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The Impacts of the Global Crisis on the Turkish Economy and Policy Responses

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Abstract

This paper focuses on the impacts of the recent global crisis on the Turkish economy and the policy measures taken in response to the crisis. Turkish economy was adversely affected by the crisis through mainly three channels, namely expectations channel, trade channel and financial channel. The distinctive characteristic of the crisis was a severe export shock which can account for an important part of the decline in production in Turkey. Beside this, a significant sudden stop in financial flows worsened the credit conditions in the economy. As a result, the Turkish economy witnessed one of its worst economic down-turns after the Second World War. In fact, the Turkish growth performance was one of the worsts among developing countries. However, as opposed to previous crises, the financial markets in Turkey and many other developing countries did not experience a collapse. We argue that this is mainly related to the small magnitude and short duration of the financial shocks hitting Turkey and other developing countries relative to the ones in the previous decades. In this sense, the Turkish economy might not have been fully tested during the last global crisis. How the economy will behave in case of a larger financial shock is still unknown.

Key Words: Turkish Economy, Developing Countries, Recent Global Crises, Financial Flows, Monetary and Fiscal Policies

JEL Codes: F32, E63, E66, G01

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1. Introduction

The liberalization of the domestic economy and balance of payment transactions began after the 1980s in Turkey. In parallel to these liberalization attempts, the Turkish economy has had many fluctuations since the 1980s. The frequency and magnitude of the fluctuations in the Turkish real GDP growth have been higher relative to the previous period since the 1980s. The performance of the Turkish economy have become more and more dependent on the movements of international finance as in the case of many developing countries. The periods of high financial inflows have coincided with high credit and high overall economic growth. Whenever the Turkish economy experienced reversals in its financial account, the credit boom and economic growth faded away. Indeed, just after 1990 the Turkish economy experienced four big crises (Figure 1) which were mainly related to reversals of financial flows.[2] The last crisis hitting the Turkish economy began in the third quarter of 2008 and inflicted a heavy toll on the economy till the last quarter of 2009. The crisis mainly stemmed from the shock waves of the global crisis originated in the US.

This paper focuses on the impacts of the recent global crisis on the Turkish economy and the policy measures taken in response to the crisis. Turkish economy was adversely affected by the crisis through mainly three channels, namely expectations channel, trade channel and financial channel. The distinctive characteristic of the crisis was a severe export shock which can account for an important part of the decline in production in Turkey. Beside this, a significant sudden stop in financial flows worsened the credit conditions in the economy. As a result, the Turkish economy witnessed one of its worst economic down-turns after the Second World War. In fact, the Turkish growth performance was one of the worsts among developing countries. However, as opposed to previous crises, the financial markets in Turkey and many other developing countries did not experience a collapse. We argue that this is mainly related to the small magnitude and short duration of the financial shocks hitting Turkey and other developing countries relative to the ones in the previous decades. In this sense, the Turkish economy might not have been fully tested during the last global crisis. How the economy will behave in case of a larger financial shock is still unknown.

[2] The years of the crises are determined by annual negative real GDP growth rates.

The outline of the section is as follows. The first part gives a brief account of important macroeconomic developments in the Turkish economy after the 1980s and during the recent crisis. The second part discusses the channels through which the recent global crisis has hit the Turkish economy. In order to have a more complete picture, the second part investigates financial flow movements in a selected set of other developing countries as well. The third part discusses fiscal and monetary policies implemented by the government and the Turkish Central Bank in response to the crisis. The last part concludes.

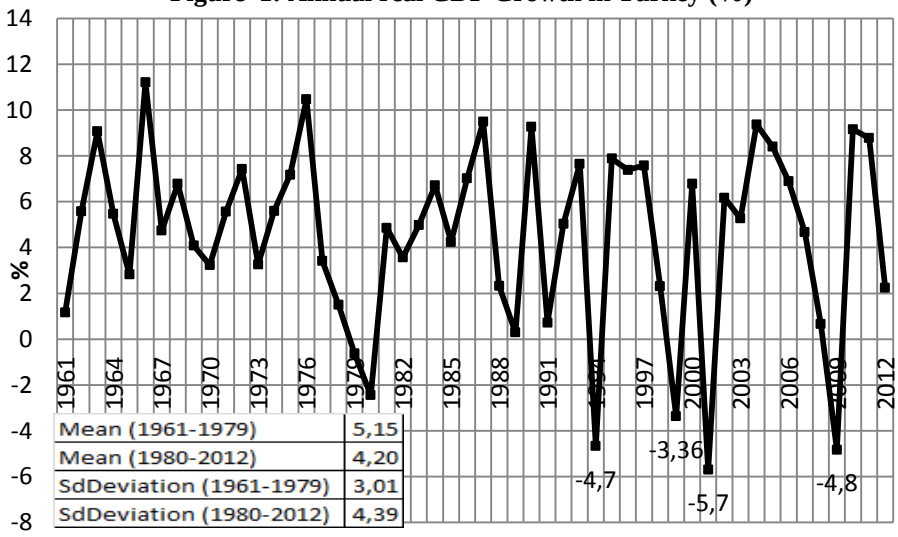
2. Turkish Economy before and during the Global Crisis[3]

