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Trade Openness and Inequality

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This paper is intended to test the effect of trade openness on inequality of wage distribution in Tunisia. The study through econometric estimates showed that the impact of openness on inequality is remarkable in the period marked by an intensive integration into the global economy. However, investment in human capital can have a positive effect and leas to reduce wage disparities.

Opening to the world economy is able to achieve positive economic performance, except that one of the challenges for Tunisia is to find the best equilibrium between the benefits and costs of this policy. Globalization can be beneficial for the economy, but the debate is open about its impact on the social level, many are those who accuse it of increasing disparities and inequalities between workers.

Keywords: *Trade Openness, Inequality, Income distribution.*

Introduction

Several studies on the effects of globalization do not take into account the issue of income distribution within countries, which is problematic. Globalization may in many cases be a carrier of low income growth, but rising inequality; the second phenomenon compensate the first and the situation of disadvantaged may deteriorate, despite the gain brought to the country.

Therefore, special attention should be focused on the distribution of wealth from the opening to the global economy; in this regard studies on inequality can specify the impact of globalization. Several oppositions are found between those in favor of opening and those against.

Indeed, the argument stating that trade policies exert remarkable effects on the economies and equity of income distribution is now at the center of controversy. Many questions arise about sharing the benefits of the opening between the different members of a population. In this regard, opinions oppose between some economists who argue that free trade is the key to economic success and reducing inequalities and others arguing that if it does not take into account social objectives, the openness may itself be a factor of inequality and poverty.

In this context and performing a study to Tunisia, we will try to confirm an already advanced opinion by analyzing the social effects of globalization. Accordingly, assuming that the opening will translate into gains in the performance of the country, it is important to consider the effects of this performance on inequality of wage distribution.

Relationship globalization – inequality

Accusing globalization to be the bearer of inequality contradicts the idea that trade liberalization would allow a better allocation of resources and a factor of growth and poverty reduction, the opponents of globalization have enabled begin the debate on these fundamental issues.

However, economic theory can be more specific about the role of globalization in the evolution of income inequality within countries; the gains from trade are often acquired through the reorganization of production that involves changes in the remuneration of the factors of production. A country always wins from the exchange, but the problem is posed in the population that will be considered winners and losers.

Indeed, work is interesting to globalization inequality relationship is based on the theory of comparative advantage, but in his factorial version giving interesting predictions about the effects of trade on income distribution within a country, it is in fact the theory of 'Heckscher Ohlin Samuelson'.

According to this theory, the opening leads each country to specialize in goods that use intensively the factors of production which they are most abundantly endowed, knowing that the North has an abundance of skilled labor and is south as unskilled labor is most prevalent, the opening creates thus an increase in the relative earnings of the abundant factor.

On this basis, the trade promotes an increase in the remuneration of unskilled labor and lower wages for skilled South, while the opposite occurs in the North. Since unskilled labor is held by the most disadvantaged and the rich are often skilled workers, then they will see their situation improve in the North and deteriorate to the South, while the opposite will happen for the poor. Thus Trade will reduce inequality in the South.

It follows that a more active participation in world trade is expected to generate a number of positive effects for the poorest. It is indeed a way to improve resource allocation and also an opportunity for dissemination of knowledge and technology. Nevertheless, it is clear that this prediction may be contradictory in the South given the reality of the abundance of labor.

Therefore, in analyzing the standard trade theory, we distinguish two contradictory ideas. One focusing on reducing inequalities in developing countries due to the specialization of these countries in the intensive goods unskilled labor and another on the lower pay because of their enormous reserves of labor.

However, conflicting views are expressed on the issue of the decline in inequality in developing countries after the opening to the world economy. Thus, criticizing the standard theory of international trade, O'Rourke [1] argued that the predictions of the model relative to 'Heckscher Ohlin Samuelson' are not verified in practice seen rising inequality in Latin America following the liberalization of the 80s.

Moreover, Chen and Wang [2] said that Asia is also an area where internal inequalities have increased in some countries, including China, which has recorded an increase in inequality, despite its rapid growth and reduction in absolute poverty. Similarly, Milanovic [3], [4] finds an increase in internal inequalities, arguing that the Theil coefficient showed a fairly rapid increase in going from 19.4 to 22.4 between 1988 and 1993.

Advanced results contradict those of Dollar [5] who argues that openness to the global economy does not affect the internal inequalities for two groups of newly globalized countries. Dollar concludes that the openings is accompanied with an increase in incomes of the poor, but lower than those of the rich. This reduces poverty, but not inequality.

In this context, Dollar suggested the necessity to control the distribution of gains from trade, by correcting disparities in the distribution by redistributive policies. The degree of internal inequality may therefore reflect national policy choices and preferences.

However, Borjas and Romey [6] argue that globalization is guilty of rising inequality given the strong correlation of imports of durable goods in the evolution of inequality. The authors conducted a study over the period 1963-1988 for the United States relating to international trade, the relative supply of graduates, the unemployment rate and the rate of unionization.

