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## **International trade shocks and poverty**

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## 1. Introduction

Two outstanding issues dominate the social agenda in time of the birth of the 21st century: poverty and the destruction of nature. The first of them poses a particular problem for the modern day economy, since it “represents perhaps the greatest failure of the contemporary global economy and the greatest challenge it faces” (Winters, 2000, p. 43).

Poverty is high and persistent, and the poor have a low probability of emerging from poverty. The literature reflects recognition of a debt with the poor: there is a social consensus that poverty is, beyond individual deprivation, a social problem, both from moral reasons and because its consequences have an impact on the society’s welfare as a whole<sup>1</sup>.

Despite its importance, “it is easy to appreciate the growing public concern that not enough is being done to address poverty and poverty-related social illnesses” and “such concerns have been vented with increasing frustration” (Nordström, 1999, p. 1). Emphasizing the policy problem, authors agree that surprisingly there is less attention, and lower efficiency of pro-poor policy than needed.

Focusing on the policy problem, a question emerges of how useful is academic research to guide economic policy and what has academic research found about the external sectors determinants of the evolution of poverty. A synthesis from publications is that poverty is high and policy is ineffective due to lack of interest, lack of reliable data, and weak theorizing.

This paper reviews the literature as regards the ability of economic theory to help on the design and management of pro-poor economic policies, and the properties of a good model with this end.

In the rest of this paper, section 2 contains a brief synthesis of the definitions of poverty and measurement issues. Section 3 addresses selected topics in the research on trade and welfare, in particular trade and poverty. It also presents the relevance of exploring a particular structural feature, such as the abundance of natural resources. Section 4 deals with the importance of theory in the design of economic policies, and section 5 presents the conclusions and suggestions for further research.

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<sup>1</sup> This current concern for poverty is present in the inaugural speech on November 10<sup>th</sup>, 2015, by Engineer Mauricio Macri, President of the Argentine Republic. He reaffirmed the fight against poverty as one of the top priorities of his administration; namely, he committed to a zero poverty target, together with defeating drug trafficking, and fostering social union.

## 2. Poverty: definitions and measurement

If our aim is to analyze what are the effects of (some aspects) of trade on poverty, it is essential to know what we are talking about when we say “poverty”. Not only is it important to have an idea of what this concept represents, but it is also relevant the translation of this definition into an analytical measure. In this section we will briefly review these issues, drawing from some empirical papers that have already dealt with the trade-poverty relationship.

One way to define poverty is by stating that a poor person is someone who does not have “enough today in some dimension of well-being” (World Bank). This definition seems clear at first, but it implies reaching a definition of what is considered *well-being* (World Bank, 2014). Frequently, poverty is associated with not reaching a certain threshold regarding personal income, and thus poverty is seen as a one-dimensional issue. However, there are other dimensions that can be taken into account, such as health and education, in order to determine whether someone is, or is not, poor<sup>2</sup>. Hence, poverty is considered to be, beyond a monetary perspective, a multidimensional phenomenon.

Due to the fact that “poverty is a complex and multidimensional phenomenon”, it is hard to determine which the main dimensions are in the trade-poverty problem. Hence, “a crucial part of any specific analysis must be to identify the different characteristics of the poor” (Winters, McCulloch, & McKay, 2004).

The main purpose of the present study is to review what has been done in terms of research in the consequences of trade on the poor. At this point, it is necessary to determine which aspects of wellbeing are considered; that is, what is the relevant concept of poverty involved. Moreover, there are several sides to this issue: the effects might be measured on the people who are poor already, the probability of becoming poor, or an analysis of the vulnerability of the poor to external shocks.

The last issue, the vulnerability of poor households, plays a key role in the literature review of this research, since this phenomenon is created in developing economies by chronic volatility and structural rigidities (Caballero, 2000); in consequence, this feature should be present in modeling the gains from trade.

Argentina has a very irregular growth path, with recurrent crises, some of domestic origin and other of external origin, without a consensus about the answer.

There is reason to believe that external shocks have a more profound impact on the more fragile households, less capable to escape from their condition or

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<sup>2</sup> However, this may be related to the income levels of individuals.

smooth shocks. It is a social need that governments care about poverty and how to reduce it. In order to achieve this goal, governments need to count with a proper definition of poverty (and, of course, an appropriate measure).

Better knowledge of these links will help focusing the attention towards the existence and characteristics of poverty, and provide bases for policy aimed at preventing or smoothing undesired effects of other policies or external shocks.

