

SECTORAL PERFORMANCE OF FOREIGN DIRECT INVESTMENT ON EMPLOYMENT IN TURKEY

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The relationship between Foreign Direct Investment (FDI) and employment has become an important subject for macroeconomic policies and explicitly pronounced as the policy objective at all levels. The aim of this paper is to investigate the quantitative relationship between FDI and the number of jobs created on the sectoral basis in Turkey for the 1980-2002 period. In order to do this first, the job elasticities of the sectors are estimated. Then, the relative performance of the FDI receiving sectors are calculated by forming Relative Average Project Index and Relative Average Job Index. Judging by the estimated elasticity, the potential for job creation seems to be the highest in services sector (44%), but on the other hand, in terms of RAPI and RAJI, manufacturing sector has been the most successful. Interestingly, services sector is relatively more successful in creating jobs than attracting projects for the same period in Turkey.

Keywords: Foreign Direct Investment, Unemployment Multinational Companies, Sectoral Performance

I. INTRODUCTION

Most of the countries, both developed and developing face unemployment today. The issue of Foreign Direct Investment (FDI) and employment has become a very important subject for macroeconomic policies and explicitly pronounced as the policy objective at all levels. In the globalisation process of the world economy, by being the organizers of the international production Multinational Enterprises (MNE) have a major role as the employers both in the short and long run.

Employment issue in FDI literature, is analyzed from two different points of view; 1) impact of FDI on employment from the home countries point of view and 2) from the host countries point of view. In this study, impact of FDI on employment in host countries point of view will be examined. The aim of this paper is to investigate the quantitative relationship between FDI and employment on the sectoral basis. Once this question is answered, then, whether FDI can be a solution of massive unemployment problem in Turkey or not can be discussed.

DOĞRUDAN YABANCI SERMAYE YATIRIMLARININ SEKTÖREL PERFORMANSININ İSTİHDAM ÜZERİNE ETKİSİ

Doğrudan Yabancı Sermaye Yatırımları ile İstihdam arasındaki ilişki makroekonomik politikalar açısından son derece önemlidir. Bu çalışmanın amacı 1980-2002 döneminde sektörel bazda Doğrudan Yabancı Sermaye Yatırımları ile yaratılan iş sayısı arasındaki ilişkiyi kantitatif olarak incelemektir. Bunun yapılabilmesi için öncelikle sektörlerin iş elastikiyetleri hesaplanmış, daha sonra Doğrudan yabancı Sermaye Yatırımı alan sektörler Göreceli İş Performansı ve Göreceli Proje Performansı oluşturularak karşılaştırılmışlardır. % 44 ile iş yaratma potansiyeli en yüksek servis sektöründe görülse de imalat sanayi Göreceli İş Performansı ve Göreceli Proje Performansı açısından önde gitmektedir. Aynı dönemde servis sektörü iş yaratma konusunda proje çekme konusunda olduğundan daha başarılı görünmektedir. Son bölümde, bu çalışmadan elde edilen bulgular ışığı altında politika önerileri sunulmuştur.

Anahtar Kelimeler: Doğrudan Yabancı Sermaye Yatırımları, istihdam, Çokuluslu şirketler, sektrel performans

The paper is organized as follows: In Section 2, the existing literature on employment effects of inward FDI is surveyed briefly with respect to motives and trade. Then, Section 3 is an overview; FDI in Turkey will be described in order to understand the current situation. In the fourth section research and findings are presented. This section is divided into two subsections while the first section quantifies the relationship between FDI and the number of jobs created, the second subsection provides useful insights by forming relative average project (RAP) and Relative Average Job (RAJ) indices to make sound policy recommendations. Finally there is a short concluding section on the impact of FDI on sectoral share of domestic employment in Turkey which covers some policy recommendations by aggregated results derived in this paper.

II. LITERATURE

FDI has strong influence on host country domestic employment through types of jobs created, regional distribution of new employment; wage levels, income distribution and skill transfer. These direct effects are complemented by indirect or spillover effects. Indirect

effects take place through movement of trained labour from foreign firms to domestic firms, as well as through the increase in employment in domestic subcontractors. In summary, when the effects of FDI on domestic employment is examined direct effects can be seen in 1) job creation, 2) job preservation and 3) the structure of employment [1].