As in the case of many developing countries, the growth rate became erratic and low in the Turkish economy after 1980 relative to the period 1961-79. The average growth rate was 5.2 percent in the period of 1961-79 whereas this ratio declined to 4.2 percent in the succeeding period. Furthermore, as an indication of a more erratic growth performance, the standard deviation of the growth increased from 3.0 percent to 4.4 percent after the 1980s. In this vein, as shown in Figure 1, the Turkish economy has experienced several crises since the 1980s. The first major crisis which hit the Turkish economy after the 1980s was the crisis of 1994. An unsustainable budget deficit with very high interest rates and very high inflation led to a sudden financial reversal resulting in the collapse of the Lira. The contagion impacts of the Asian and the Russian crises affected the Turkish economy adversely in 1999 as well. The devastating earthquake of August 1999 worsened the situation. As a result, Turkish GDP fell by 3.4 percent in that year. After this crisis, the Turkish coalition government started implementing a structural reform package under the auspices of the IMF. The program was mainly based on an exchange rate peg policy which was supposed to curb very high inflation by reducing tradable goods prices. Although the exchange rate peg policy reduced inflation rate from high rates to moderate rates, it also caused the over appreciation of the Turkish Lira vis-à-vis foreign currencies which contributed to the widening of the Turkish current account deficit. As a result of sudden reversals of financial flows, the pressure on the exchange rate increased significantly in the late 2000 and the beginning of 2001. The Turkish Central Bank's foreign exchange rate interventions and high interest rate policy did not produce desirable outcomes. After losing almost half of its reserves, the bank had to leave the currency

[3] Here, we briefly summarize important developments in the Turkish economy after the 1980s especially by focusing on the crises hitting the economy. For a comprehensive discussion on the evolution of several macroeconomic developments in Turkey after the 1980s, see FESSUD report called "*Perspective on Financial System in the EU: Country Report on Turkey,"* here, we will briefly summarize important developments in the Turkish economy especially by focusing on the crises hitting the economy.

to float in February 2001. The balance sheets of fragile banking system deteriorated adversely due to high interest rates and high depreciation of the currency. Many banks went bankrupt and the Turkish economy experienced its worst downturn in its history after the Second World War.

Figure 1: Annual real GDP Growth in Turkey (%)



Source: World Development Indicators

After the crisis of 2001, a new program, again under the auspices of the IMF, was put into practice. This new program included many structural changes in financial markets and the governance of the economy. In this sense, privatization attempts were accelerated, new financial regulatory bodies were introduced and some regulations in the banking sector were tightened. Meanwhile, the independence of the Central Bank was granted. After 2002, the Bank began implementing an implicit inflationary targeting regime which became an explicit one in 2006. In this monetary policy regime, short term interest rates became the main policy instrument accompanied by a relatively flexible exchange rate system.[4]

In the international arena, the change in institutional structure of advanced financial markets together with expansionary monetary policies conducted in advanced countries led to an increase in the credit generation capacity of financial institutions and a decrease in interest rates in these countries. This attracted global funds into developing countries such as Turkey which had higher returns (Mohan and Kapur, 2009). Along with the "global great moderation", Turkish economy did not experience a large financial account shock in 2002-8. In fact, the Turkish economy benefited from financial flows through both their positive

[4] The Turkish Central Bank has frequently intervened in foreign exchange markets. Indeed, as pointed out in the next subsections, the Bank seems to have tolerated the appreciation of the currency whereas it tried to decrease the amount of depreciation in order to use exchange rate as an implicit anchor during this period.

impacts on inflation and credit growth. On the one hand, the bonanza of financial flows caused an appreciation in TL which worked as an implicit exchange rate peg (Benlialper and Cömert, 2013). On the other hand, economic growth was boosted by cheap credit borrowed by banks and non-financial firms. The acceleration of privatization led to higher level of foreign direct investments too. As a result of positive domestic and very benign international conditions, although many important economic and social problems such as high unemployment rate could not be addressed, the Turkish economy experienced its "great moderation" from 2002-8 with high growth and low inflation.

However, the global financial crisis ended this honeymoon. Turkish economy fell into a significant recession. The capacity utilization rate in manufacturing sector declined from 80 percent to about 60 percent. [5] Overall, the Turkish economic growth significantly deteriorated and the economy experienced one of its worst recessions after the Second World War. As will be elaborated below, in line with deterioration in expectations, investment expenditures started to decline as early as the second quarter of 2008 (Table 1). Likewise, the fall in consumption expenditures began in the third quarter of 2008. Negative export growth was first observed in the third quarter in the same year as well. As a result of massive decline in consumption expenditures, investment and exports, imports expenditures were adversely affected. The government expenditure figures demonstrate that the Turkish government was hesitant about its responses to the crisis. Overall, as will be discussed in the third subsection, government expenditures were not used effectively to insulate the economy against the impacts of the global crisis.[6]

Although the crisis began in advanced economies, it quickly spread all over the world and caused negative GDP growth and significant increases in unemployment rate in Turkey and in many other developing countries. The Turkish GDP growth began to decline in the third quarter in 2008. The fall in GDP continued until the third quarter of 2009. The Turkish economy experienced 0.7 percent annual real GDP growth in 2008, it shrank by -4.8 percent in 2009. Indeed, the Turkish economic performance was one of the worsts in the world in this period (see Table 2). Excluding very small countries from the sample, Turkish economic performance was just better than a few ex-eastern bloc countries and raw material exporters. The negative growth performance of the economy deteriorated the already weakened

[5] Although the quarterly capacity utilization in manufacturing sector data set shows some seasonality, it does not affect the overall conclusion much.

[6] For example, while the advanced countries decided to implement huge stimulation packages in the second quarter of 2008, the Turkish government cut its expenditures by about 3.5 percent.

employment conditions further. In this sense, unemployment rate rose to record levels of 15.0 percent in April 2009. Annual unemployment rate became 14.0 percent in 2009.

