FOREIGN DIRECT INVESTMENT AND SOCIOECONOMIC CONDITIONS
The Case of Turkey

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ABSTRACT

Economic development is not enough to improve social development. Social indicators, such as poverty, unemployment, income distribution, health and education are the key elements which show the quality of the life in society. An analysis of country development that does not include social parameters is insufficient and unrealistic. Foreign direct investment (FDI) and its impact on the economy is one of the most studied issues during the past few decades but there is still an untouched area in the literature concerning the relationship between socioeconomic conditions and FDI. With this paper, we investigate the social parameters as well as economic parameters for testing the relationship between FDI and socioeconomic conditions, using Turkish data. The results show that there is a cointegrating vector between FDI and socioeconomic conditions. This indicates that there is long run equilibrium relation between the two variables. The error correction model indicates that in the short-run there is causality between socioeconomic condition and FDI. Socioeconomic conditions have a positive and significant effect on FDI.

Keywords: Foreign Direct Investment, Socioeconomic Conditions, Development.

JEL Classification: F21, O17, O1

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1. Introduction

The aim of all countries is to have higher growth rates, and to realize this aim higher investment rates (higher savings) have to be achieved (Levine and Renelt, 1992). Also, in the long run, economic growth has been shown to reduce poverty (Dollar and Kraay, 2004). If domestic savings decline in developing countries foreign investment is required in order to promote economic development. Thereby, competition exists between countries to attract foreign investment to their countries. However, not every form of foreign investment is welcome in developing countries. The duration and nature of foreign investment is important for the host country. As short term portfolio investments quickly shift from host countries seeking a higher return, short term foreign savings will cause fluctuations in the economy. This is not a desirable situation because macroeconomic stability, and long term investments, are important for sustainable development. Because of these reasons there is global competition between the countries to attract FDI. To be the winner in this competition, countries have to satisfy certain conditions, both economic and social.

There are two requirements for developing countries wishing to join the category of developed countries; first to achieve economic growth and secondly to enhance social development. Economic growth is important and necessary but not a sufficient condition for social development. For social development, there is also improvement of social indicators such as poverty, unemployment, income distribution, health and education. To enhance economic growth, however, national savings are not enough in developing countries, so, these countries need foreign savings in the form of Foreign Direct Investment. FDI not only (usually) brings a transfer of funds to the host country but also transfers technology, improves the education level by creating demand for a skilled labor force, and decreases poverty by creating employment opportunities. In addition, it also promotes cultural transfers, both inside and outside the workplace. Thus, by contributing to positive changes in the social environments of host countries, the importance of FDI is increasing. Also, there is a relation between social conditions and FDI because social conditions are also important influences upon investors’ decisions when choosing the country to invest in.

In this study, we explore the bilateral relationship between socioeconomic conditions and FDI for Turkey. We used The PRS Group socioeconomic data and Central Bank of Turkey FDI data. Our results indicate that in the short-run causality has been observed between FDI and improvements in socioeconomic conditions. Also there is a long run equilibrium relation between two variables. Based on these results we can say that there is mutual interaction between socioeconomic condition and FDI and, because of these reasons, Turkey has to improve socioeconomic conditions to attract FDI, and also FDI will promote sustainable economic development domestically.
Review of the literature about the relationship between FDI and socioeconomic condition will be presented in the first part of this article. In the second part FDI and socioeconomic conditions in Turkey will be investigated. In the third part the relationship between the two variables will be tested, using an econometric model.

2. Theoretical Review

Indicators like poverty, unemployment, income distribution, health and education show the level of socioeconomic development of a country. Unemployment is both a social and economic phenomenon. The solution for the problem of unemployment can be found only with a structural change to the economy. In order to decrease the unemployment level, there must be more savings, more investment and more business activity. FDI can be a major contributor in creating this new environment. Together with foreign capital, and managers and technicians of the investing company moving to the host economy, labor opportunities are generated locally. Underdeveloped countries typically have large reserves of labor. Foreign capital investment can create jobs, as for example 82,000 new jobs attributable to FDI in the Irish Republic between 1960 and 1982 (Connely, 1983; Akdiş, 1988). However, while some studies indicate that FDI can stimulate economic growth and create employment (Blömström et al, 1992; Campos and Kinoshit, 2002; Basu et al, 2003; Alfaro, 2004; Fedderke and Romm, 2006; Ghosh Roy and Van der Berg, 2006; Sharma and Abekah, 2008), others point out that FDI can offset economic growth and decrease domestic employment (Borensztein et al, 1998; De Mello, 1999; Aizenman et al, 2004; Lensink and Morrisey, 2006).