When the production (and employment) in the foreign affiliates of multinational enterprises are examined, the motives of FDI becomes an important factor. There are four distinct motives of FDI, namely; 1) market seeking, 2) resource seeking, 3) strategic asset seeking and, 4) efficiency seeking [2]. The motives of FDI affects the trade linkages between the parent firm (MNEs) and her affiliates in the foreign country and each motive's effects on domestic employment can be somewhat different.

Multinational firms by organizing international production also internalises the labour market through foreign direct investment to serve "global consumer". Although it is argued that *it is unskilled worker in developed countries who is most vulnerable to the expansion of international trade* [3], the overall impact of FDI on trade (consequently on domestic employment) is the sum of negative (export substitution, re-imports) and positive effects (associated and induced exports) and can be tested only empirically [4]. A review of employment effects of FDI by OECD (1995) points out that there is "no general conclusion (...) regarding neither the sign of employment effects nor their magnitude (p.140). On the whole, however, the number of jobs relocated from developed to developing countries through FDI is small, compared with the size of the total labour force in the developed countries [5].

However, it is estimated that each job in multinational enterprises generates at least one additional job elsewhere in the economy. Employment in foreign affiliates rose particularly in affiliates in developing countries compared to that in parent firms [5].

Multinational firms by being at the center of the international production has become important employers of labour in the global economy. Recent estimates suggest that there are 65 000 Multinational Enterprises today with about 850 000 foreign affiliates across the world. In 2001, foreign affiliates accounted for about 54 million employees, compared to 24 million in 1990 [6].

Depending upon its motives and comparative advantage, entry strategies of the Multinational enterprises change the level and structure of employment in host countries. And also, entry mode may change from the period of entry into a foreign market and the maturing of FDI. Most theorists argue that entry occurs first via a sales subsidiary, afterwards, it may open up new production units [7]. As the entry strategies change by

time, mode of ownership changes as well, and the underlying ownership structure of foreign investors seems to be an important determinant of employment between parent and affiliate.

In organizing the international production, MNEs and their foreign affiliates can be linked through by three different strategies; 1) stand alone strategies 2) simple integration strategies, 3) complex integration strategies; All have different effects on the number of jobs created, quality of jobs and the location of the firm's jobs. It may be observed that as the firm's value adding activities becomes increasingly integrated, the number of jobs in the firm may decrease [8]. Excluding the impact of these strategies on quality and location of jobs, and taking into consideration only their impact on creation of jobs, the magnitude of these strategies may increase from complex integration strategies to stand alone strategies [8].

III. FDI AND EMPLOYMENT IN TURKEY: AN OVERVIEW

In developing countries, high levels of population growth rate, inadequate capital accumulation together with expensive internal and external borrowing, restricts investment which is expected to create new employment. In Turkey, according to the official figures unemployment rate is 8.5 % in 2001 [9]. When the agricultural sector where hidden or underemployment rate is high, added to this figure, the unemployment level jumps to approximately 12%. Labour force participation rate is 48.7%, and sectoral distribution employment is as follows; agriculture and mining %35.4, industry 23.6 %, and services 41%. Sectoral distribution of employment is as expected in most developing countries. However, high levels of employment in agriculture signals the existence of unskilled, potentially unemployed workers. The total number of employed people is 20.366 thousand in year 2001. In next decade, 700 thousand to 1 million new employees are expected to enter into the labour market each year which requires approximately 600 million dollars to create new jobs [10].

Turkish government sees FDI as an engine of growth in the long run and an appropriate solution for the ever deepening unemployment problem. By attracting more FDI, Turkish government assumes to create jobs and strengthen her economy. Kemal Derviş, former Secretary of State, responsible from economy, in his May 6, 2003 Eskişehir speech states that, "the most important thing in Turkey now, is to attract foreign investors to achieve long term sustainable growth and create employment" [11]. Republic of Turkey, Prime Ministry, Undersecretariat of Treasury, Foreign Investment in Turkey 2002 Report announces that "Reform Program For The Improvement Of The Investment Climate In Turkey is one of the most important project" [12].