Table 1. Growth[7] of Gross Domestic Product and its Components (%)

	2008Q1	2008Q2	2008Q3	2008Q4	2009Q1	2009Q2	2009Q3	2009Q4	2010Q1
GDP	7.01	2.63	0.86	-6.97	-14.74	-7.77	-2.77	5.86	12.59
Consumption Expenditure of Resident Households Growth	5.72	0.62	-0.35	-6.67	-10.23	-1.75	-1.91	4.98	7.92
Share in GDP**	71.6	68.8	65.7	69.9	75.3	73.3	66.3	69.3	72.2
Government Expenditure Growth	5.52	-3.44	2.65	2.83	5.26	-0.14	5.11	18.20	0.52
Share in GDP	9.1	9.9	9.0	12.7	11.2	10.7	9.7	14.2	10.0
Gross Fixed Capital Formation Growth	7.33	-2.04	-8.66	-18.75	-27.86	-24.46	-18.21	-4.23	17.21
Share in GDP	24.9	25.1	21.1	23.1	21.0	20.5	17.8	20.9	21.9
Change in Stocks Growth	-95.48	-140.88	18.73	149.50	11790.91	-517.15	1.76	-32.94	-94.85
Share in GDP	-0.1	0.7	5.3	-6.0	-9.2	-3.4	5.6	-3.8	-0.4
Exports of Goods and Services Growth	12.95	4.26	3.85	-8.16	-11.06	-10.78	-5.22	7.24	-0.85
Share in GDP	25.5	25.5	25.6	25.4	26.6	24.6	24.9	25.8	23.4
Imports of Goods and Services Growth	14.03	2.01	-3.84	-24.89	-30.99	-20.60	-11.66	11.02	21.99
Share in GDP	30.9	29.9	26.7	25.1	25.0	25.8	24.3	26.3	27.1

Source: CBRT

Table 2. Real GDP Growth Rates of 15 developing countries hit hardest by the crisis

	2002-07 average	**2007**	**2008**	**2009**
Latvia	9.09	9.6	-3.27	-17.72
Lithuania	8.31	9.79	2.91	-14.84
Ukraine	7.46	7.6	2.3	-14.8
Armenia	13.39	13.74	6.94	-14.15
Botswana	5.76	8.68	3.90	-7.84
Russia	7.03	8.53	5.24	-7.8
Kuwait	9.11	5.99	2.48	-7.07
Croatia	4.77	5.06	2.08	-6.94
Hungary	3.52	0.11	0.89	-6.76
Romania	6.19	6.31	7.34	-6.57
Moldova	6.17	2.99	7.8	-6
Bulgaria	6.03	6.44	6.19	-5.47
Turkey	**6.79**	**4.66**	**0.65**	**-4.82**
Mexico	2.82	3.13	1.21	-4.52
Paraguay	3.45	5.422	6.35	-3.96
Emerging Markets	7.15	8.701	5.87	3.11
World	4.48	5.348	2.705	-0.381

Source: IMF, WEO

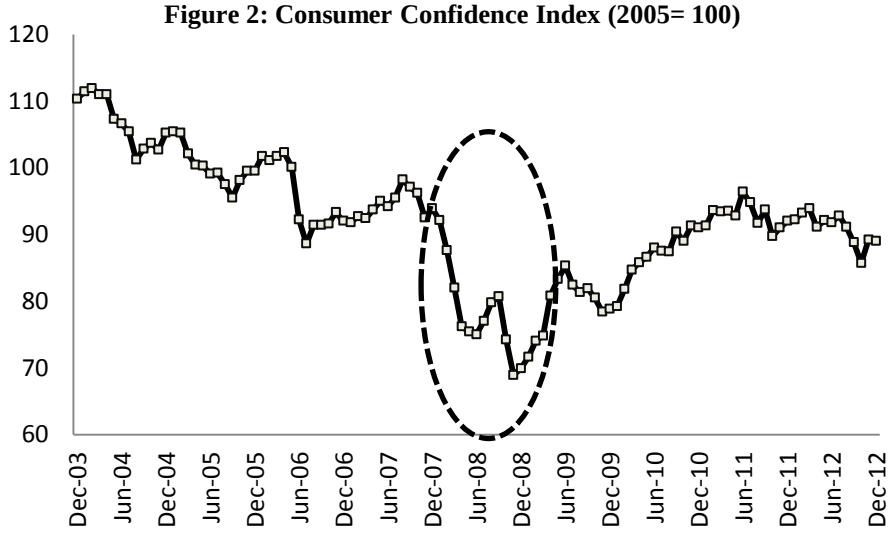
[7] Growth rates represent percentage changes in real GDP relative to the same quarter in previous year. Share in GDP represents the percentage share of the level of each variable in GDP

The global crisis has affected the Turkish economy through three channels, namely expectation channel, trade channel and financial channel. However, although financial flows to the Turkish economy significantly declined, the financial shock hitting the Turkish economy in the recent crisis was low relative to the previous shocks the economy had been exposed to. Therefore, this is one of the reasons behind the fact that the financial system did not collapse in the form of a banking system crisis or other forms amid a very sharp decline in GDP and employment. We will discuss each channel separately below.

2.1 Expectations Channel

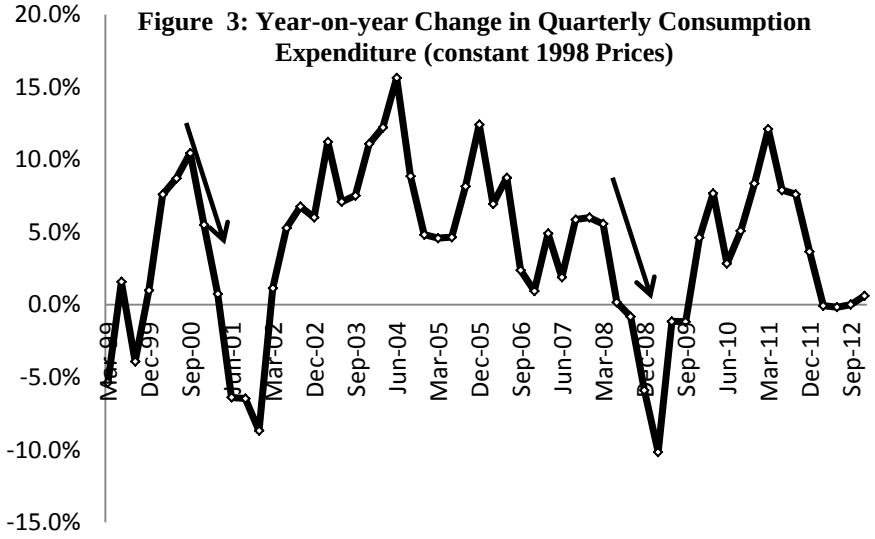
In Turkey, the initial impact of the crisis was felt as falls in consumption and investment spending due to the worsening expectations of investors and consumers. It is very difficult to measure the exact influence of exogenous direct effects of turmoil in the US financial markets on the expectations of Turkish investors and consumers. Although there are some problems with the existing data, the fact that, the expectations quickly started to decline in Turkey just after the emergence of crisis in the US can be considered as an indicator (Figure 2). Negative developments in consumer confidence about the future of the economy adversely influenced consumption expenditures. In turn, total consumption declined significantly (Figure 3). The dramatic decline in consumption was even larger than the decline during the 2001 crisis.