Advanced results corroborate those of Giraud [7], [8], [9] asserts in his work that globalization can be an indispensable factor in catching up for the developing countries. Mainly for those who implement appropriate domestic policy to opening, which promotes growth and attract investments that are essential factors for the transfer of technology and knowledge. In return, criticizing the opening to the global economy, Giraud argued that it results in internal inequality because of the unfair distribution of benefits among different groups of people within the country, both in developed than in developing countries. Savvides [10] suggests that the increase in inequality due to trade liberalization applies only to developing countries and non-developed countries.

Several studies show the relevance of reasoning Giraud leaning on the process of creative destruction that can explain the dynamics of inequality. In this framework, based on recent increases in inequality that may be related to the acceleration of the liberalization process, Sachwald [11] accuses him of destroying jobs and increasing disparities within nations. This argument is confirmed later by Zhu and Trefler [12], Bojornstad and Skjerpen [13] and Basu [14] recommends that two new policies against inequality and poverty are: equity between workers and the adoption of a new international organization to coordinate equitable development.

Moreover, the implications of opening onto inequalities can be addressed indirectly through prices, as is the case in the work of Nicita [15], which passed through the effect of liberalization on prices and then the price effect on inequality. Otherwise, Aghion and Howitt [16] have explained the rise in inequality by basing on the diffusion of new technologies. They considered a model where there are several sectors, some of which are impacted by technological innovations, and since the advanced knowledge is incorporate in these innovations, destruction of employment will be due to the suppression of human intervention in the process of production. New technologies such as industrial automation and centralized managements production processes are reflected in more inequality by requiring reallocation of workers between sectors and even involuntary unemployment.

Thus, to clarify the effects of globalization on inequality, many economists favor the theory of technical progress as an explanatory cause of rising internal inequality. In this context we mention Barro [17], Dunne and Schmitz [18], Lloyd [19] ... Indeed; some debates are triggered when measuring the effects of openness on wage dispersion. For certain the impact of international trade on income distribution should not pass only by the importance of exports in gross domestic product to deduce that inequality come from a biased technical progress favors those who are more competent.

However, other economists argue that technical progress is directly related to various determinants of openness, it seems impossible to separate the effects of technical progress to those due to exchange. In fact, openness tends to reduce barriers to trade; the decline contributes to better dissemination of technical progress. Therefore we can argue that the exchange is itself a form of progress as it converts an exported product that the country is capable of producing effectively to an imported product which the country is unable to produce competitively.

It follows that the debate that seeks to identify whether it is technical progress or globalization which is the main source of inequality is a debate that has no interest, given the close link between the two phenomena. Indeed, openness and technical progress are actually two expressions of the same phenomenon that is increasing competition.

It seems impossible to separate the effects of technical progress to those due to trade. In this context, a debate was introduced between Giraud [20] and Cohen [21], which considers that technical progress is a major cause of rising inequality independently to globalization, however Giraud. N blames the increase in inequality in the process of opening up to the world economy as a whole.

Rising inequality was not provided by the theory of international trade that neglected the firms respond to the opening. In the sense that opening to the outside domestic enterprises are imposed several constraints, despite the opportunities acquired, as a commitment to open borders is accepting foreign competition, which could disrupt firms accustomed to a national competition framework. These firms are thus faced with the need to adapt to new conditions; the opening is responsible for a vast movement of corporate restructuring.

Accordingly, based on international industry developments, it is convenient for exporters who have chosen to adopt a strategy of export-oriented growth to be able to follow the evolution of the global industry. It is important to perform their duties with new conditions to remain competitive; these exporters must compete in an environment where technology has become a base of competitiveness. It is important to perform their duties with new conditions to remain competitive; these exporters must compete in an environment where technology has become a base of competitiveness.

However, technological innovations are causing a rise in average qualification because the most skilled workers will have greater adaptability to new technologies than others who have a decline in their average earnings. Thus in a sector high levels jobs are occupied by highly skilled workers and other low and middle levels occupied by technicians and workers. The hierarchization performed on the basis of the nature of the sector and activity leads to a classification of workers based on their qualifications, this hierarchy by qualification became more remarkable with the process of globalization.

Indeed, the debate on globalization and employment has evolved with the idea that openness affects the labor market through the reaction of firms in all sectors; these enterprises have in fact adopted strategies for innovation and differentiation of their offer to face increasing competition in most markets.

The idea of the competition following the opening up of economies has led to a defensive innovation phenomenon, a concept that corresponds to the innovations considered by firms in response to international competition or in anticipation of it. Defensive innovation would be biased against low-skilled workers because enterprises orient their specialization towards skilled labor intensive activities. It follows that globalization interacts closely with the competition to affect the labor market.

Thus, in this market a clear trend towards increasing inequality is observed in recent years, these inequalities have evolved rapidly in terms of employment and wages, this increase is due to the existence of a skill premium justified by technological developments this increase is due to the existence of a skill premium justified by the technological evolution that has guided labor demand towards skilled workers who are able to master new technology, thus increasing their productivity. Disequilibrium exists therefore, for about two decades, between the demand for skilled labor and the offer which also increases, but not enough yet, with a higher average level of training.