Once that a consensus on the definition of poverty is reached, it is necessary to translate this definition into a practical measure, in a way that can be introduced into a model or be used in the formulation of policy.

However, the notion of multidimensional poverty poses a challenge when it comes to measuring poverty. Firstly, it is necessary to acknowledge which are the different poverty dimensions that may be influenced by the trade channel. Then, an adequate of aggregating the different dimensions needs to be established.

Nevertheless, it must be noted that “the majority of the empirical economic literature on poverty, especially in relation to this issue, adopts an absolute income or consumption metric.” (Winters, McCulloch, & McKay, 2004, p. 73).

The measurement issue bears critical importance, since it may have an influence on the way policies are made. Most empirical works deal with poverty lines: they usually associate poverty with income measures, and, consequently, a poor person is one that cannot achieve certain standards of living. This may be capturing some of the other dimensions, and a thorough analysis requires distinguishing the different channels.

The importance of the measurement of poverty, especially from a policy perspective, has also been pointed out by Ravallion and Bidani (1994): “When practices in empirical work have bearing on policy choices, they deserve especially close scrutiny” (Ravallion & Bidani, 1994, p. 75).

### **3. The literature of trade and poverty**

The aim of this section is to make a quick review of the knowledge of the issue so far. Two reasons to advocate economic research is that knowledge of the mechanisms driving changes in poverty helps to set out a strategy; and the theoretical vision of the world calls the attention to the existence and characteristics of the problem.

As has been stated before, traditional trade theories do not account for poverty in their models. However, over time the literature has dealt with the issue in several ways. Such analysis refers to the identification of long and short run effects of trade in poverty.

In this section we will deal first with the traditional trade models and the notion of poverty in them, to then address the long run and short run implication of

trade, as the literature has presented these issues, identifying not only the effects of trade liberalization or a shock, but also the exposure of an open economy to external shocks.

### **3.1. Standard theory and compensations**

#### Gains from trade: winners and losers

The focus of the issue has changed through time; the traditional trade theory presents an economy in autarky, and studies the effects in wages, production, consumption and welfare to start trading with the rest of the world<sup>3</sup>.

There are no clear-cut results regarding the effects of openness on poverty and inequality (de Hoyos and Lustig, 2009). Even if in the aggregate, trade is beneficial for the countries which are trading, there may be some winners and losers inside each country (Appleyard, Field, & Cobb, 2009). Gains of trade would be achieved on the condition that some compensation would be given to the losers; in that case only would trade be beneficial for everybody.

#### The standard framework 2x2x2: the Heckscher-Ohlin-Samuelson

In the traditional theory of trade, although there is no poverty included, some well-known theorems may be used to understand the effects of international trade. These are the factor-price equalization theorem and the Stolper-Samuelson theorem, which “deal explicitly with the effect of trade on wages, land rents, and other factor prices” (Burtless, 1995, p. 803). Both of them are presented under the assumptions of the Heckscher-Ohlin model and a regime of unrestricted free trade. However, Burtless (1995) notes that “Labor economists who examine the effects of trade on earning patterns rarely base their analysis on the Heckscher-Ohlin framework”<sup>4</sup> (Burtles, 1995, p. 806).

A sometimes forgotten rule regarding theoretical reasoning with models is that they must be a representation of characteristics that are permanent and relevant (Dagum & Bee de Dagum, 1971). In consequence, not all theorizing is universally useful, and there is a risk to use the wrong models. In this sense, Morduch (1994) warns about the “tendency to take most of the analytical apparatus for considering poverty from studies of poverty in high-income countries”.

### **3.2. Recent literature. Some channels of transmission.**

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<sup>3</sup> “The basic message of the international economics (IE) literature is that free trade is welfare enhancing” (Brakman, Garretsen, van Marrewijk, & van Witteloostuijn, 2006, p. 382).

<sup>4</sup> “Some do not describe any clear theoretical framework at all”.

Recently, the literature regarding trade-poverty links has analyzed several channels of transmission, which were mainly identified from empirical regularities in several countries.

Some of these studies involve an approach that identifies different levels of the relationship: a macro, a meso, and a micro level (de Hoyos & Lustig, 2009; de Hoyos & Medvedev, 2011; Moncarz, Barone, Calfat, & Descalzi, 2015).