Turkey can be considered as an emerging market with low cost production opportunities but she can attract only around 1 billion dollars of FDI in any one year (except 2000 and 2001) which is only a small fraction of comparable economies in terms of size and development. UNCTAD's Inward FDI Potential and Performance Indices ranks Turkey under Low FDI Potential and Low FDI Performance group [6]. Academic research provides little explanation for this low levels of inward FDI to Turkey and it has been argued that mostly market seeking FDI comes to Turkey which correlates market size with FDI flows [13-14]. Turkey's performance in attracting FDI over time can be seen in table 1.

Table 1. Authorized FDI, Number of Foreign Companies and Realizations in Turkey (1980-2002)

Years	Authorized FDI (MILLION \$)	No. of Foreign Capital Compaies (Cumulative)	Realizations (MILLION \$)
1980	97	78	35
1981	338	109	141
1982	167	147	103
1983	103	166	87
1984	271	235	113
1985	234	408	99
1986	364	619	125
1987	655	836	115
1988	821	1.172	354
1989	1.512	1.525	663
1990	1.861	1.856	684
1991	1.967	2.123	907
1992	1.820	2.330	911
1993	2.063	2.554	746
1994	1.478	2.830	636
1995	2.938	3.161	934
1996	3.836	3.582	914
1997	1.678	4.068	852
1998	1.646	4.533	953
1999	1.700	4.950	813
2000	3.477	5.328	1.707
2001	2.725	5.841	3.288
2002	2.243	6.280	1.042
Total	305.203	---	16.372

Source: www.hazine.gov.tr

The stock of FDI in Turkey was \$300 million in 1971, and up until 1980 the average annual inflow of FDI was only \$90 million. There were only 78 foreign companies operating in Turkey in 1980 accompanied with an inward FDI of only 35 million dollars. FDI did not increase significantly for most of the 1980s. In 1980, Turkey has shifted from protectionist, import substituting growth strategy to export oriented industrialization policy which brought economic liberalization and changed the investment climate in

the country. As it is seen in table 1, annual FDI flows in Turkey grew rapidly during the 1990's compared to its initial amounts in the 1980s, but still has never reached 1 billion dollar level. However FDI flows per year have not increased significantly in 1990-1999 period. In other words, during the 1990s when world FDI flows accelerated (FDI flows were over world trade since 1989), Turkey underperformed to attract inward FDI. In 2000, first time in the history, inward FDI flow had reached to 1.707 million dollars. Following year, FDI inflow was 3 288 million dollars which is the record high for Turkey. (Foreign investors demand for Turkish assets due to the undervalued TL should be taken account during the latest economic crises while analyzing this record high figure). In 2002, there was a sharp drop at inflow FDI which was only 1.042 million dollars.

The difference between approved and realised FDI can be observed from the table 1 as well. Since 1980, approved and realised investments have not been closely matched. This mismatch shows that investor's perceptions of the opportunities afforded by investing in Turkey did not meet the reality of the situation (especially prevailing high interest and inflation rates) and most of the new investments were not realized.

When the number of FDI companies in Turkey over time is analysed, it can be seen that the number of foreign equity companies has increased continuously. In total there were 6311 foreign equity companies in Turkey as of 1.1.2003 which directly employed more than 439.497 people. Investment types in FDI inflows are crucial for employment purposes. As it is seen in table 2, new investment is only a small percentage (less than 10 %) of total FDI approvals in 2002. On the other hand, capital increase has the highest percentage in investment types which may signal the changes in ownership through mergers and acquisitions that has been associated with fewer new openings and job creation [15].

Table 2: FDI Approvals According to Investment Types

INVESTMENT TYPE	2000	2001
NEW	1,486	231
EXPANSION	301	502
CAPITAL INCREASE	298	1,197
PARTICIPATION	975	809
TOTAL	3,060	2,739

Source: www.hazine.gov.tr

Employment growth has been highest in those sectors most open to trade and especially in the sectors with higher value added and more intensive application of technology [16]. This could be one of the reasons why sectoral distribution of FDI has been analysed in relation with the number of jobs created. As it is seen from table 3 Turkey attracts more FDI in manufacturing and services sectors. Respectively the contribution of each sector is 42.52 % and 49.57 % to the percentage in total foreign capital. Sectoral shift towards services where one FDI

dollar is associated with perhaps only half of the jobs associated with one FDI dollar in manufacturing [5]. Eventhough, FDI in manufacturing creates more employment, services sector can be considered as a good example of the stand alone strategy because of the non-tradability of many services. Foreign firms in services sectors have no choice to split production process segments but duplicate the factor proportions used in the home country [8] which will lead to an increase not only in the number of jobs available to people in Turkey but also carry the spillover effects of foreign investment.

