

# Role of Openness and Taxes on Employment Performance in Iran and Selected Developing Countries

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## Abstract

One of the key issues in economics is the appropriate mobilization of skills and talents of human resources in a society. Employment plays a crucial role in the dynamism of a person's life, and it can be viewed as the focal point of human and social relations. Policy makers and economic analysts in financial are trying to find solutions for increasing and improving employment. In this regard, the aim of this study is to investigate the role of openness and taxes on employment performance in Iran and selected developing countries. Hence, the model is evaluated using panel data for selected developing countries over the period 2005-2012. The results show that the tax has a significant negative effect on employment, so that a 1% increase in the amount of employment is reduced by 0.04 percent. Also openness and manufacturing value added have positive impact and exchange rates has a negative impact on employment.

**Keywords:** Openness, Taxes, Employment, Panel Data.

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## Introduction

One of the most important issues in the economic debate in developing countries is concern of entering the global economy and the effect of the degree of openness of the economy on employment and labor wages in the countries (Dehgani et al, 2013: 351). These concerns was considerable the two dimensions. First, the degree of economic openness affects the distribution of labor wages and distribution of wages between skilled and unskilled labor. Second, trade liberalization can affect the rate of employment through the creation of new job opportunities (Chaudhuri, 2007: 593). On the other hand, the experimental dimension in the last two decades has been done several studies on the effect of economic openness on employment. Studies conducted in manufacturing industries of developing countries show that the increased openness of the economy in these countries increases the demand for labor and real wages of labor (Edwards, 1988: 88-92). The effect of the degree of openness of the economy on employment and real wages of the workforce are different in various countries (Chamarbagwala, 2006: 1999). Depending on the degree of mobility of production factors, competitiveness, employment and the labor wages market and the speed of adjustment towards equilibrium, the degree of openness of the economy can have positive or negative effects on employment and real wages (Achy and Sekkat, 2004: 3-8).

In recent years, many developing countries have utilized of the policies of trade liberalization, in order to increase their economic efficiency. This would indicate that the employment situation in these countries is an important issue that the government should have effective and consistent guidance on it; because the process of development has a direct relationship human resources, and undesirable utilization of human resources will cause inefficient use of resources and stop economic development (Raposo and Machado, 2002). By the same token, one of the factors that influence the demand for labor and employment is expanding exports and economic growth through free trade. In the current state of the global economy trade liberalization is important and crucial tool in accelerating the economic and commercial exchanges and on the one hand, is an underlying factor international competitiveness and on the other hand, the nation's participation in economic activities (Jafari et al, 2013: 2).

Therefore, the aim of this study was to investigate the effect of taxes and openness on employment in 9 selected developing countries by panel data in the period 2005 to 2012.

## Theoretical foundations and literature review

The labor market, due to the relationship with other financial markets, it is, as an important market in the economy. The issue of the labor market in developing countries in different economic and social reasons implies the absence of balance. Imbalance in the labor market means that, at the current wages, the labor supply is greater than the amount of demand and the gap gradually increased, the result of which, is the crisis of unemployment and the lack of suitable employment for labor especially the youth and university graduates (Laird and Cordoba, 2006). In economic literature, the effects of openness on employment always has been of interest to economists. Baldwin (1995) examined the effect of trade liberalization on employment in OECD countries and concluded that the increase in imports have a negative impact on employment levels in