As de Hoyos and Lustig (2009) put it: “the relationship between international trade and households’ incomes can be divided in three broad elements: a *macro* one, which connects changes in tariffs and taxes with changes in internal prices; intermediate or *meso*, which relates changes in internal prices with changes in retributions to the factors of production and/or their intensity of use; and the *micro* one, which analyses the relationship between changes in prices of final goods and the retributions to the factors of production, and the real income of families and its distribution”<sup>5</sup>.

Several other authors have conducted empirical studies, and have identified different channels of causation, such as: enterprises, distribution channels, government expenditure, the prices of goods and services, the market for labor and the role of taxation, just to name a few. In this aspect, the reader may refer to some of the following papers: Winters, 2000; Winters, 2002; Winters, 2006; Barraud & Calfat, 2008; Barraud, 2009; de Hoyos & Medvedev, 2011; Winters & Martuscelli, 2014; Moncarz, Barone, Calfat, & Descalzi, 2015.

### **3.3. The long-run vs. short-run approaches**

The different aspects of the trade-poverty relationship can be summarized into two types of effects: long-run and short-run. Long-term effects are depicted in traditional theory as the net welfare gains of a country that liberalizes; however, in the short run some individuals may lose from trade (impact on wages, changes in the retributions of other factors, among others). Besides, there are some rigidities in the economies that do not allow to change allocation of resources between sectors.

#### Long-term growth

One broad group of issues is related to a global perspective of world poverty: the dynamics of trade and growth in the development process and the long run improvement in income.

A link usually used is the openness-growth-poverty mechanism. It is generally believed that open economies are economies that grow more in relation to

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<sup>5</sup> Our translation.

closed ones. If trade fosters growth, the presumption is that, if the share in national income is stable (as has been generally found in the empirical observation), the absolute welfare of the poor families improves. Hence, a long run perspective is concerned with the links trade-growth-poverty.

These results lead to the conclusion that an open economy, or one which liberalizes trade, will have declining poverty rates due to changes in growth rates (Bhagwati & Srinivasan, 2002).

### Short-term

Even if the more open economies<sup>6</sup> grow faster in the long-term, it has happened that far from reaping rapidly the benefits of opening, mixed evidence from the country experiences highlight the presence of transition costs, and the need of the identification of gains and losses to the poor in a process of trade liberalization of a protected economy. Besides, on a daily basis an economy that is open to the rest of the world<sup>7</sup> is exposed to certain external shocks, which may ultimately affect the less vulnerable sectors of society.

The short run perspective addresses two types of processes; one of them are the links liberalization transition-structural transformation-poverty (Winters, McCulloch, & McKay, 2004). It focuses also on the differential effects of trade in the different economic agents. The basic insight from Samuelson is that if a change in trade rises GDP, the presence of aggregate gains are a “Potential Pareto Improvement”. However, for an “Actual Pareto Improvement”, redistributions from winners to losers are required. The direct application is that if the poor are more vulnerable, they are likely to need a compensation or other ways to avoid the welfare loss (or the differential welfare loss, depending on the social welfare function) and get a social Pareto improvement.

A second issue comprises several problems that may be organized under the heading of “external vulnerability” of the poor in the presence of short run disturbances, namely, the welfare effects of adjustment on the poor, in the episodes of policy driven structural transformation such as industrial policies or trade liberalization; and the impact of cycles and volatility on trade, and on the poor households, in an open economy.

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<sup>6</sup> However, Pritchett (1996) shows that alternative methods to determine the degree of openness may provide difference ordering.

<sup>7</sup> It is necessary to distinguish the difference between the liberalization of trade and open economies. In general, external shocks affect open economies, while the impact on changes in the retributions of factor of production is observed when the economy liberalizes trade.

### Three questions on volatility and shocks

The effects of TOT volatility on poverty may be decomposed in three parts: one is whether TOT volatility is transmitted to output volatility; secondly, whether TOT volatility has a deleterious effect on the rate of growth; thirdly, whether these effects on economic growth are transmitted to poverty levels or to fluctuations in poverty<sup>8</sup>. Volatile TOT associated with rigidities in production and concentration of exports in a small number of commodities are in consequence a focus of attention in developing countries.

Poor families are relatively more vulnerable to external shocks. In developing countries there are more poor families and the distribution is more unequal. Poor families are likely to suffer larger shocks; moreover they have reduced ability to smooth their negative effects.

The peculiarity of fluctuations is that the shocks may be perceived by economic agents as either permanent or transitory, eliciting different optimal response; the difficulty to identify correctly the type of shock is a source of uncertainty and may have consequences on investment, savings and consumption decisions.