Table 3: Sectoral Distribution of Foreign Capital Companies Operating in Turkey (Billion TL, June 2003)

SECTORS	No. of firms	Present foreign capital	% in total foreign capital	% of foreign capital in total capital
Agriculture	151	278.417	3.63	94.65
Mining	101	37.919	0.49	80.08
Manufacturin	1667	3.182.618	42.52	58.82
Energy	51	367.096	4.79	93.56
Services	4541	3.799.698	49.57	58.82
TOTAL	6511	7.665.750	100	60.81

Source : www.hazine.gov.tr

IV. RESEARCH AND FINDINGS

VI.1 Data

In this study, all firms with some foreign share in their nominal or equity capital are counted as FDI for the 1980-2002 period. The data is compiled from State Institute of Statistics, General Directorate of Foreign Direct Investment-Undersecretariat of Treasury. However, FDI data covering unemployment figures received from General Directorate of Foreign Direct Investment- Undersecretariat of Treasury, as of Nov 2002, covers only the FDI projects which have received a form of incentive. Therefore, while total number of FDI firms in Turkey is 6511, the number of FDI firms which received incentives is 3515 but in this study only 2750 FDI firms are used (which provided the necessary employment data) . While quantifying the relationship between FDI and employment and creating indices this second group of data is used.

IV.2 Model

For estimation purposes, a very simple model is specified. As stated earlier, it is assumed that FDI creates jobs, but the question which needs to be investigated is the quantitative relationship between the volume of investment and the number of jobs created in each sector. Furthermore, we wish to examine the affect of Custom

Union membership after 1996. To put it differently, will the Custom Union affects the number of jobs that is created in each sector?

To try to answer these questions, we intend, first, to investigate the situation at an aggregate level, and than investigate each sector separately;

$Job_i = f(K_i, CU)$ where K_i is the amount of foreign capital invested, and CU is being a member of the Customs Union Agreement.

This, in turn, can be specified in the following, a simple logarithmic model form:

$$\ln (Job_i) = \alpha + \beta \ln (K_i) + \delta (CU_i) + u_i$$

Obviously we expect that β will be positive and statistically significant in all cases. In this study what matters is the magnitude of this coefficient. As far as CU is concerned, we expect a positive relationship but its effects will be determined by the estimation results. A dummy variable is introduced to capture the effects of CU , i.e. $D=1$, if it is part of the Customs Union Agreement, and equal to 0 otherwise.

IV.3 Estimated Results

First, the specified model is tested on the aggregate level and then for the four major sectors. As expected, there is a statistically significant and positive relationship between FDI and the number of jobs created, but the situation in each sector is different. The results show that once, the amount of foreign capital invested in Turkey will increased by 100 %, the number of jobs created will increase by 38%. When the amount of foreign capital has increased by 100% in agricultural, mining, manufacturing and services sectors the number of jobs created will increase by 40% , 19%, 37% and 44% respectively. Judging by the estimated elasticity, the potential for job creation seems to be the highest in services sector, the lowest in mining sector. Not surprising when the literature is taken into account. The explanation of low percentage in mining sector could be explained by application of capital intensive technologies.

Table 4:Summary Statistics

	Sample Size	β	CU	R^2	DW
Aggregate level	2817	0.38	-0.17	0.275	1.95
Agricultural	114	0.40	-0.47	0.420	1.85
Mining	73	0.19 (0.02)	-0.71	0.150	2.05
Manufacturing	2047	0.37	-0.24	0.250	1.70
Services	564	0.44	0.20 (0.04)	0.400	1.72

Unless otherwise is stated all results are significant at % 1 level

IV.4 Relative Sectoral Performance Indices

After estimating the job elasticities of the sectors, the relative performance of the sectors can be calculated. By doing so the current situation of the sectors can be observed.