The relation between unemployment, wage level, education, wealth, and FDI has great relevance to the analysis of changes in the socioeconomic conditions of a country. Çenesiz and Pierdzioch (2010) confirm that capital mobility on the volatility of employment and the real wage can be moderated by dampening the medium run effects of productivity shocks and monetary shocks on employment and real wages. There is also an opposite approach which suggests that FDI adversely affects employment and labor income (Brady and Wallace, 2000). Bailey and Driffield (2006) distinguished between skilled and unskilled labor. They found that skilled workers benefit from the advantages of FDI and trade, but unskilled workers are worse off. Chen and Ku (2000) found that FDI is beneficial to domestic industries and trade, but not correlated with job creation in home economies. Studies on FDI in the agriculture sector and unemployment shows better results and points out that FDI in agriculture does not only improve national welfare unequivocally but also mitigates the unemployment problems of both types of labour (Chaudhuri, and Banerjee, 2010; Hung, 2006; Msuya, 2007 Beladi, and Marjit; 1992).

The disappearance of borders for capital and the rapid rise in FDI has caused changes in the rate of unemployment and conditions in the labour market. “Since the beginning of the 1980s, a consistent acceleration in the demand for skilled workers
is observed” (Katz and Murphy, 1992). This demand obliged developing countries to increase the general level of education and with it the availability of skilled workers. Besides government activities multinational companies also typically invest in personnel training in host countries more than local firms (Arnold and Javorcick, 2004, Young et al. 1996). There are many studies which argue that foreign firms pay higher wages than host country firms (Lipsey and Sjöholm 2004; Fosfuri, Motta, and Ronde 2001; Haskel, and Slaughter 2003; Bernard and Sjöholm 2003). “That is generally true in both developed and developing host countries” (Sjöholm and Lipsey, 2006).

The possibility of getting higher wages causes increase demand for higher levels of education. Higher wages also accelerate increases in welfare. The main finding of Yabuuchi (1999) shows that an increase in foreign capital investment creates a reduction in social welfare in fact if foreign capital is specific to foreign firms, and it may increase social welfare if foreign capital is also used in the domestic manufacturing sector and it reduces unemployment. A World Investment report from 2006 points out that: “FDI affects the economic welfare, growth and development of host countries by building production facilities and hiring workers, many of whom will require training. Also, Transnational Corporations establish backward (with suppliers) and forward linkages (with distributors and sales organizations), which can stimulate production in supplier and distributor firms and organizations in the host country, and constitute a channel for the transfer of technology. The affiliates might have a variety of indirect, spillover effects on local firms, for example through the impact of competition that might spur local firms to improve their performance; or, conversely, they might induce failures because of affiliates’ greater efficiency. Finally, potential increases in employment and income due to the entry of FDI projects might result in multiplier effects on the entire host economy while, at the same time, potential crowding-out of that economy’s domestic enterprises by FDI might have the opposite impact” (UNCTAD, 2006: 183).

The increase in employment and workforce training through the host country can affect directly poverty-reduction (Nguyen, 2003). Poor and unskilled workers may enjoy high-earning opportunities if they can become more qualified. Education is achieved through human activity (vocational skills and the validity of the profession in the market); in ordinary circumstances it can also provide for rising standards of living to persist. On the other hand some of the poor people who do not have a regular income through these investments begin to earn an income by having a job, and so FDI (especially labor-intensive), can cause a reduction in poverty. For this reason, poverty reduction through increased employment may be the most important effect caused by FDI (Sarsoy and Koç, 2010). Sarsoy and Koç (2010) made an analysis using slices of the income distribution of 10% for the poorest group of 43 least developed and developing countries, and the results show that FDI has a positive effect on the reduction of poverty for all the countries in the analysis.
Depending on these results, it may be worthwhile therefore to examine the impact of FDI on social and economic conditions such as poverty, unemployment and education, using as an example a developing country such as Turkey.

3. Does FDI Promote Socioeconomic Development in Turkey?

Yearly analyses have shown that national savings in Turkey are insufficient for faster economic development. “Although Turkey’s savings rate, at 18 per cent of GDP, is comparable, for instance, to the average of new EU members, it is well below the savings rates of other fast-growing emerging economies, such as Korea and Chile, where savings rates hover around 30 per cent” (World Bank, 2008). For sustainable development the internal dynamics of attracting FDI has great importance, therefore. Although Turkey has potential for attracting FDI the national share of global foreign inflows is below the average for developing countries (UNCTAD, 2010). Despite significant improvement in 2005-06, net FDI to Turkey remains low relative to comparable economies, including most of the new EU members (World Bank, 2008). Turkey is in 32th place for attracting FDI in worldwide in 2009. Total foreign investment inflow was 7.6 billion dollars. These numbers show that Turkey is underachieving as a destination for FDI and has to improve conditions to attract significant foreign investment (UNCTAD, 2010).

