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THE RELATIONSHIP BETWEEN FOREIGN PORTFOLIO INVESTMENTS AND ECONOMIC GROWTH: THE CASE OF TURKEY

Abstract:

With the globalization process, economic, commercial and technologic boundaries have become uncertain and in this way capital transfer has been possible between different countries. Capital transfers which is realized through short term foreign portfolio investment and foreign direct investment are very important especially for the countries of which national savings are inadequate. This study examines the long run relationship between foreign portfolio investment and economic growth for Turkish economy over the period 1990-2012 within framework of cointegration. The cointegration test findings indicate that there is no relationship between these variables in the long run. According to this result, foreign portfolio investments should not only support consumption but also should be used in more productive areas.

Keywords:

Foreign portfolio investments, Economic growth, Turkish economy, Cointegration

JEL Classification: A10, E00, F30

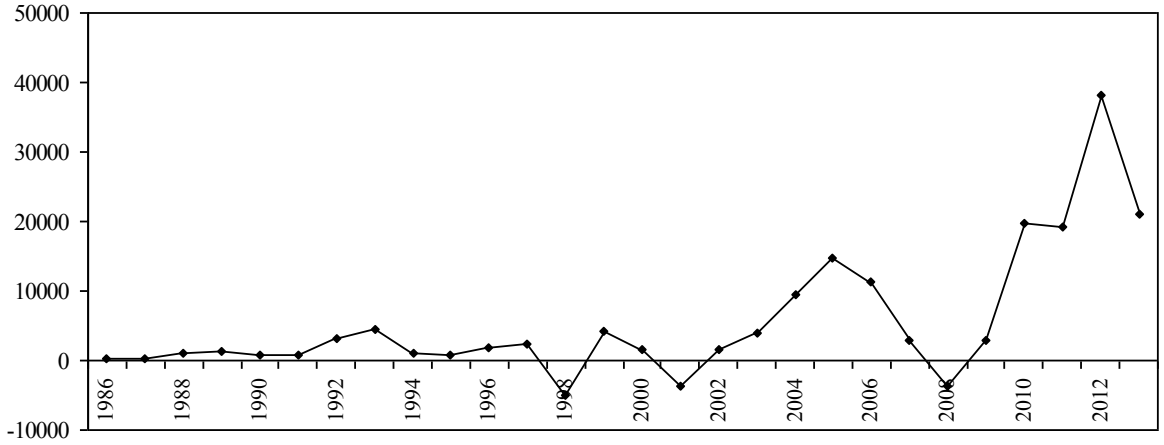
INTRODUCTION

Lack of savings is one of the major economic problems in developing countries. This situation makes the foreign capital important to fill savings gap. Foreign capital is mainly divided into two categories which are foreign portfolio investment (FPI) and foreign direct investment (FDI). "FPI includes investments by a resident entity in one country in the equity and debt securities of an enterprise resident in another country which seek primarily capital gains and do not necessarily reflect a significant and lasting interest in the enterprise. The category includes investments in bonds, notes, money market instruments and financial derivatives other than those included under direct investment, or in other words, investments which are both below the ten percent rule and do not involve affiliated enterprises. In addition to securities issued by enterprises, foreigners can also purchase sovereign bonds issued by governments" (UNCTAD, 1999: 4). According to OECD, "FDI is a category of cross-border investment made by a resident in one economy (the direct investor) with the objective of establishing a lasting interest in an enterprise (the direct investment enterprise) that is resident in an economy other than that of the direct investor. The motivation of the direct investor is a strategic long-term relationship with the direct investment enterprise to ensure a significant degree of influence by the direct investor in the management of the direct investment enterprise. The "lasting interest" is evidenced when the direct investor owns at least 10% of the voting power of the direct investment enterprise. Direct investment may also allow the direct investor to gain access to the economy of the direct investment enterprise which it might otherwise be unable to do. The objectives of direct investment are different from those of portfolio investment whereby investors do not generally expect to influence the management of the enterprise" (OECD, 2008: 17).

When compared to portfolio investments, many countries prefer FDI as their economic return is more. However, the countries with savings gap generally turn to portfolio investments as it is hard to attract direct investments. There are different opinions in the literature on the effect of portfolio investments on economic growth. According to one of those, portfolio investments shall support economic growth in the event that it is used more efficiently in productive fields. On the other hand, even if usage of foreign sources in non-productive fields may support economic growth in the short term, it will affect the growth in negative way in long term. Furthermore, appreciation of domestic currency during periods when portfolio investments increase will cause weakening of growth via importation. Additions to these, portfolio investments have the possibility to generate financial instability. Decrease in consumption and investment spending as a result of short-term foreign funds' rapid and high quantity breakthrough may result in economic crisis.