The relative sectoral performance on FDI projects and jobs created in Turkey can be analysed by forming Average Project and Job Indices. Hill and Munday [17] has created a similar indices of regional performances of FDI for Great Britain for 1982-1992 period. Which followed by Alden (1999) for the 1987-1996 period.

Table 5: Sectoral Performance Index on Number of FDI Projects in Turkey (1980-2002)

	Number of Projects	Sectoral Share of Turkish FDI (b)	% Sectoral Share of Turkish National Employment ¹ (c)	Average Project Index ²
Agriculture and Mining	224	0.06	0.35	0.18
Manufacturing	2.637	0.75	0.24	3.12
Services	654	0.18	0.41	0.45
Total Turkey	3515	1.00	1.00	

Source: compiled by author from data supplied by

¹2001 employees in employment

²Index is column (b) divided by column (c)

Both sectoral shares of new projects and associated jobs are divided by sectoral shares of employment to provide a relative sectoral performance index. A value higher than one indicates the attraction of a share of projects greater than its equivalent employment share. In terms of relative sectoral performance on FDI projects and jobs created in Turkey, manufacturing sector has been the most successful. Although the employment in manufacturing sector is small in respect of its share of Turkish employment (%24), it has consistently attracted a higher share of new foreign projects and jobs.

The tables show that while manufacturing sector performs well on the number of projects, it has done relatively less well in terms of the number of jobs created for 1980-2002 period but it still leads the other sectors. Interestingly, services sector is relatively more successful in creating jobs than attracting projects for the same period in Turkey.

Table 6: Sectoral Performance Index on FDI Jobs Created in Turkey (1980-2002)

	Number of Jobs	Sectoral Share of Turkish FDI jobs (b)	% Sectoral Share of Turkish National Employment (c)	Average Job Index ²
Agriculture and Mining	14.110	0.03	0.35	0.09
Manufacturing	299.136	0.68	0.24	2.83
Services	126.251	0.28	0.41	0.70
Total Turkey	439.497	1.00	1.00	

Source: compiled by author from data supplied by

¹2001 employees in employment

² Index is column (b) divided by column (c)

Table 7: Summary Sectoral Performance Index on FDI in Turkey 1980-2002

	Average Project Index	Average Job Index
Agriculture and Mining	0.18	0.09
Manufacturing	3.12	2.83
Services	0.45	0.70

Source: compiled by author from tables 6 and 7.

V. CONCLUDING REMARKS

The purpose of this study was to investigate the relationship between FDI and the number of jobs created in each sector. Once it was estimated, independently, the current relative performance of the sectors could be analysed. Together with the estimated elasticities and relative performance indices, we can tell whether it is reasonable to see FDI as a solution of unemployment problem in Turkey. All the data used in this research was obtained from General Directorate of Foreign Direct Investment- Undersecretariat of Treasury and only covered the FDI projects which received some form of incentive.

If Turkey will continue to use incentives to attract FDI (which is perfectly acceptable) and try to create new jobs by using this resource, she must decide beforehand which sectors should be favoured. According to the estimated results, when foreign capital is increased by 100 % in the services sector the number of jobs created will increase by 44%. Estimated elasticity is 37 % in manufacturing sector. It can be concluded that services provides more jobs when it is compared with manufacturing. Which proves the fact that same one FDI dollar creates 50 % more jobs in services than manufacturing [5]. At the same time when the relative performance of the sectors are calculated, it is clear that manufacturing sector has been the most successful in

attracting a higher share of new foreign projects and jobs. This is in line with the fact that employment growth has been highest in those sectors most open to trade and especially in the sectors with higher value added and more intensive application of technology [16]

On the other hand, while services attracts relatively a smaller share of new foreign projects and jobs, its relative potential for creating jobs are bigger. Services sector can be considered as a good example of the stand alone strategy because of the non-tradability of many services (i.e. hotels) which may not increase the quality of the jobs, but may increase the quantity of jobs created [8] in Turkey.

The low levels of FDI coming to Turkey which is concentrated in manufacturing is not enough to create new jobs. Under the findings of this research, it can be recommended that, if the policy makers want to increase the number of jobs created in the country by using FDI, incentives should be given to services sector. Knowing the fact that value adding activities, application of technology and openness to trade is higher in manufacturing.

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