low-tech industries such as garment, leather, food, tobacco and beverages and shoes. Hoekman and Winters (2005) have investigated the theoretical relationship between trade liberalization and employment and suggest that trade liberalization has different effects on the level of employment intermediate and service industries. The theoretical analysis of the relationship between trade liberalization and employment mainly used strategies of factors trade, growth accounting and econometric techniques. According to this method, if a country's exports, require more skilled labor force, compared with unskilled labor, in this case, increasing the country's exports, lead to reduced demand for unskilled labor. Wood (1994) by using this method, argues that import competition among countries with their relative abundance of unskilled labor has an adverse effect on the demand for unskilled and low-skilled labor. Messerlin (1995) in explaining the theoretical relationship between trade liberalization and employment says that may be established a direct correlation between employment and trade liberalization. Sakurai (2004) discussed relationship between openness and employment argues that the increase in volume of trade, leads to a decrease in the level of employment and it is not a significant inverse correlation in the Japanese manufacturing industry. Sen (2002) and Jenkins (2004) suggest that international trade has positive effects on growth and employment levels Bangladesh, whereas, has a negative effect on growth rate of employment in Kenya. Heo and Park (2008) expressed that increase in imports has a positive impact on job placement rates in the country, however, the changes in exports has a negative impact on replacement rate and employment in Korea. In other words, by increasing exports, creating employment opportunities increased. Milner and Wright (1998) using the Cobb-Douglas production function show that employment in export industries in the long-term reaction has been positive with respect to trade, however, in the import industry it is expected that employment levels decrease. Fu and Balasubramanyam (2005) in the study of relationship trade liberalization and employment, conclude that the increase in exports has a positive effect on employment levels in China. In studying the process of labor market adjustment to trade liberalization, Edwards (1988) explains that in the short term and with changes in the relative prices of tradable and non-tradable goods with increased imports, leads to an increase in the level of wages in comparison with the price of imported goods. However, labor wages in the export and non-tradable sectors is reduced, compared to the prices of this section (Haouas et al, 2003: 18). Revenga (1997) in the article, studies to investigate the effects of trade liberalization on wages and employment in the manufacturing industries in Mexico. He analyzes that the trade liberalization is effective the change in labor demand and output wages and employment in the industrial sector. Revenga concludes that about 3 to 4 percent decrease in the average real wage has happened due to trade liberalization. Lang (1998) in a study entitled effects of trade liberalization on wages and employment in New Zealand, compared with the wages of the labor force in two stages, before and after globalization in the 1980s in New Zealand. Galiani and Sanguinetti (2003) in a study using computable general equilibrium models have the effect of trade liberalization on wage inequality in Argentina during Salhay1998-1990 manufacturing industries. They are in this study concluded that trade liberalization will lead to small changes in wage inequality in these industries (Kien and Hoe, 2009:87). Ernst (2005) has investigated relation between Trade liberalization, export orientation and employment in Argentina, Brazil and Mexico in 1995-2000. The results showed that economic opening in Argentina, Brazil and Mexico did not lead to export dynamism and had a disappointing impact on employment, even though trade liberalization and regional integration caused a strong increase in trade and led to a better integration into the world

economy. Only Mexico experienced an export surge in manufacturing production and employment during the second half of the 1990s, mainly due to the booming maquiladora sector. Seward (2008) investigated the effect of taxes on employment and economic growth in industrialized countries for the period 1995-1965. Results indicate that 10 percent increase in the unemployment tax rate as the 3/5 percent increase to 1/2 percent decrease. Goldar (2009) studied the effect of trade on employment in the production sector in India via the OLS model. Mitra (2009) has studied the effect of free trade on employment in the services sector in India in the period 1999-2005 using the ARDL model. The results show that free trade has a positive effect on the employment of skilled labor. Gibson (2010) investigated the effect of trade on employment using the CGE and SAMS. The results suggest that the effects of trade on employment is positive and significant. Chinembiri (2010) studied effects of trade liberalization on employment in South Africa in the period 1970-2008. The results showed that trade liberalization has no effect on employment. Potrafke (2010) has examined the relationship between labor market deregulation and globalization in the period 1990-2001. Results indicate that protection of labor contracts do not have a significant effect on globalization. Campos and Rodriguez (2011) examined the effects of trade liberalization on employment in Mexico after joining NAFTA. The results show that after NAFTA for unskilled workers has increased the demand for skilled workers has not changed yet. It is only if the supply of skilled workers has increased in the past 20 years. Lapadre (2011) studied the relationship between trade and employment and wages in Italy. The results showed that the major policies implemented in Italy, help employment and wages to adjust and adapt to external shocks. Von Uexkull (2012) tries to analyze regional trade and employment in ECOWAS. It finds that both regional and global exporters have higher labour productivity and pay higher wages compared to domestic firms, but are not significantly different from one another in these categories. Sousa et al (2012) studied the relation between EU export and employment in period 2000-2007. In addition study finds that that the exports of goods and services to the rest of the world supported around 25 million jobs in Europe in 2007 (an increase of 3 million since 2000).