The approach in terms of “cases” is to discuss the idiosyncratic features of developing countries in general, and commodity exporters as representative of economic structures which generate and perpetuate high volatility and large shocks.

Poor families are more vulnerable to shocks, such as TOT shocks and TOT volatility, the potential channels being: a) higher share of food in consumption expenditure; b) higher probability of unemployment; c) fiscal effects and reduction in government social expenditures.

## **4. The importance of modeling poverty**

### **4.1. The role of theory in the design of policy**

Theory can help in the design of economic policy. Beyond direct application, theory contributes to build an image of the world (for example, assessing the magnitude of poverty and the social priority given to it).

We argue that, to a point, the theoretical attention to poverty in models of the open economy would not only be useful with policy purposes, but will contribute to learn more about the characteristics and the possibilities of policy.

At this point we might say something about modeling in economics, and what the simplification of reality means. A key point is that frequently the implications of theoretical models are used to talk about the real world where the

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<sup>8</sup> Aizenman & Pinto (2005).



assumptions are not satisfied. This is the case of unqualified assertions regarding the gains from trade: the theorem applies in a frictionless comparative statics world; however, they are not valid when rigidities and dynamics are present. Likewise, traditional trade models are unable -since there is not poverty- to address poverty issues, as needed to design effective pro-poor policies.

Frequently economic policies are defended with this fatal error. An interesting methodological coincidence is the interpretation and condition for relevance of modeling.

Even when in practice phenomena like external shocks, trade liberalization, devaluation episodes, sudden stops and reversals, may cause high costs for poor families, empirical studies have dealt frequently with allocation and employment, but not with poverty<sup>9</sup>.

Keynes (1936) in Chapter 24 (III) points out that his critique of the classical economy is not about logical flaws, but about the assumptions which are not satisfied, and in consequence cannot solve the economic problems of the real world. The Lucas (1980) interpretation is that a theory is a set of instructions for building a mechanical imitation economy.

A perspective given by Lucas is that “one of the functions of theoretical economics is to provide artificial economic systems that can serve as laboratories in which policies that would be prohibitively expensive to experiment with in actual economies can be tested out at much lower cost”. He adds that a good model will provide better imitation than a poor one; improvements in mathematical methods and in computational capacity enlarge the ability to construct analogue economies.

## **4.2. What direction should theory take? How to build good models**

### Structure of a theoretical model à la Lucas that can provide analytical support to pro-poor policies

Why is theory necessary? Because it provides a better understanding of the problem, including more precise stylized facts and knowledge of cause-effect channels. To the contrary, “The most influential model of international trade has produced a particular angle on inequality which is at best quite partial and at worst misleading”; for this reason a task is the reformulation of theory “to make it more helpful and pertinent” (Bliss, 2007, p.2). However, it is important to remind that also analysis with bad modeling may be misleading (Bliss, 2007).

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<sup>9</sup> Krueger (1983).

### The need for case studies

Theoretical and empirical research helps design a policy intervention that is effective from the knowledge of relevant mechanisms, but the complexity of the economic relationships makes it difficult to fully answer this question, and in consequence the design and carrying out of policies to diminish poverty.

It is not easy to derive general conclusions from theory, since “most of the links are very case-specific. Hence general answers of the sort “liberalization of type a will have poverty impacts of type b” are just not available-poverty impacts will depend crucially on specifics such as why people are poor to start with, whether the country is well-endowed with mineral wealth and what sort of infrastructure exists” (Winters, 2000).

This fact is also stated by Winters, McCulloch, & McKay (2004), who argue that “Given the variety of factors to take into account, it will hardly be surprising that there are no general comparative static results about whether trade liberalization will increase or reduce poverty. Simple statements about “the poor” will lose information, at best, and simple generalizations about all countries will just be wrong.”

The lack of satisfactory modeling of the trade-poverty relationship with formal theoretical bases, and of general empirical results, has driven research to the study of country cases and the comparative experiences of “similar” economies. But to understand the trade-poverty link given the variety of country experiences is not an easy task.

One of the main arguments of the paper is the need for the inclusion of poverty in trade models. However, this cannot be done in a general manner. There are certain country-specific characteristics that may influence the trade-poverty relationship which must be taken into account while modeling. One of such characteristics may be related to countries’ endowments, which will have an effect on the production structure of the countries. Besides, the production structure may be linked to a certain pattern of international trade. Such a case may be the natural resource abundant countries, which will be mentioned in the next paragraphs.