Figure 2: Consumer Confidence Index (2005= 100)



Source: CBRT

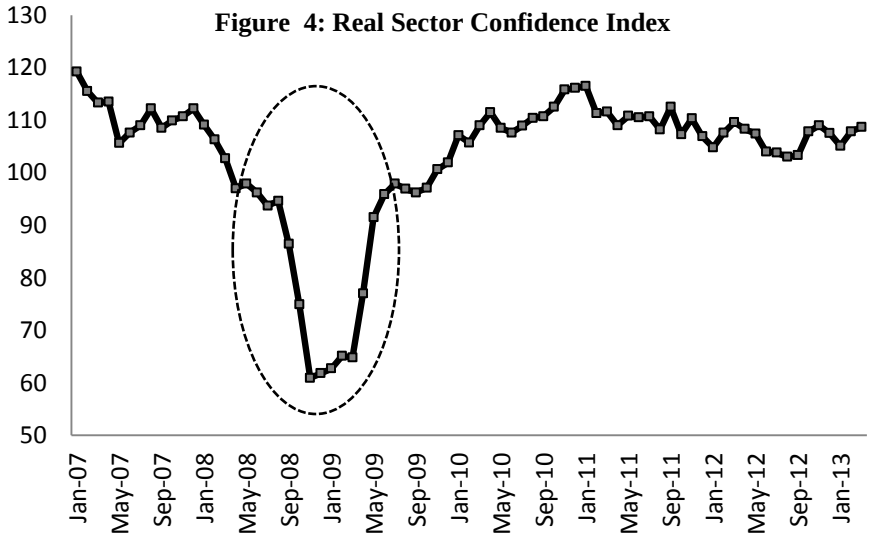
Figure 3: Year-on-year Change in Quarterly Consumption Expenditure (constant 1998 Prices)



Source: CBRT
Note: This figure shows percentage change in consumption expenditures relative to corresponding quarter in previous year.

In addition to the consumers, confidence of the producers sharply deteriorated in response to the global developments. Real sector confidence index, which reflects the expectations of producers tended to fall from December 2007 to November 2008 and remained low for a while (Figure 4). Similar to the picture in consumer expectations, this development demonstrates that rising risks in the global markets seemed to influence producer expectations negatively before the crisis was fully felt in the Turkish economy.

Figure 4: Real Sector Confidence Index

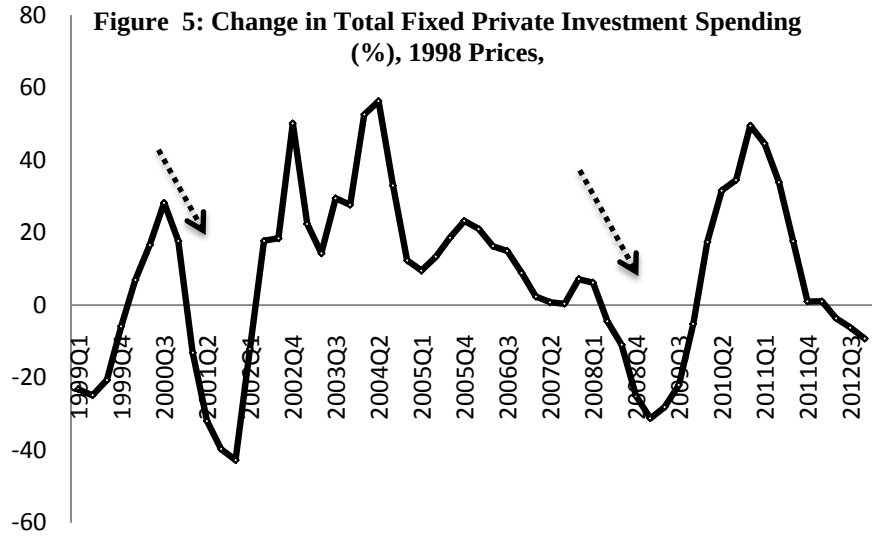


Source: CBRT

As Figure 5 suggests, the negative growth in investments was maintained for 7 consecutive quarters. This investment shock was as large as the shock during the 2001 crisis.

This sizeable contraction in investment expenditures inevitably had a significant role in the recession of 2009 in Turkey.