Portfolio investments started to come to Turkey in 1986 and these investments has accelerated with the "32 numbered decree" entered into force in 1989. As well as economic and political stability provided during 2000s, positive global conjuncture give rise to a substantial increase in portfolio investments in Turkey. Thus, net inflow of portfolio investments which is 1,5 billion dollars in 2002 reached 38,1 billion dollars in 2012. Liquidity squeeze caused by global crisis resulted in capital outflow in 2008. Graph 1 shows the development of portfolio investments during 1986-2013 periods.

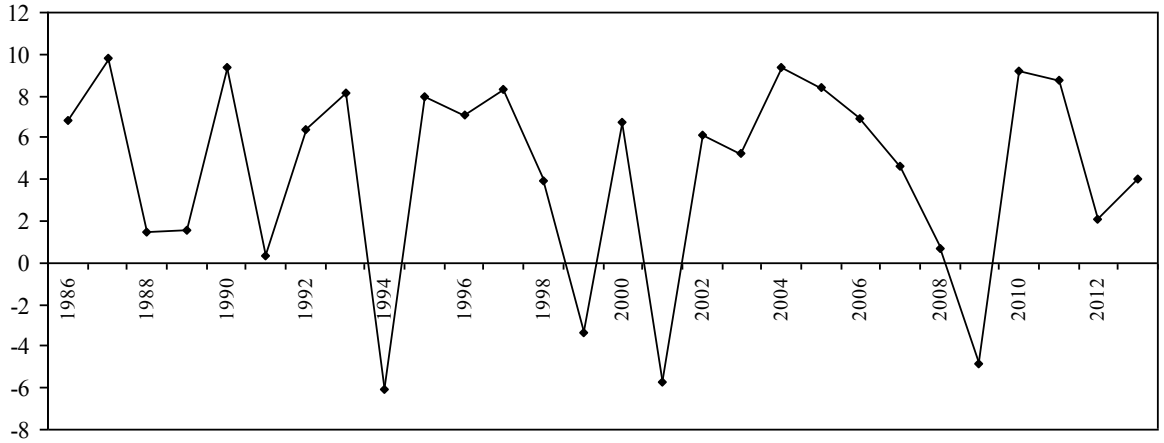
Graph 1. Foreign Portfolio Investment in Turkey, 1986-2013



As was the case in most developing countries during the late 1970s, Turkey also witnessed the weaknesses of import-substitution strategy and attempted to overcome these weaknesses by gearing towards a more outward-oriented economic development strategy. Especially during the 1980s, there was an accelerated reform and adjustment process in almost all sectors of the economic system. The reform process started with liberalization of the foreign trade regime and the financial sector and culminated in the liberalization of capital accounts during late 1989, the latter changing the whole pattern of policy-making environment radically (CBRT, 2002: 4).

On the other hand, as structural problems cannot be solved precisely, serious crisis were experienced in 1990s and in the beginning of 2000s. After 2001 crisis, the policies applied aimed at eliminate the structural problems in economy has turned out and very high growth numbers have been reached throughout the period up to global crisis. After the global crisis, economy has entered into the process of recovery. In general, domestic demand and foreign source supported growth has been provided in this period. Graph 2 reflects growth ratios of concerning period.

Graph 2. Economic Growth in Turkey, 1986-2013



Whether FPI has any contribution on the economic growth or not will be assessed in this study. The paper is organized as follows: Section 2 introduces the selected

literature, Section 3 presents data and econometric methodology with empirical results in Section 4, and Section 5 conclusion.

LITERATURE REVIEW

A number of empirical studies on the relationship between foreign portfolio investment and economic growth has been carried out using different estimation approaches. The literature offers inconsistent results on the relationship between foreign portfolio investment and economic growth. Table 1 summarizes the selected studies in the literature.

Table 1. Overview of Previous Studies

Author	Methodology	Period	Country	Results
Kula (2003)	Correlation Analysis	1980 - 2000	Turkey	There is negative relationship between portfolio investments and economic growth
Demir (2007)	Granger Causality, Cointegration Test, Regressin Analysis	1996 - 2005	Turkey	International portfolio investments create positive effect on economic growth
Karaca and Abasız (2007)	Panel Data Analysis	1980 - 2005	25 developing countries	The effects of portfolio investments on economic growth in low income countries are higher compared to high income countries
Duasa and Kassım (2009)	Granger causality test, Toda and Yamamoto'snon causality test	1991 - 2006	Malaysia	Economic growth causes changes in the FPI and its volatility and not vice versa
Vergil and Karaca (2010)	Panel Data Analysis	1980 - 2005	25 developing countries	Foreign direct investment and portfolio investment have positive effects, short term capital investments have negative effects on economic growth of countries in the sample.
Ekinci (2011)	Panel Data Analysis	1996 - 2008	30 OECD Countries	There is no relationship between portfolio investments and economic growth
Rachdi and Saidi (2011)	Panel Data Analysis	1990 - 2009	100 developing and developed countries	There is no evidence that portfolio investment enhances output growth in developing economies
Şengönül and Değirmen (2012)	Impulse-response functions	1992 - 2005	Turkey	Short term capital investments have positive effect on economic growth in short run