However, it is of utmost importance to find a certain balance between the most general models -built for every economy-, and case studies -that involve only one country. A group of countries sharing some particular characteristics may be dealt with recurring to one type of modeling. This can be the case of natural resource abundant countries, which might share the same pattern in the trade-poverty relationship, due to their exposure to external shocks.

Endowment and economic structure. Modeling natural factors abundance

Some land abundant agricultural commodity exporters like Argentina, suffer from the high volatility of the price of commodities, of their terms of trade, and of GDP and GDP growth. This type of economy with natural resources abundance as a long-term structural feature are specialized on exports of agricultural commodities, which causes the high volatility of TOT and restricts policy choices, such as the widening the pattern of diversification.

At the same time, it is of our interest to examine the presumption that this external volatility may damage poor families, due to the effects on the rate of growth and incomes volatility, the possible unemployment, and the fluctuations in the price of food which has a significant share of the consumption basket.

Like other commodity exporter countries, its terms of trade are highly volatile contributing to external vulnerability. To what extent are these characteristics a significant determinant of the welfare of the poor, and how does it compare with other types of economies?

Loser and Guerguil (1999) point out that two stylized facts of developing countries are government intervention, and the increased external vulnerability created by the narrow range of exports and the little ability to absorb external shocks. How does this vulnerability affects poor families?

The shocks to which a small open country is exposed is something upon which governments have no control whatsoever; it generally depends on specific country characteristics that cannot (or it's impossible in the short-run) be changed. However, the ability to cope with these shocks will determine how much of them is transmitted to the country and, in consequence, how people are affected.

In this sense, it is essential to distinguish the main risks posed by external trade to specific countries. The possibilities of improvement of different countries are restricted by their resources and other economic and institutional features, such as the degree of openness and the structure of trade.

If the presence of international cycles, the volatility of prices and terms of trade exogenous to a typical developing country, affect the poor, this external vulnerability poses a policy problem.

The endowment of a country influences the particular structure of trade and for natural resources abundant countries may pose some risks in terms of volatility (volatility of exports, due to several factors: volatility of prices, volatility of demand), which has an impact on its degree of vulnerability. On turn, this is influenced by how much the country trades with the rest of the world; "the degree of openness is meant to represent the extent of potential damage which may be inflicted on the economy through disturbances of its foreign-trade flows" (Michaely, 1984).

Specific policy problems and responses associated with the endowment must be recognized. This means that, in consequence, what can be learned from country studies is likely to be of application to the type of country that share the same structural properties and characteristics of the trade flows, such as Uruguay, Australia or New Zealand. Further lessons can be learned from Chile as a Latin American commodity exporter concentrated in copper.

The purpose in studying these countries comparatively is to improve the understanding of the role of trade, and the analytical restriction it poses in a development strategy, when poverty alleviation is a formally stated objective.

The need to build this knowledge appears nitid if poverty is, as must be, an explicit policy objective in a development strategy. There is much to work in the specific channels of influence, and the identification and measurement of those connections are until nowadays still a field of controversy.

As a first approximation, it can be expected that in a country with high external vulnerability and substantial transmission to poverty the latter will also have large fluctuations. Argentina has a very irregular growth path, with recurrent crises, some of domestic origin and other of external origin, without a consensus about the answer.

#### Volatility in an open economy

A critical point is going from general rules regarding dimensions such as market efficiency or state intervention, or the type of institutions, to practical policy recommendations for a particular country. Robert Baldwin writing about the approach to development points out that simple aggregative analysis that are supposed to apply to all developing countries has not proved very useful (Baldwin, 1980, p.. However, the identification of structural features that make countries of a certain type comparable, help devise more effective policies. One channel worth exploring is the volatility of TOT in agricultural commodity exporters. There is a presumption, and some evidence but far from an agreement, that the volatility of a developing economy rises with the degree of openness. Poor families –like in the case of liberalization- have reduced ability to escape the effects of negative shocks.

In this sense, di Giovanni and Levchenko (2009) find that sectors more open to international trade, are more volatile, due to the fact that they are more specialized. However, they also find that the sectors that are more open to trade are less correlated with the rest of the economy, an effect reducing overall volatility.

In consequence, it is necessary that international trade models do not rely solely on assumptions that the economy does not fulfill. The new assumptions

must take into account the particular type of economy, and volatility inherent to these countries must be considered.