Figure 5: Change in Total Fixed Private Investment Spending (%), 1998 Prices,

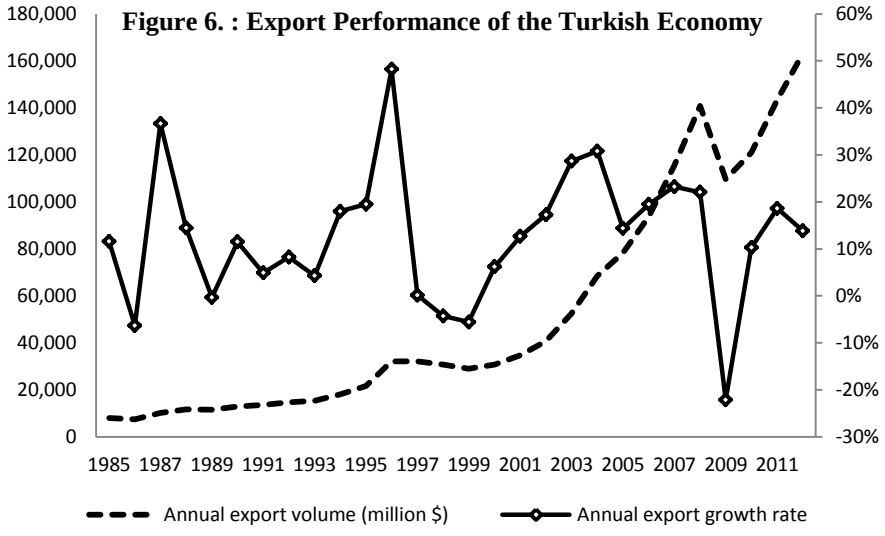


Source: CBRT
Note: This figure shows percentage change in total investment expenditures relative to corresponding quarter in previous year

2.2. Trade Channel

Another channel through which the Turkish economy was hit by the global crisis was the export channel. Even though the crises of 1994 and 2001 increased the export volume of Turkey due to mainly large depreciations in TRY during the global crisis, we observed a substantial fall in export earnings. Export earnings halted by more than 20.0% in 2009 (Figure 6). The main reason of this shock was that the biggest export partner of Turkey, the EU was in a deep crisis and hence, the demand from the European area largely stopped.

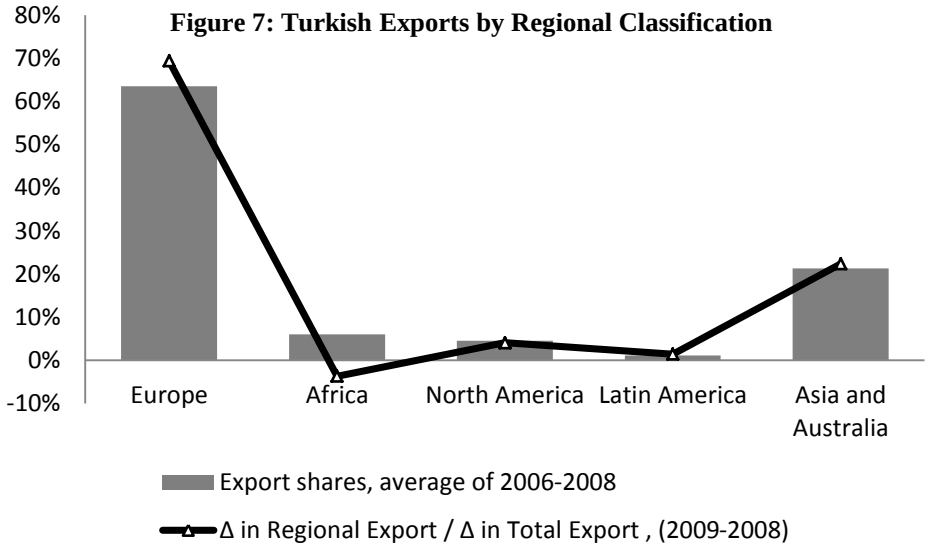
Figure 6. : Export Performance of the Turkish Economy



Source: IMF

In Figure 7, the shares of different regions in total Turkish exports and the contribution of change in exports to these regions to the total Turkish export performance are depicted. It is evident from the figure that, the biggest export partner of Turkish economy is Europe. The average share in Turkey's total export was 63.0 percent, exceeding the sum of the shares of other regions. Also the figure demonstrates that, 70.0 percent of the decline in total exports in 2009 stemmed from the decline in exports to Europe. In other words, the decline in exports to Europe in 2009 much exceeded Europe's average share in Turkish exports in the period of 2006-8. This is caused by the fact that although overall Turkish export growth decreased by 22.0 percent, the Turkish exports to Europe declined by 26.0 percent[8]. The contribution of the export fall to the negative GDP growth of 2009 was around 25.0 percent. By analogy, the fall in exports to Europe explains directly about 20.0 percent of the recession in 2009.[9] We should also bear in mind that all these impacts of export reduction were solely through the direct impact of the fall in export revenues. Considering the contagion impact of export reduction to other items of GDP (multiplier effect), we may confidently claim that the fall in exports, specifically to Europe, accounts for the large part of the recession in 2009 in Turkey.

Figure 7: Turkish Exports by Regional Classification



Source: Turkstat

The literature discusses that the contagion of the shifts in exports to GDP occurs via mainly two channels. One is the Keynesian multiplier mechanism. In developing countries which, in general, have idle capital and high unemployment, export variations have large

[8] There was an increase in the exports to African countries in 2009. This is an indication that the Turkish economy tried to widen its export market in order to compensate its loss through the falling demand from Europe. However, in general, there was a significant reduction in the exports to all other regions too

[9] Considering the -4.5 percent real GDP growth rate at the time, the depression in Europe cost Turkey nearly 0.9 percent of its GDP.