DATA AND METHODOLOGY

Annual time series data, which covers the period 1986-2013, are utilised in this study. All the variables are expressed in logarithmic form. The variables used in this study are Foreign Portfolio Investment (FPI) and Gross Domestic Product (GDP). These variables come from The Central Bank of Turkey (CBRT) and Turkish Statistical Institute (TUIK). The data and resources were shown at Table 2.

Table 2. The Data Set

Variable	Explanation	Resources
FPI	Foreign Portfolio Investment, $	CBRT
GDP	Gross Domestic Product, $	CBRT, TUIK

The following techniques were used for data analysis and evaluation:

- Johansen Cointegration Test
- Impulse Response Function
- Variance Decomposition

EMPIRICAL RESULTS

To analyze the long run cointegrated relationship among the different variables by applying the VAR model, firstly, it is necessary to test stationarity and the order of integration of the variables in the model. If some or all of the variables in the model are non-stationary, conventional hypothesis-testing and confidence intervals will be unreliable. In the existence of non-stationary variables, there might be a so-called spurious regression. A spurious regression has a high R^2 and a t-statistic that appears to be significant, but actually have no economic meaning (Alhajhoj, 2007: 3651). All the data series were tested for stationarity to avoid statistically spurious relationships. For this purpose the Augmented Dickey-Fuller unit root test was used and test results are presented in Table 3.

Table 3. Results of ADF Unit Root Test

Variables	ADF Test Statistic		Test Critical Values			
	Level	First Difference	Level		First Difference	
FPI	0.089361	-3.478743	1% level	-3.769597	1% level	-3.788030
	(0.9573)	(0.0193)	5% level	-3.004861	5% level	-3.012363
GDP	0.476824	-4.884933	10% level	-2.642242	10% level	-2.646119
	(0.9817)	(0.0009)				

The unit root test results show that variables are non-stationary at level form but do not contain unit root after first differencing.

Secondly, it is necessary to determine optimal lag length of VAR model using information criteria. Table 4 shows the optimal lag length selection for the VAR procedure under the sequential modified LR test statistic, final prediction error (FPE), Akaike (AIC), Schwarz (SC) and Hannan-Quinn (HQ) information criteria.

Table 4. Summary of Lag Length Selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-9.757512	NA	0.009133	0.979793	1.077964	1.005837
1	23.10147	57.50322*	0.000827*	-1.425122*	-1.130609*	-1.346988*
2	23.81782	1.134229	0.001097	-1.151485	-0.660630	-1.021261
3	24.92393	1.566978	0.001428	-0.910327	-0.223129	-0.728013
4	28.89171	4.959730	0.001494	-0.907643	-0.024102	-0.673239

* indicates lag order selected by the criterion

The optimal lag length is 1 according to all information criteria.

In the next step Johansen trace and maximum eigenvalue cointegration tests were used to determine whether there is a long term relationship between foreign portfolio investment and economic growth. The results of the trace and maximum eigenvalue tests are reported in Table 5 and Table 6 which show the number of cointegrating vectors.

Table 5. Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.316595	16.00029	25.87211	0.4925
At most 1	0.209214	6.102931	12.51798	0.4473

Trace test indicates no cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table 6. Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

