth through two, more or less contradictory movements: on the one hand, the new economic geography from Anglo-Saxon geographers such as Scott, Walker or Storper and on the other hand, the economic geography of Paul Krugman. This revival interest in economic geography is mainly the consequence of economic globalization. Indeed, the older theories could no longer explain the economic situation; the experts have been focused on new areas of research.

This is why the New Economic Geography is a domain that is developing very rapidly from the mid-1990s. Paul Krugman has done a work comparison between the new theory of international trade and economic geography. The main purpose of Paul Krugman, when he talks about economic geography, is to describe the reasons of the location of productive activities in space. Therefore, he will develop a center-periphery model allowing approaching the issues of localization but also of development, economic integration, regionalization's taking into account the conclusions of the new theory of international trade.

Indeed, the basic idea that is expounded in his book (*Geography and Trade*, 1991) is the following: urban conglomeration logics are in the heart of the dynamic of trade. This theory renews the works of the regional economy on the polarization and local growth. It will lead to many models that mix spatial economy and urban economy.

The growth of territories, based on their ability to increase production of goods and services, should not only be thought statically, as it is the case in the comparative models (Stanford, 1985). From the moment there are transport costs or transaction costs, and that the labor is not completely mobile between countries or between sectors, arbitrations are no longer following the same logic as in the Ricardian case.

The most important area offers, for example, bigger openings; if the costs of transport between the two regions are high, firms will tend to situate themselves close to this market, despite labor costs are higher (Fujita M, 2001). Mechanically, this increases the

number of suppliers with an interest in locating in this region too. Finally, the urban conglomeration feeds urban conglomeration: there is a snowball effect. This one is powered by cost conditions and objective opportunities.

3.3. Environmental effects

The environment seems to be an increasing concern in today's business world. Many companies have addressed their environmental needs through their Corporate Social Responsibility activities. These try to implement better activities that will not only contribute the corporation but society overall. However, Corporate Social Responsibility seems to be a challenge to most companies due to the costs that may represent to the company. That is what seems challenging in business, to balance objectives and agendas.

Environmental objectives and economic objectives are usually clashing when dealing with operations and business (Wilsey, n.d). Environmental objectives address the need to understand the impact that a business may have to the environment and to what extent they can reduce that impact. On the other hand, the economic objectives are more towards the company and in they include making profits and money. The clash begins when individuals and corporations give different weight to these objectives as priorities change.

History shows that industrialization has deeply and negatively affected the environment. It started way back in the 19th Century when factories started operating and created the now common pollution. In an extreme version of environmental perspective, we could say that the world and environment would be better without the now industrialized society; but, facts say that humanity cannot longer live in this type of world where industries and technology cannot exist. People have grown dependent to it, which is the main reason that business can gain from these businesses (Darnall, 2006).

Resources are the main reason that world is living as it is, and thus it is not only a task regarding businesses but concerning to humanity itself. In a way it is no longer about costs for corporations but to the society. As there extremes in countries the United States where people can eat whatever they want, there is the extreme of Africa where people actually starve to death. This situation ironically is rather caused by a simple situation, population growth. The reality is that the world is reaching a limit point in regards on how many living beings can exists and survives. The actual struggle right now must be how to distribute these resources equally and reasonably in the world.

As industrialization, economic growth of corporations has different types of impacts in the environment and ideally achieves an Environmental Kuznets Curve. Regarding costs for society, economic growth harms the environment as industrialized firms have impact in air, water and other resources. At the same time, they can also be responsible and contribute to the environment so it will depend on the practice that the firm is using. Regardless, economic growth and environment protection seems very unlikely to work well together. The Environmental Kuznets Curve sets a realistic model but also a risky one for corporations. The model says that it is true that economic development may harm the environment at first; however, the impact will be reduced later as society's wealth will

increase enough to afford the decrease environmental harm. This is obviously at some extent an utopia as it goes beyond just earning but rather environmental culture.

Competition and globalization play a big role in the extra costs that may include to the firms (Iraldo, 2009). International trade has reached a point where local firms are aware that they must compete with the world and not just within the country. For firms to be able to compete in international trade is sometimes more important than the environment (Harris, 2008). Some countries are concern in how to keep up with the competitive world in terms of quality and costs, thus, they neglect the environmental costs and low their standards. It is commonly known that corporations do consider local regulations and policies when selecting trading countries or investment countries. However, corporations take more into consideration costs such as labor, production, taxes and others, and disregard the environmental ones. In a way, countries likely try to attract investor firms with these factors and not take into consideration the environment.

4. Results analysis

Analyzing the “Urban Accounting and Welfare” model it can be concluded that deleting differences on efficiency, amenities and frictions cause’s large cities conglomerates to reallocate but it does not causes significant increases in welfare in big economies. Eliminating these differences will also cause loses to the national budget since according to the model, a 40% of the city’s population need to be reallocated in order to see improvements. Governmental policies in big economies do not have big impact reducing spatial differences, however in developing countries; there might be a bigger impact.

As a result of the analysis of “Econometrics: Organizing the global value chain” it can be said that the free trade is closely related to all the econometrical studies. These includes the usage of mathematical equations and others numerical tools in order to have a clear image of a conflict or situation. Because the quantitative models helps the economist to have as a result an exact number, in contrast as the qualitative analysis where the results can be mix with subjective ideas and arguments. Whit econometrics every country can know which trader is better for a particular activity or which one has better policies toward a subject. As a result of this, the free trade is improve because the relations between countries are better because they know exactly what they want to trade or what kind of relations they want to have.

After a detailed analysis of “Environmental Effects of International Trade”, it can be explained more accurately how the environment is also part of the costs regarding trade and for firms in general. The paper analyzes the effects of environmental oriented business practices such as Corporate Social Responsibility. The paper does not mention this, but it is implied that they represent high costs and some of them are mandatory in terms of country regulations, such as Bartik (1988) did.

International trade does affect the environmental care as some investors and firms do not consider the standards for environmental care. In the same way, other countries put strict regulations pushing away investors and the money that they can bring to the country regarding trade. In general, the paper recommends that these costs, as high or low that

they can be, should and must be assumed by firms as in the long run they are achieving sustainability and survival for their firms and the environment.

5. Conclusion

It can be asserted that there exist many factors that influence the functioning costs of an economy. The information revised in this paper gives a wider view of the aspects of free trade that may make it more costly for a country to run its activities, as well as the locational and environmental aspects that drive the costs of almost any firm. The combination of these factors places any firm in a difficult position. In this competitive world, firms are faced with more and more challenging threats, which need to be overcome in order to achieve growth.

In the investigation we predict and identified the relationship between these variables: growing costs, free trade, industry location and environmental effects. Globalization is increasing the integration of national markets and the interdependence of countries worldwide for a wide range of goods, services, and commodities. Several factors have played an important role in the recent expansion of trade, the growing integration of economies, and the increasing contribution of trade to development.

Some developing countries are beginning to realize the prospects of a more beneficial integration – both quantitative and qualitative – into the global economy and the international trading system as a result of globalization. There is concern that the costs of trade driven globalization maybe economically, socially, politically, and environmentally unsustainable. A prime concern today for most policymakers everywhere is how to maximize the development benefits of globalization and trade, and to minimize their costs.

Conflict of interests

The author declares no conflict of interest

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