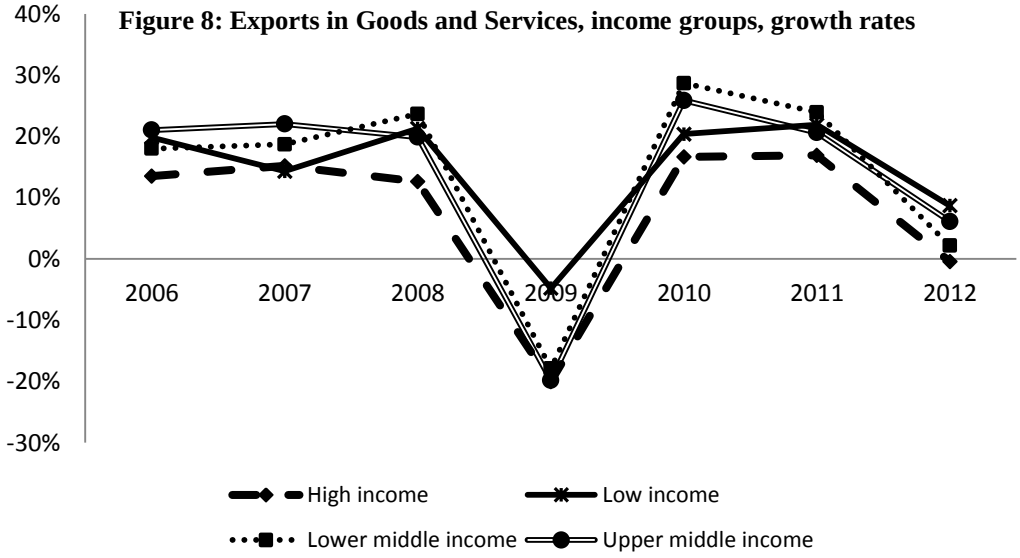
impact on growth (Bilgin and Sahbaz, 2009). In other words, a reduction in exports may bring about a large GDP decline due to multiplier effects. The second important channel implies that developing economies are in need of imported intermediate goods for their production sector. And these economies often need export incomes in foreign currency in order to import these vital intermediate goods. Moreover, countries like Turkey always are in need of intermediate goods imports for their exports since their exports are mainly in the form of final goods. Hence, a fall in exports leads to a contraction in import demands. In some cases, this would prevent developing countries from importing very crucial intermediate goods which would improve the production capacity of these countries. In relation to the second channel, a third channel can be considered as well. Export oriented firms would have serious balance sheet problems when their foreign currency earnings decrease because many of these firms borrow heavily from the rest of the world. Therefore, an export shock can directly deteriorate financial health of the export oriented firms which can bring about lower investment levels.

In the global crisis, especially the first and third channels might have been influential in the Turkish case. As we presented in the previous subsection, the worsening consumption and investment spending started considerably after 2008. In this declining trend, export channel was as effective as the expectations channel. The 20.0 percent fall in export revenues naturally caused income of investors and consumers to decline which brought about a dramatic decline in Turkish GDP in 2009. During the crisis, in conjunction with the exports, import spending of Turkey declined as well. This decline was directly related to the fall in exports and overall decline in total income.[10] In fact, the correlation coefficient between the trend in export and import revenues is 0.99 in the period from 1989 to 2012 in Turkey. Furthermore, our Engle-Granger causality analysis states that exports in Turkey statistically significantly causes imports, while imports do not explain the movements in exports. The other studies which investigated the export-GDP growth relation in Turkey show us there is a close relationship between growth and exports revenues in Turkey. For instance, Karahasan (2009) analyzes the causality between exports and GDP growth in Turkey for the years 1950-2008 and concludes that there is bidirectional causality between them. The causality analyses conducted by Halıcıoğlu (2007) for the years 1980-2005 and Bilgin and Sahbaz (2009) for the years 1987-2007 concludes that changes in exports have a uni-directional impact on industrial production and GDP growth.

[10] Historically, a reduction in Turkish GDP often coincides with an improvement in its current account.

Trade channel was also effective in many other developing countries in the global crisis and the trend observed in their exports was similar to that in the Turkish export. Figure 8 demonstrates, with the exception of the lowest income group countries, all other groups of countries experienced a fall in their export levels by more than 20.0 percent in 2009. The drop in the export growth rates in these groups was as high as the drop of exports in the north, which was at the center of the crisis.

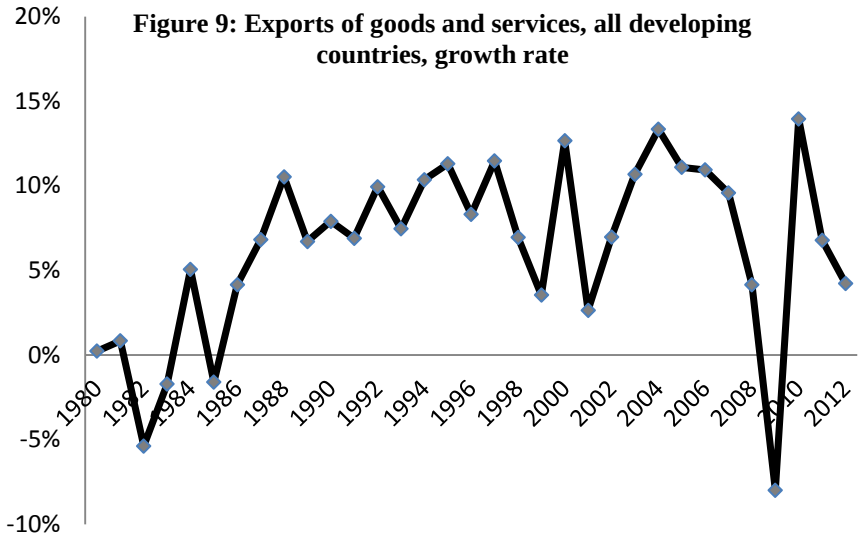
Figure 8: Exports in Goods and Services, income groups, growth rates



Source: IMF

The best way to interpret the magnitude of this decline properly is to compare the level of this shock with the trade shocks observed in the past crises on a global scale. It is obvious that the export shock in the recent crisis was much greater than the past shocks (Figure 9). For example, a similar export squeeze was observed in 1982 when the developed countries experienced a slowdown; however, the magnitude of this export decline was much lower than the one in 2009. Similarly, during the Asian financial crisis, the export growth rate of developing countries declined but never became negative. In this vein, the recent crisis should be treated different than the ones in the 80s and 90s which were mainly triggered by financial reversals and brought about financial market collapses.