Turkey displays characteristics of other developing countries in the structure of its labor market. In Turkey a fragmented, partly traditional, partly modern, labor market exists, with important rural-urban and regional distinctions. Within the existing socioeconomic structure the evaluation of unemployment in rural areas can be easily explained. There is hidden employment in the agriculture sector and labor productivity is low in this sector. Besides low labor productivity, the inability to create new jobs occurs because of the structural characteristics of employment in Turkey. The vast majority of employees also work for low or inadequate incomes. Before the 1980s Turkey had a closed economy with a predominantly agrarian society and more than half of its labor force employed in agriculture. “Over the next 30 years, Turkey experienced a significant transformation in its social class structure. By 2010, only 25% of the labor force was employed in agriculture. In the meantime, there were significant increases in the professional and managerial classes, employers and routine non-manual labor classes. In addition, the low-skilled labor class and informal employment expanded significantly” (Kaya, 2008). The contribution of foreign interests in this transformation cannot be denied. As mentioned before, multinational companies pay higher wages and invest in training more than national companies, and this increases demands for skilled labor. These features affect employment problems in Turkey and have led to positive solutions. In studies supporting this conclusion, Karagöz (2007) found out that there is a long term relationship between FDI and employment in Turkey. Şimşek and Behdioğlu (2006) made an analysis of the impact of FDI on employment and growth for Turkey, and found out that there is a positive correlation between them.
With the inflow of FDI, the share of foreign companies in sales and employment increased in Turkey. In the 500 largest industrial companies 2009 list of the Istanbul Chamber of Commerce (ISO 500) there are 153 foreign companies and the share of the foreign companies in total sales has risen between 35%-41% in the last three years, with employment share rising from 28%-30%, in the same period.

### Table 1: Share of Foreign Companies in the ISO 500 List

<table>
<thead>
<tr>
<th>Share of Foreign Companies in the ISO 500 list with respect to (%)</th>
<th>1995</th>
<th>2000</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>22.2</td>
<td>28.1</td>
<td>32.9</td>
<td>29.7</td>
<td>33.4</td>
</tr>
<tr>
<td>Gross Value Added</td>
<td>20.8</td>
<td>26.3</td>
<td>36.2</td>
<td>34.7</td>
<td>40.3</td>
</tr>
<tr>
<td>Employment</td>
<td>14.6</td>
<td>19.2</td>
<td>28.9</td>
<td>30.0</td>
<td>29.8</td>
</tr>
</tbody>
</table>


### 4. Empirical Analysis

In our empirical analysis we investigate the effect of socioeconomic conditions on foreign direct investment (FDI) empirically by using the Johansen (1988) and Johansen and Juselius (1990) cointegration analysis. For cointegration analysis the stationarity of variables is important. Therefore, we use Augmented Dickey Fuller (ADF) test to examine the stationary of all variables. (Asano, 1999: 410).

In our econometric study we use index of socio-economic conditions as measures of unemployment consumer confidence and poverty. This is an assessment of the socioeconomic pressures at work in society that could constrain government action or fuel social dissatisfaction. We used The PRS Group socioeconomic data and Central Bank of Turkey FDI data.

Our purpose using this data as an indicator of socioeconomic status is appropriateness for numerical analysis of time series and cross-section analysis and also we have to admit that there is a scarcity about the statistical datas. Besides, for the application of panel data, this data has an appropriate length of time and wide cross-section datas. Lastly we think that the data reflect the effects of socioeconomic status on economic variables.

Table 2 indicates the ADF unit root test results derived from the used data series. According to the results, the null hypothesis of unit root is accepted at levels but strongly rejected at % 5 and % 10 significance level at their first difference. In other words, foreign direct investment (FDI) and socioeconomic condition (socio) are integrated at order 1, I (1), i.e. they become stationary after first differencing.

The top half of table 2 shows the unit root tests of the foreign direct investment (FDI) variable in different ADF models. Lag number of variables are determined by Schwarz Info Criterion (SIC). The results of socio economic condition variables are reported in bottom half of table 2. According to the results of
Table 2 after differencing the data once, it can be said that both variables are integrated at order one (I(1)).