#### **4.3. Properties of a good model of the trade-poverty relationships for a land-abundant country**

As regards our attention to volatility, the question is how poor households are affected by the rate and stability of growth; and if external volatility on turn affects income growth. A general conclusion would be that higher terms of trade volatility is associated with higher volatility and with lower average growth. A perspective of alternative results and channels of influence of external volatility and risk factors are in Lutz (1994), Bleaney and Greenaway (2001), Blattman, Hwang & Williamson (2007), Mendoza (1997), Koren and Tenreyro (2007), to name a few of a rich literature.

It is essential to draw from this literature, trying to identify how the open economy works, putting the view on the transmission of international fluctuations, and how fluctuations of income and other influences on the welfare of the poor adjust to external shocks (such as the adjustment to an external shock under fix or flexible exchange rate), to external variables volatility in particular volatility of prices of commodities and terms of trade, and in particular how the poor incomes and welfare are affected by these shocks and volatility.

“Fluctuations in income result in relatively high levels of transient poverty. However, a high degree of income risk can also be a cause of persistent or chronic poverty because of the irreversible impact that income downturns may have on the human capital owned by the poor.” “[...] crisis avoidance and adequate crisis response should be high priorities in social risk management.” (Lustig, 2000).

It is of interest to find out the possible relevance of idiosyncratic characteristics of these relationships in countries abundant in natural resources, in particular in agricultural commodity exporters like Argentina, Australia and New Zealand.

In an open economy, large changes in poverty may be associated with external conditions, and external expansions or crises. Or trade may provide the opportunity to grow as has happened with China. This is the case of the export-led growth in the Asian Tigers, and later in China.

### **5. Synthesis and policy implications. Is trade theory useful?**

The aim of this paper is to point out some missing aspects in the international trade literature that require further development. The reader may check his books of International Trade to find out that poverty is not accounted for in traditional trade models. In consequence, these models are unable to address

poverty issues; hence, a question emerges about what kinds of theoretical models are needed to design effective policy.

We find in the literature that research is being done, but incorporating poverty into models is not an easy task. As Winters (2000) puts it, “tracing the links between trade and poverty is going to be a detailed and frustrating task, for much of what one wishes to know is just unknown” (Winters, 2000, p. 43).

Why is it that social relevance of the potential impacts on poverty of external events, the knowledge of the different empirical processes and effects, and theoretical analysis, are not satisfactory? We take to the forefront the social costs of poverty and argue that there is a mutual influence of theory and economic policy.

The standard trade theory to the impacts on the poor’s welfare is that there is not such a variable in trade models. The appropriate support of economic theory helps policy to intervene efficiently in the alleviation of poverty. Theory is necessary, since the issue of poverty is complex, on the one hand, and on the other hand, it is difficult to get general results from empirical observation.

We ask how useful is trade theory or, how good are the traditional models in the capacity of trade theory models to guide economic policy. We note that, as long as their predictions do not consider changes in poverty, they cannot be relevant as for poverty is policy. Without a formal theoretical model the multiple mechanisms that affect poverty are a mosaic showing pieces loosely connected to explain effects of trade on poverty.

Another difficulty for efficient pro-poor policy is the paucity of empirical research in poor countries, both for diagnosis and design, as well as the control of the effects of policies, is the lack of a good statistical system that may provide a volume of accurate statistical data as discussed in Olivera (1976).

A particular perspective on this debate is whether, and in which way, trade theory has an influence in trade policy. There is a distinction between the positive theory of international trade and the normative theory, the latter being “concerned with making welfare judgements about policies and economic events” (Corden, 1984, p. 65).

Without good theory, attention is placed on country experiences such as natural resources abundant countries, in particular agricultural commodity exporters, typically developing Latin American economies. These economies which are volatile, subject to large shocks, and prone to crises. Promissory growth cycles sometimes have ended abruptly in external crises, which may be expected to have deleterious effects on income and employment. Examples of such episodes are the trade liberalization in the Southern Cone in the 1980’s and the 1990’s, the deceleration of trade and income growth in 2008-2009, and multiple episodes of reversals and sudden stops. Attention to shocks is needed because the effects hit harder the more fragile or “vulnerable” poor households, less

capable to escape from their condition or smooth shocks to external fluctuations. Better knowledge of the relevant links will help on the design of policy. Our purpose is to learn how this issue has been approached in the literature.

Our contribution is in the role of trade theory detection of poverty fluctuations and policy implications (volatility associated with the endowment). Trade modeling should be evaluated by the ability to capture the influence of external phenomena on poverty. The lesson from the discussion is that models of trade-poverty links are likely to be “structure specific”.