## **Materials and Methods**

Econometric model used in this study is based on panel data. The panel data model, the data are cross-sectional and time series, ie the data over time is measured between the sections. According to the principles of the econometric model is estimated using ordinary least squares (OLS) and  $\beta$  coefficients are obtained.

### *Panel Data*

Panel data is data from a (usually small) number of observations over time on a (usually large) number of cross-sectional units like individuals, households, firms, or governments. In other words panel data analysis is a method of studying a particular subject within multiple sites, periodically observed over a defined time frame. With repeated observations of enough cross-sections, panel analysis permits the researcher to study the dynamics of change with short time series. The combination of time series with cross sections can enhance the quality and quantity of data in ways that would be impossible using only one of these two dimensions (Gujarati, 2003). Panel data methods has some more advantages. Since panel data relate to individuals, firms, states, countries,

etc over time, there is bound to be heterogeneity in these units. The techniques of panel data estimation can take such heterogeneity explicitly into account by allowing for individual-specific variables. By studying the repeated cross section of observations, panel data are better suited to study the dynamics of change. Panel data can better detect and measure effects that simply cannot be observed in pure cross-section or pure time series data. By making data available for several thousand units, panel data can minimize the bias that might result if we aggregate individuals or firms into broad aggregates. Panel data analysis endows regression analysis with both a spatial and temporal dimension. The spatial dimension pertains to a set of cross-sectional units of observation. These could be countries, states, counties, firms, commodities, groups of people, or even individuals. The temporal dimension pertains to periodic observations of a set of variables characterizing these cross-sectional units over a particular time span. There are several types of panel data analytic models. There are constant coefficients models, fixed effects models, and random effects models etc. The Constant Coefficients Model has constant coefficients, referring to both intercepts and slopes. In the event that there is neither significant country nor significant temporal effects, we could pool all of the data and run an ordinary least squares regression model. This model is also called the pooled regression model. The Fixed Effects Model would have constant slopes but intercepts that differ according to the cross-sectional (group) unit—for example, the country. Although there are no significant temporal effects, there are significant differences among countries in this type of model. While the intercept is cross-section (group) specific and in this case differs from country to country, it may or may not differ over time. The Random Effects Model assumes a regression with a random constant term (Greene, 2003). One way to handle the ignorance or error is to assume that the intercept is a random outcome variable. The random outcome is a function of a mean value plus a random error. But this cross-sectional specific error term which indicates the deviation from the constant of the cross-sectional unit must be uncorrelated with the errors of the variables.

### *Introduction of the model and variables*

The study population consisted of nine developing countries as Colombia, Morocco, Malaysia, Iran, Philippines, Romania, Russia, Ukraine, and Uruguay respectively. Period used is 2005-2012. Countries of the time series data collected from WDI2015. The model presented in this paper, inspired by this article of Laura and Fajardo (2012) is as follows:

$$LEMP_i = \beta_0 + \beta_1 L(TAX_i) + \beta_2 L(OPENN_i) + \beta_3 L(MVA_i) + \beta_4 L(R_i) \quad (1)$$

LEMP<sub>i</sub>: Logarithm of employment (% of active population to total population) of country i

LTAX<sub>i</sub>: Logarithm of the tax revenue (% of GDP) for country i

LOPENN<sub>i</sub>: Logarithm of openness (the ratio of the sum of exports and imports to GDP) as a percentage of GDP for country i

LMVA<sub>i</sub>: Logarithm of manufacturing value added in dollars for country i

LR<sub>i</sub>: Logarithm of the real effective exchange rate of country i (base year 2005 = 100)

## Results and Discussion

### *Results of F-test and Hausman Lymr*

Table 1 shows that the probability of F test statistic using the fixed effects method would be more appropriate. The Hausman test statistic indicates the suitability of the method for estimating the fixed effects model.