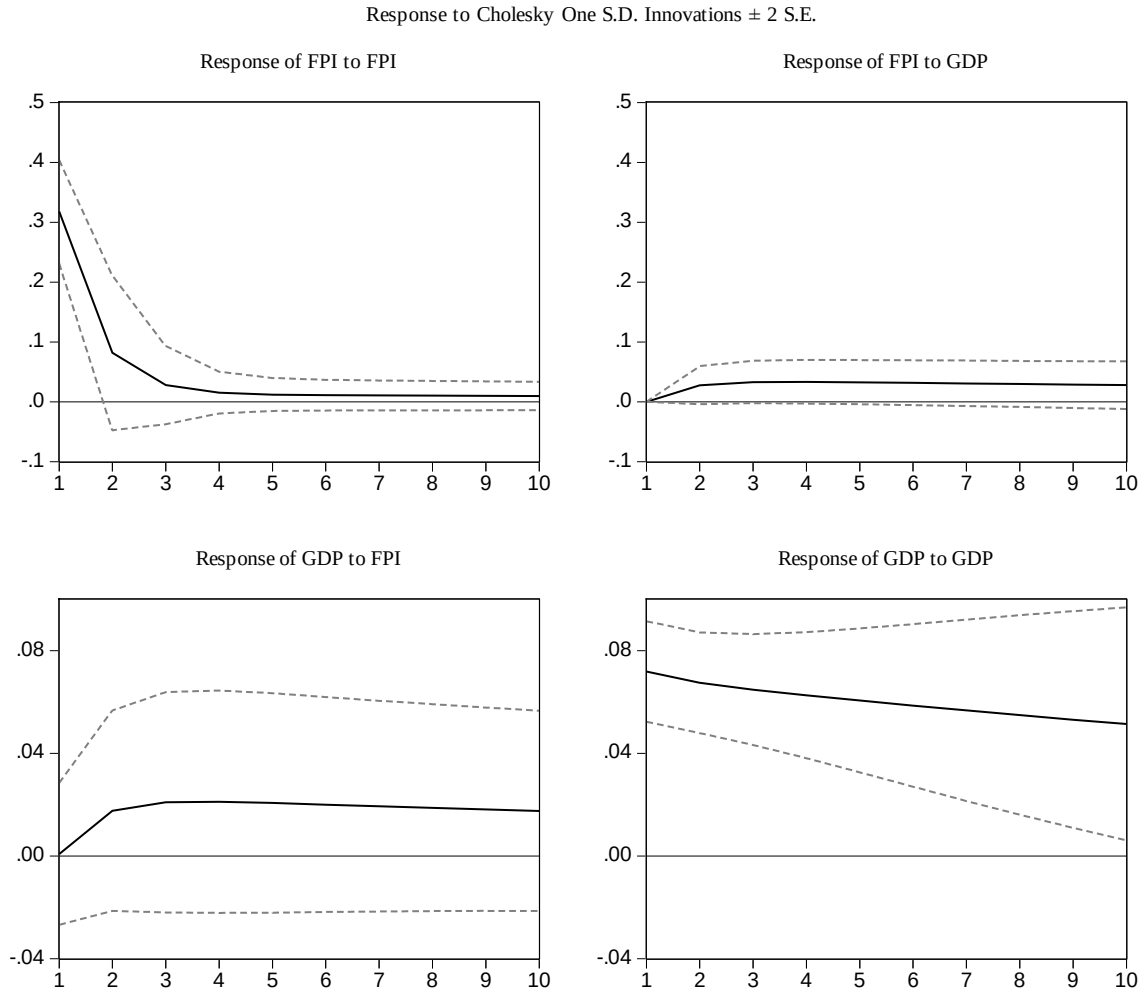
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.316595	9.897359	19.38704	0.6298
At most 1	0.209214	6.102931	12.51798	0.4473

Max-eigenvalue test indicates no cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

The cointegration tests showed that there is no cointegration among the variables. Hence, there is no long term relationship between foreign portfolio investment and economic growth in Turkey.

Finally impulse response functions and variance decomposition were used to examine the short term relationship. The impulse response function for the variables was depicted in Graph 3.

Graph 3. Impulse Response Functions



Impulse response functions indicate that shocks to the foreign portfolio investment have a positive impact on gross domestic product. Similarly, shocks to the gross domestic product have a positive impact on foreign portfolio investment.

Variance decompositions analysis measures the proportion of forecast error variance in a variable that is explained by innovations in itself and the other variables. The variance decomposition of the VAR was presented in Table 7.

Table 7. Variance Decompositon

Variance Decomposition of GDP: Period	FPI	GDP	Variance Decomposition of FPI: Period	FPI	GDP
1	0.011655	99.98834	1	100.0000	0.000000
2	3.111867	96.88813	2	99.29906	0.700941
3	5.112795	94.88721	3	98.32599	1.674011
4	6.284181	93.71582	4	97.35127	2.648727
5	7.013781	92.98622	5	96.43913	3.560874
6	7.502495	92.49751	6	95.59790	4.402101
7	7.850147	92.14985	7	94.82392	5.176078
8	8.109190	91.89081	8	94.11151	5.888493
9	8.309194	91.69081	9	93.45508	6.544919
10	8.467952	91.53205	10	92.84957	7.150425

According to variance decomposition, around 8 percent variation in gross domestic product was explained by portfolio investment in the 10th term. On the other hand, 7 percent variation in foreign portfolio investment was explained by gross domestic product.

CONCLUSION

This study aims to determine relationship between foreign portfolio investment and gross domestic product for Turkey fom the period 1986-2013. For this purpose unit root test, Johansen cointegration test, impulse response functions and variance decomposition were applied. According to obtained results there is no relationship between these variables in the long run. Impulse response functions showed that a shock to the gross domestic product has a positive impact on foreign portfolio investment. Similarly, a shock to the foreign portfolio investment has a positive impact on gross domestic product. At the same time, empirical findings shows that portfolio investments are not used adequately in productive fields in Turkey.

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