The methodological steps are required to modify the standard trade models; that is, the explicit formulation in trade models with of poverty and the characteristics of decision uncertainty associated with the volatility of the prices of commodities in a land abundant country. In relation to this, we analyze the need for an “early alert” system.

In conclusion, it must be noted the lack of theoretical models that incorporate poverty and its relation to international trade. The need for the inclusion of poverty is not just to be able to count with a model closer to the reality, but to be able to implement economic policies with the knowledge of how they might affect the poor. This goes hand in hand with the need for reliable statistical data, in order to be able to measure accurately the impact of policies on the poor.

Finally, it is important to emphasize once again the role of country specific characteristics. “The diversity of commodity-specific, and thereby country-specific, trade scenarios underscores a second crucial point for macroeconomic planning”; an approach must be taken “to identify how a country’s macroeconomic framework will evolve in step with changes to the global trade system” (Sachs et al., 2004, p. 181).

Fighting poverty translates into two main policy objectives, related to the determinants of welfare, the level and volatility of real income and consumption. A first one is to raise poor household’s incomes such as to allow them to emerge from the levels of poverty (ECLAC, 2012). The other one is to reduce the vulnerability of the poor to shocks, by means such as providing social services and smoothing real incomes and consumption fluctuations.

Emerging specific policy lessons are discussed with attention to the trade-offs. On the one hand there are gains from specialization oriented by the land abundance with the costs of the volatility of TOT. On the other hand, the gains from diversification and production of technologically more dynamic sectors, but at the cost of shifting resources towards activities that are less efficient, at least in the short-term, an issue that introduces the question of externalities and the role of government intervention. The choice of policy will have different effects on prices and in the labor market, i.e., on wages and employment of the poor.

## References

- Aizenman, J., & Pinto, B. (2005). *Managing economic volatility and crises*. Seventh Edition. New York: Cambridge University Press.
- Appleyard, D., Field, A., & Cobb, S. (2009). *International Economics*. New York: McGraw Hill.
- Baldwin, R. (1980). *Economic Development and Growth* (Second ed.). New York: Krieger Publishing Company.
- Barraud, A. (2009). *Links between international trade and poverty in developing countries*. Doctoral dissertation, Universiteit Antwerpen.
- Barraud, A., & Calfat, G. (2008). Poverty Effects from Trade Liberalisation in Argentina. *Journal of Development Studies*, 44(3), 365-383.
- Bhagwati, J., & Srinivasan, T. N. (2002). Trade and Poverty in the Poor Countries. *The American Economic Review*, 92(2), 180-183.
- Blattman, C., Hwang, J., & Williamson, J. G. (2007). Winners and losers in the commodity lottery: The impact of terms of trade growth and volatility in the Periphery 1870–1939. *Journal of Development Economics*, 82(1), 156-179.
- Bleaney, M., & Greenaway, D. (2001). The impact of terms of trade and real exchange rate volatility on investment and growth in sub-Saharan Africa. *Journal of Development Economics*, 65(2), 491-500.
- Bliss, C. (2007). *Trade, Growth and Inequality*. New York: Oxford University Press.
- Borkakoti, J. (1998). *International Trade. Causes and Consequences*. Palgrave Macmillan.
- Brakman, S., Garretsen, H., van Marrewijk, C., & van Witteloostuijn, A. (2006). *Nations and Firms in the Global Economy. An Introduction to International Economics and Business*. New York: Cambridge University Press.
- Burtless, G. (1995). International Trade and the Rise in Earnings Inequality. *Journal of Economic Literature*, 33(2), 800-816.
- Caballero, R. J. (2000). *Structural Volatility in Argentina: A Policy Report*. IADB Working Paper 422.
- Caves, R. E., Frankel, J. A. and Jones, R. W. (2007). *World Trade and Payments*. Tenth Edition. Pearson.
- Corden, W. M. (1984). The Normative Theory of International Trade. In R. W. Jones, & P. B. Kenen, *Handbook of International Economics* (Vol. 1). North-Holland Publishing Co.
- Dagum, C., & Bee de Dagum, E. M. (1971). *Introducción a la Econometría*. Buenos Aires: Siglo XXI.
- de Hoyos, R. E., & Medvedev, D. (2011). Poverty Effects of Higher Food Prices: A Global Perspective. *Review of Development Economics*, 15(3), 387-402.