It follows that a positive balance in jobs can hide other realities harmful to the economy because the jobs created and those that are destroyed are different in nature. Sectors, importers, mainly use of unskilled labor while the expanding sectors, exporters demand for skilled workers insofar exported products must be at the level of foreign products and as multinational companies have a significant extent, their presence in the industrial structure explain the dispersion of wage distribution as the skill level of workers in exporting firms is generally higher than that of smaller firms that do not export.

It therefore seems appropriate for the authorities to focus on the fundamental key element of inequalities in the labor market namely the qualification. The high sensitivity of inequality and unemployment to qualification is clearly recognized, an effort of public policy should especially focus on training to evolve disadvantaged workers so that they best meet the demand of companies.

Impact of openness on inequality

To clarify the effect of openness to the global economy on unequal income distribution we conduct an econometric study for a period from 1984 to 2011. For more specification we split the total period into two sub-periods 1984-1995 and 1996-2011. Note that in 1995, Tunisia has opted for accession to the World Trade Organization in order to strengthen the competitiveness of the national economy and promote exports.

Estimation methodology

To conduct the study, we propose to use the following variables: OP: Share of exports in GDP, Ig: Gini index of inequality of wage distribution between several economics activity, FR: Fertility rate, HK: Enrollment in higher level, IGDP: Investment as percentage of GDP. We propose to estimate the following model:

$$Ig = C + \alpha\ OP + \beta\ HK + \delta\ FR + \sigma\ IGDP$$

To do this, we calculate the index of wage inequality between different economic activities involving agriculture, industry and services. We rely on data to the National Social Security Fund and the World Bank. The calculation of inequality was based on Gini index defined as follows:

$$\mathbf{G\ (x)} = 1 + \frac{1}{n} - \frac{2}{n^2 \overline{X}} [X_1 + 2X_2 + \ldots + n\ X_n] \text{ avec } X_1 > X_2 > \ldots > X_n$$

Before the estimation, we check the stationery of the variables through unit root tests which will be presented in the following table indicates variables are stationary at the 1% level.

Table 1: Unit Root Tests

Series	Statistic	Proba*
IG	-5.18	00000
OP	-5.09	00000
HK	-3.94	0.0004
FR	-9.00	00000
IGDP	-3.17	0.0032

*probabilities are computed assuming asymptotic normality.

Econometric results

The estimation results of the model for the three periods 1984-2011, 1984-1995 and 1996-2011 are summarized in the following table:

Table 2: Dependent variable: GINI

Variables	**(1)**	**(2)**	**(3)**
C	0.47 (14.12)	0.57 (6.73)	0.25 (4.84)
OP	0.77 (2.29)	0.03 (0.37)	0.59 (3.27)
HK	-0.28 (-5.15)	-0.46 (-2.55)	-0.22 (-3.02)
FR	0.10 (2.24)	0.17 (6.75)	0.25 (6.45)
IGDP	-0.16 (-2.27)	-0.64 (-5.72)	-0.47 (-2.91)
R^2	0.91	0.96	0.91

The first econometric estimates for the period 1984-2011 indicate that the openness to the global economy will increase inequality of wage distribution. The objective of promoting exports through the creation and accumulation of new technological capabilities that become a necessity for the economy and affecting the distribution of income. This use of technology affects the ability of the industry to modernize and to be competitive in markets increasingly open to foreign competition. However, technological innovations are causing a rise in the average qualification. That the most skilled workers have more adaptability to new technology than others who will experience a deterioration of their average earnings.

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Another variable positively affects the Gini index is that relating to fertility this is explained by the fact that the rate is higher among the poor classes. In addition, two other variables related to human capital and domestic investment can have a positive effect on the degradation of wage disparities according to economic activities. Indeed, investment in human capital can improve the level of knowledge that allows individuals to increase their productivity and income.

The division of the total period showed that after 1995 and with the acceleration of the process of trade liberalization, the opening showed its positive and significant effect on the increase in inequality distribution of wage. This effect is negligible and not significant in the first period.

Conclusions

We conducted a study reflecting the impact of openness to the world economy on the inequality of wage distribution by focusing on the Tunisian economy. The econometric study showed that openness to trade affects inequality. The econometric study showed that openness to trade affects inequality, which is proven by the cutting of the total period into two periods. In this context, the positive effect of promoting exports is remarkable and most significant in the second sub-period characterized by an acceleration of the integration in the global economy that was in favor of skilled workers relative to other.

Thus, relatively abandoned when the economy becomes more open, the employment of unskilled workers decreases in the most sector exposed to international competition. Reflecting thus rising inequality between skilled and unskilled workers caused exclusively by technical progress biased in favor of skilled workers.

The high sensitivity of inequality to the qualification is well recognized. In this regard, a particular effort must be focused on vocational training policies. The aim is to better train unskilled workers so that they can better meet the demands of new technologies.

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