Figure 9: Exports of goods and services, all developing countries, growth rate



Source: IMF

2.3 Financial Channel

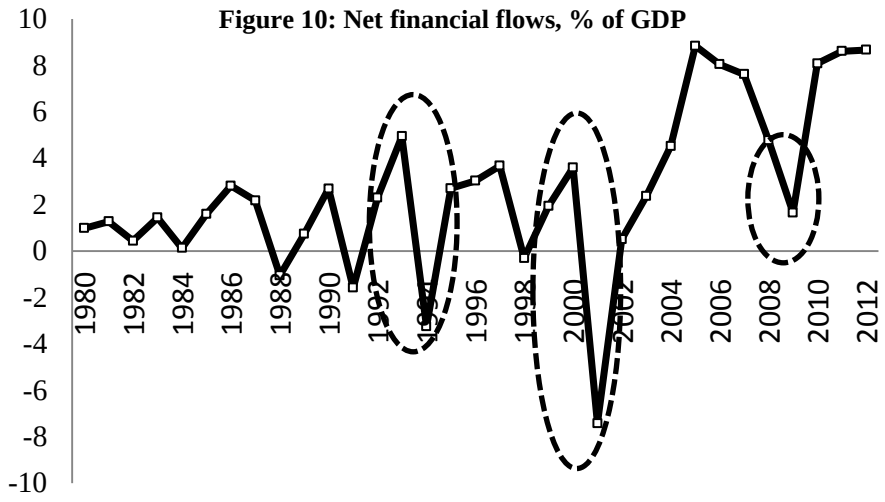
Another channel through which the crisis transmitted into developing countries is the financial channel. This channel is described as the liquidity or exchange rate shocks experienced by the financial system of developing countries, which are closely linked to developed countries. In general, the majority of developing countries did not experience a financial system collapse. Likewise, the Turkish economy was not caught by a severe financial turmoil as well. Particularly, relative to 1994 and 2001 crises, the financial system of Turkey recovered from the global crisis very fast. For instance, while 18 banks bankrupted in the crisis of 2001, no single bank collapsed in the global crisis. Moreover, the profitability of banking sector did not even decline and their capital to asset ratios further increased during the global crisis (Uygur, 2011)

The literature ties the resilience of the financial system of developing countries during the crisis to a lot of factors. Large accumulated reserves and flexible exchange rate regimes are the most significant factors according to the existing literature. In addition to these, financial stability policies, banking reforms and strong balance of payments are considered to be responsible for the relatively better performance of developing countries in the recent crisis.

We believe that all these factors mentioned in the literature might have served some roles in mitigating the impacts of the crisis on developing countries. However, there is another important factor that has been mostly ignored by the literature. We believe that Turkish financial system as in the case of many other developing countries was not tested substantially in the global crisis. The shock that Turkish economy was exposed to in the global crisis was

actually smaller than the shocks observed in both 1994 and 2001 crises. Similarly, as will be shown below, the magnitude of the financial shocks that the Turkish economy and majority of developing countries faced in the recent crisis was much smaller than the shocks observed in previous developing country crises.

Figure 10: Net financial flows, % of GDP



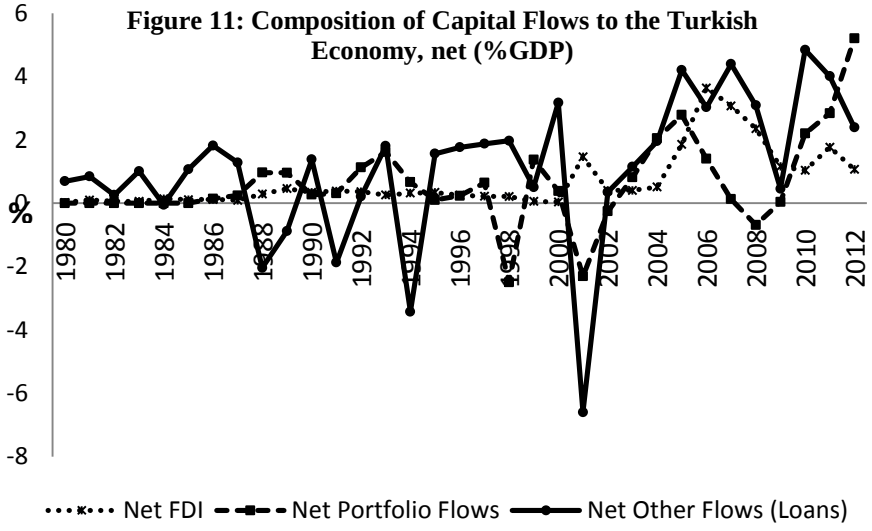
Source: CBRT

Financial shocks can basically be assessed by looking at the magnitude of sudden stops or capital reversals. As a first approximation, analyzing the trend in the net financial flows can provide us with very useful information about the magnitude of the shock a country encounters through its financial account. According to Figure 10, net financial flows as a percentage of GDP were 7.2 percent in Turkey in 2007 and in the third quarter of 2008 it started to decline due to the turmoil in the financial markets in US. And in 2009, the net flows halted by a large amount and net flows as the share of GDP became 1.7 percent. This clearly indicates that Turkish financial system faced an extensive sudden stop but global funds continued to come to Turkey with smaller amounts in 2009 compared to previous years.