### Table 2: ADF Unit Root Test Results

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>MODEL</th>
<th>MACKINNON CRITICAL VALUE (1 %, 5 %, 10 %)</th>
<th>ADF TEST STATISTIC</th>
<th>LAG *</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>I***</td>
<td>-2.576999; -1.942482; -1.615606</td>
<td>-0.5290</td>
<td>[7]</td>
<td>I (1)</td>
</tr>
<tr>
<td></td>
<td>II***</td>
<td>-3.464280; -2.876356; -2.574746</td>
<td>-0.947274</td>
<td>[7]</td>
<td>I (1)</td>
</tr>
<tr>
<td></td>
<td>IV****</td>
<td>-2.576999; -1.942482; -1.615606</td>
<td>-10.06009</td>
<td>[6]</td>
<td></td>
</tr>
<tr>
<td>SOCIO</td>
<td>I**</td>
<td>-2.576576; -1.942423; -1.615644</td>
<td>-0.332987</td>
<td>[0]</td>
<td>I (1)</td>
</tr>
<tr>
<td></td>
<td>II***</td>
<td>-3.463067; -2.875825; -2.574462</td>
<td>-1.220565</td>
<td>[0]</td>
<td>I (1)</td>
</tr>
<tr>
<td></td>
<td>III***</td>
<td>-4.004599; -3.432452; -3.139991</td>
<td>-1.512298</td>
<td>[0]</td>
<td>I (1)</td>
</tr>
<tr>
<td></td>
<td>IV****</td>
<td>-2.576634; -1.942431; -1.615638</td>
<td>-14.07125</td>
<td>[0]</td>
<td>I (1)</td>
</tr>
</tbody>
</table>

Lag number of variables is determined by Schwarz Info Criterion (SIC).

**Model I, no trend or intercept
***Model II, include intercept
****Model III, includes intercept and trend
*****Model which includes unit root test of differenced series

In this study we use the Johansen & Johansen (1988) and Juselius (1990) cointegration test. As a result of this cointegration test, it can be said that there is a long run relationship between series, if there is a non zero vector (Choudhry, 1995: 663-664). In determining the cointegration lag length, which lag was selected was based on the Schwarz Information Criterion (SIC), and the unrestricted VAR model has been used According to unrestricted VAR model optimum lag length 1 (k=1).

### Table 3. Results of Johansen Cointegration Tests

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Eigenvalue</th>
<th>Trace Statistics</th>
<th>Maximum Eigenvalues</th>
<th>Critical Value at % 5</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_0 : r = 0$</td>
<td>0.207362 0.007404</td>
<td>47.72418 1.478910</td>
<td>46.24527 1.478910</td>
<td>15.49471 3.841446</td>
<td>0.0000 0.2239</td>
</tr>
<tr>
<td>$H_1 : r \leq 1$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As shown in table 3, null hypothesis is ($r = 0$), so that, “no cointegrating vector exists between variables” is rejected at % 5 significance level. This result shows that there is long run relationship between FDI and socioeconomic conditions.
The presence of a short run relationship can be estimated by using the Error Correction Model (ECM). This Error Correction Model contains information about short and long run dynamics. The expected sign of the coefficient of error correction term is negative. The coefficient provides information about adjustment process (Mutluer and Barlas, 2002: 68).

ECM reintroduces the information which is lost in the differencing process and thereby allows for long run equilibrium as well as short run dynamics. On the other side, if the two variables are not cointegrated, the conventional Granger causality tests can be used in a levels VAR framework. But, if the two variables are cointegrated, the ECM framework is valid to study the dynamic relationship in the short run (Thangavelu, Jiun and James, 2004: 254).

If socioeconomic conditions and FDI are cointegrated CI(1,1), the variables have the error-correction form: where two variables are expressed in first differences (Δ) as determined by the stationary test (Al-Yousif, 2002: 143).

\[
\Delta \text{fdi} = a_0 + \sum_{i=1}^{n} a_i \Delta \text{fdi}_{t-i} + \sum_{i=1}^{n} a_{2i} \Delta \text{socio}_{t-i} + \phi EC_{t-1} + \varepsilon_t \quad (1.1)
\]

\[
\Delta \text{socio} = b_0 + \sum_{i=1}^{n} b_i \Delta \text{socio}_{t-i} + \sum_{i=1}^{q} b_{2i} \Delta \text{fdi}_{t-i} + \theta EC_{t-1} + \mu_t \quad (1.2)
\]