Table 1: Results of F- Lymr and Houseman test of the estimated model

Test	F- Lymr Test	Houseman Test
Statistics	85/0359	19/9000
Prob.	0/0000	0/0005

### The Estimation Results

Accordingly, the results of model estimation is introduced to determine the impact openness and taxes on employment using a fixed effects panel data are presented in Table2.

Table 2: Results of estimating the effects of Openness and Taxes on Employment

Variables	Coefficient	T Statistics	borP
LTAX	-0/0440	-2/8195	0/0069
LOPENN	0/0237	2/2488	0/0290
MVA	0/0192	2/3772	0/0213
LR	-0/0533	-0/6349	0/5271
$R^2 = 0/9901$		$\bar{R}^2 = 0/9864$	D-W = 1/57

The results of the fixed effects method, show that the coefficients of all variables are significant in terms of theoretical and statistical models, and the only variable that was not statistically significant is the real effective exchange rate. Openness and the manufacture value added have a positive effect and tax and exchange rate have negative effect on employment during the period under review selected developing countries. As you can see, a 1 percent increasing in the tax, the employment rate 0/044 percent decreased. Rising the taxes can cause reducing in efficient production and utilization of labor and capital productivity and finally the level of employment in the community. Also, tax progressivity could reduce firms' income and reduce the number of manufacturing firms, job cuts and the rise in the unemployment rate. Employment elasticity relative to the degree of openness is 0/023. This suggests that an increase of 1 percent in the degree of openness of the economy, employment increased by about 0/023 percent. Growth of trade index can enhance the more competition in the sectors of production, which makes positive impact on employment and labor productivity. The estimated elasticity of employment relative to the manufactured value added is 0/019. This means that the 1 percent increasing (decreasing) in manufactured value added, employment increased (decreased) by as 0/019 percent. Increasing the production of the various economic sectors can improve the higher productivity and efficiency of the manufacturing sector. This issue can make the higher income and leads to higher value

added in the manufacturing sector and improvement in the employment situation. Estimated coefficient of the exchange rate is  $-0/053$ . This shows that there is a negative correlation between the exchange rate and employment in the countries surveyed. This is due to Marshall Lerner condition is not true in developing countries. Marshall Lerner condition states that the when value of domestic currency is decreased, in other words, the exchange rate is increased, and this will improve the balance of payments. Marshall Lerner condition, based on the condition of market volatility explains that, if, overall, the absolute value of demand elasticity of imports and exports relative to the exchange rate is greater than one, exchange market is stable and currency depreciation will improve the trade balance. In this case, the value of exports increased and imports decreased. But as you can see, in this model there is an inverse relationship between the exchange rate and employment in the countries studied. It should also be noted that the exchange rate variable is not statistically significant.  $R^2$  estimated by the model is equal to  $0/99$ . This issue shows that the explanatory power of the variables.

## Conclusion

The concept of trade liberalization is a trade policy that happens, firstly, the removal of quantitative restrictions and at a later stage equalization actual rate of support for all economic sectors. As a result, long-term effects of these steps is to obtain economic efficiency which provides production and higher consumption. Trade liberalization policies, has two main goals, so that the first goal is to help increase economic growth and employment through improving the economic efficiency of resource allocation. The second major goal is to help improve the balance of payments by strengthening the competitiveness of the export sector of the economy and the development of more efficient export and import substitution goods sector. The importance of each of these goals in various countries are different with the economic situation and specific characteristics. For this purpose, current study was investigated the effects of openness and taxes on employment for nine developing countries by using panel data for the period 2005-2012. Results showed that taxes has a significant negative effect on employment. However, the openness has a positive impact on employment in the surveyed countries. The results indicate that the manufactured value added significant positive effect on the employment. It should be noted that exchange rates has a negative effect on employment, so that the increasing in the exchange rate, employment rate declined.

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