- de Hoyos, R., & Lustig, N. (2009). Apertura comercial, desigualdad y pobreza. Reseña de los enfoques metodológicos, el estado del conocimiento y la asignatura pendiente. *El Trimestre Económico*, 76(2), 283-328.
- di Giovanni, J., & Levchenko, A. A. (2009). Trade Openness and Volatility. *The Review of Economics and Statistics*, 91(3), 558-585.
- Economic Commission for Latin America and the Caribbean. (2012). *Social Panorama of Latin America*.
- Feenstra, R. C. (2004). *Advanced International Trade: Theory and Evidence*. Princeton: Princeton University Press.
- Keynes, J. M. (1936). *The General Theory Of Employment Interest And Money*. London: Macmillan.
- Koren, M., & Tenreyro, S. (2007). Volatility and Development. *The Quarterly Journal of Economics*, 122(1), 243-287.
- Krueger, A. O. (1983). *Trade and Employment in Developing Countries, Volume 3: Synthesis and Conclusions*. National Bureau of Economic Research Inc.
- Loser, C., & Guerguil, M. (1999). Trade and Trade Reform in Latin America and the Caribbean in the 1990s. *Journal of Applied Economics*, 2(1), 61-96.
- Lucas, R. E. (1980). Methods and Problems in Business Cycle Theory. *Journal of Money, Credit, and Banking*, 12(4), 696-715.
- Lustig, N. (2000). Crises and the Poor: Socially Responsible Macroeconomics. *Journal of the Latin America and Caribbean Economic Association*, 1(1), 1-30.
- Lutz, M. (1994). The effects of volatility in the terms of trade on output growth: New evidence. *World Development*, 22(12), 1959-1975.
- Mendoza, E. G. (1997). Terms-of-trade uncertainty and economic growth. *Journal of Development Economics*, 54, 323-356.
- Michael, M. (1984). *Trade, income levels and dependence*. Amsterdam: Elsevier Science Publishers B.V.
- Moncarz, P., Barone, S., Calfat, G., & Descalzi, R. (2015). Poverty impacts of changes in the international prices of agricultural commodities: recent evidence for Argentina (an ex-ante analysis). *Mimeo*.
- Morduch, J. (1994). Poverty and Vulnerability. *American Economic Association*, 84(2), 221-227.
- Nordström, H. (1999). Trade, Income, Disparity and Poverty: An Overview. En D. Ben-David, H. Nordström, & L. A. Winters, *Trade, Income, Disparity and Poverty* (págs. 1-10). WTO.
- Olivera, J. H. (1976). Production de statistiques et choix de politiques économiques dans les pays en développement (Traduit de l'anglais). *Revue Internationale des Sciences Sociales*, 28(3), 532-541.
- Pritchett, L. (1996). Measuring outward orientation in LDCs: Can it be done? *Journal of Development Economics*, 49(2), 307-335.

- Ravallion, M., & Bidani, B. (1994). How Robust is a Poverty Profile? *The World Bank Economic Review*, 8(1), 75-102.
- Sachs, J. D., McArthur, J. W., Schmidt-Traub, G., Kruk, M., Bahadur, C., Faye, M., & McCord, G. (2004). Ending Africa's Poverty Trap. *Brookings Papers on Economic Activity*, 1, 117-240.
- Winters, L. A. (2000). Trade and Poverty: Is There a Connection? En D. Ben-David, H. Nordström, & L. A. Winters, *Trade, Income, Disparity and Poverty* (págs. 43-69). WTO.
- Winters, L. A. (2002). Trade Liberalisation and Poverty: what are the links? *The World Economy*, 25(9), 1339-1367.
- Winters, L. A. (2006). International Trade and Poverty: Cause or Cure? *Australian Economic Review*, 39(4), 347-358.
- Winters, L. A., & Martuscelli, A. (2014). Trade Liberalization and Poverty: what have we learned in a decade? *Annual Review of Resource Economics*, 6, 493-512.
- Winters, L. A., McCulloch, N., & McKay, A. (2004). Trade Liberalization and Poverty: The Evidence so Far. *Journal of Economic Literature*, 42, 72-115.
- World Bank. (2014). *Introduction to poverty analysis*. Washington, DC: World Bank Group.
- World Bank. (n.d.). *PovertyNet. Measuring Poverty*. Retrieved March 14, 2016, from <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/EXTPAME/0,,contentMDK:20238988~menuPK:435882~pagePK:148956~piPK:216618~theSitePK:384263~isCURL:Y~isCURL:Y,00.html>