FDI represents foreign direct investment while socio represents the socioeconomic condition. \(EC\) is the error correction term taken from cointegrating relationship and \(\varepsilon_t\) and \(\mu_t\) are the white noise error terms, \(t\) denotes time in month and \(n\)'s are the lag orders of the \(a\)'s and \(b\)'s. In equation (1.1) the null hypothesis that socio does not Granger - cause fdi is rejected if the coefficient on the lagged socio variable is found to be statistically significant or the coefficient on the ECT is found to be statistically significant. The significance of \(a_{2i}\) indicates short-run Granger-causality while the significance of \(\phi\) coefficient indicates long-run Granger-Causality between two variables. In equation (1.2) to test the opposite hypothesis that fdi Granger causes socio, this will be the dependent variable. We are interested in the statistical significance of the coefficient \(b_{2i}\) or short-run causality and in the statistical significance of \(\theta\) which represent long-run causality (Al-Yousif, 2002: 139-143).

The regression results which are estimated by using data,
\[ \Delta \text{fdi} = 3.0308 - 0.0068\Delta \text{fdi}_{-4} - 14.3849\Delta \text{socio} + 8.0684\Delta \text{socio}_{-1} - 0.7668ECT_{-1}, \]  
(1.3)

\[ (0.0544) \quad (-0.072150) \quad (-0.086466) \quad (-0.048499) \quad (-6.500903) \]

Equation 1.3 indicates that in the short-run, changes in socioeconomic conditions have a negative and significant effect on FDI. In addition, the error correction term coefficient shows that 7% of the difference between real and equilibrium value of investment is adjusted in a period (monthly).

\[ \Delta \text{socio} = -0.83 + 8.355013\Delta \text{socio}_{-1} - 0.69\Delta \text{fdi} - 3.75\Delta \text{fdi}_{-4} - 8.355437ECT_{-1}, \]  
(1.4)

\[ (-0.5220) \quad (0.815) \quad (-0.507980) \quad (-0.129958) \quad (-0.815809) \]

Equation 1.4 indicates that in the short-run, changes in FDI have a negative and insignificant effect on socioeconomic condition. However, there is a difference between the real and equilibrium values of socioeconomic conditions and 8% of this is adjusted in a period (monthly).

<table>
<thead>
<tr>
<th>Table 4: Wald Test Results Based to Error Correction Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>fdi</td>
</tr>
<tr>
<td>socio</td>
</tr>
</tbody>
</table>

Note: t statistics in parentheses.

According to the causality test, there is no causality from FDI to socioeconomic condition, but there is causality from socioeconomic condition to FDI.

5. Conclusion

Turkey is the world’s 16th largest economy in purchasing power parity but it is still classified as a developing country because it ranks 84th in gross domestic product per capita and 61th in the global competitiveness index. These indexes, are been constituted by using mainly economic variables. Economic results commonly show us the economic growth but not the social development and standard of living. To be able to understand the socioeconomic development for a country, also, social variables has to be observed. In this sense, the most important of these rankings should be recognized as the ‘Human Development Index’ and in this index Turkey is placed 83rd among 169 countries. These indexes show us that, to become a developed country socioeconomic conditions must be improved.

The biggest socioeconomic problem for Turkey is high unemployment and poverty rates.
Socioeconomic data has been used by PRS group at the evaluation research of countries political risk. Unemployment, consumer confidence and poverty are the subcomponents of the socioeconomic data\(^1\). The evolution results for Turkey are underwhelming. 1, 2.5 and 2 are the results respectively for unemployment, consumer confidence and poverty. Depends on the results we can say that unemployment rate carries the highest risk for the social, economical and political environment. To decrease the unemployment rate country needs higher saving rate for increase the investment, but, Turkey’s saving rate was only 12% at 2011 so Turkey needs foreign savings and investments for a better socioeconomic condition. As Kolstand and Villenge (2004) concluded that socioeconomic conditions have no effect on FDI, empirical result of this paper also doesn’t support causality from FDI to socioeconomic condition for Turkish economy. This result is caused by the content of FDI which is mainly composed of joint ventures.

On the other side, the results of our analysis show that there is a cointegrating vector from FDI to socioeconomic condition for Turkey. This indicates that there is a long run equilibrium relation between these two variables. The error correction model indicates that in the short-run there is causality from socioeconomic condition to FDI. The socioeconomic condition has a positive and significant effect on FDI. Without prejudice to the other variables, according to the results it can be said that as Turkey needs foreign savings and investment and be attractive for FDI has to improve socioeconomic condition of the country.

References


\(^1\) The risk rating assigned is the sum of three subcomponents, each with a maximum score of four points and a minimum score of 0 points. A score of 4 points equates to very low risk and a score of 0 points to very high risk.


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