In terms of the financial shocks, the picture in Turkey during the global crisis was different from that of previous crises. In 2001, the net flows scaled by GDP were 7.5 percent, meaning that global funds left Turkish economy by substantial amounts. Likewise, in 1994, the annual exit of the funds was nearly 3.0 percent of GDP. All these mean that there were large financial account reversals during these two crises, which were much harsher than the sudden stop observed during the global crisis. This can be verified by investigating the composition of net financial flows relative to GDP as well. As can be seen in Figure 11, although net portfolio flows became negative in 2008, the other flows and net foreign direct

investment did not show any sign of reversal during this year. Furthermore, overall, all three types of financial flows were low but positive in 2009. This can be considered as a sudden stop rather than a reversal. The reversals would have qualitatively different implications than sudden stops, particularly for developing countries. Reversals put a great strain on central bank reserves and foreign exchange markets. The need for foreign currency increases in the existence of current account deficits. A massive financial reversal brings about a financial collapse by causing sudden depletion of foreign exchange reserves and unsustainable depreciations in the domestic currency which may weaken balance sheets of domestic agents. Although a sudden stop may also bring about similar problems, if the central bank reserves are not very low to trigger a panic, most likely, a sudden stop would bring about credit restraints rather than a financial collapse. Furthermore, the impacts of sudden stops or reversals do not only depend on magnitude of the shocks but also the duration of the shocks.

Figure 11: Composition of Capital Flows to the Turkish Economy, net (%GDP)

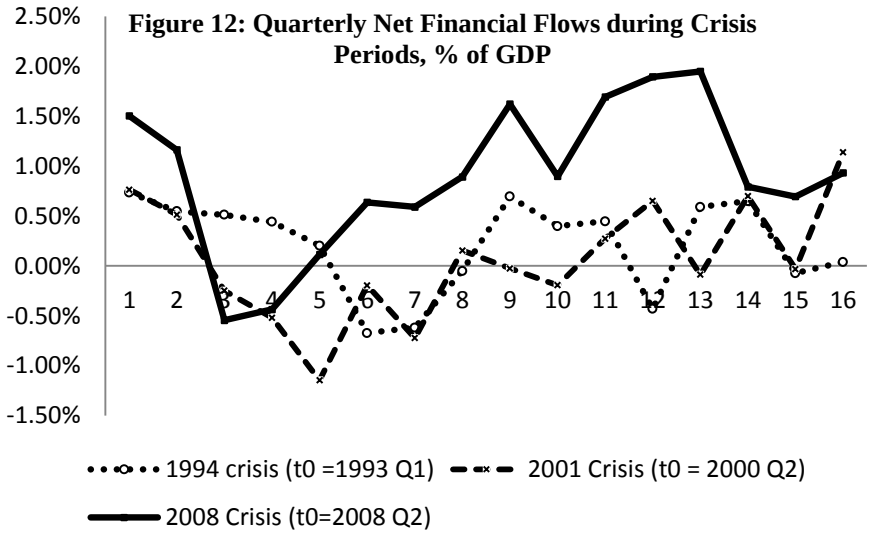


Source: CBRT, World Bank

Quarterly net flows data can be more explanatory to investigate both magnitude and duration of the shocks during different crises. Figure 12 shows the quarterly trend of net financial flows as a share of annual GDP in the corresponding quarter in the Turkish economy during the last three biggest crises. It starts from the quarter when the share of flows initially began to decline. T_0 shows the quarter just before the flows started to fall. In 1994 crisis, first sudden stops appeared in the first quarter of 1993 and during the following 5th and 8th quarters, reversals occurred, which indicates that financial shock was influential for 8 quarters. In 2001 crisis, just after 3 quarters from T_0, financial account reversals took place and lasted till the 10th quarter, meaning that the duration of the shock was 10 quarters. For the global crisis, in the 3rd quarter of 2008, net flows started to decline and after the 3rd and the

4th quarters, we observed a net reversal. Following the 5th quarter, the share of net flows started to rise. This shows that the duration of the shock was about 5 quarters, which was relatively shorter than the other two crises. Even though there was a 2-quarters-long of a financial reversal in Turkey during the global crisis, as we indicated above, annually there was not a financial reversal in 2009. In this sense, it is obvious that both the duration and magnitude of financial shocks in the global crisis were shorter and weaker than other two earlier crises in Turkey.

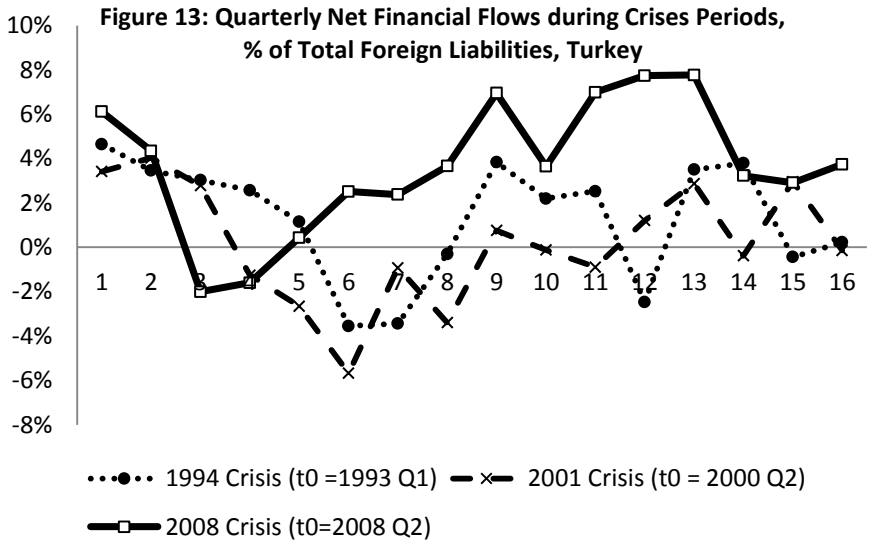
Figure 12: Quarterly Net Financial Flows during Crisis Periods, % of GDP



Source: CBRT

The net flows relative to total stock of foreign funds in an economy is another indicator to see the magnitude of the shocks the economy faced during crises.[11] This indicator shows the size of net financial flows relative to accumulated foreign liabilities. On annual basis, that in the earlier crises, large portion of foreign investment stock left Turkish economy, while during the global crisis, foreign investment continued to flow in, albeit in small proportions. And on a quarterly basis, the shock scaled by the total foreign liabilities in global crisis was shorter in duration and smaller in magnitude compared to previous crises (Figure 13).

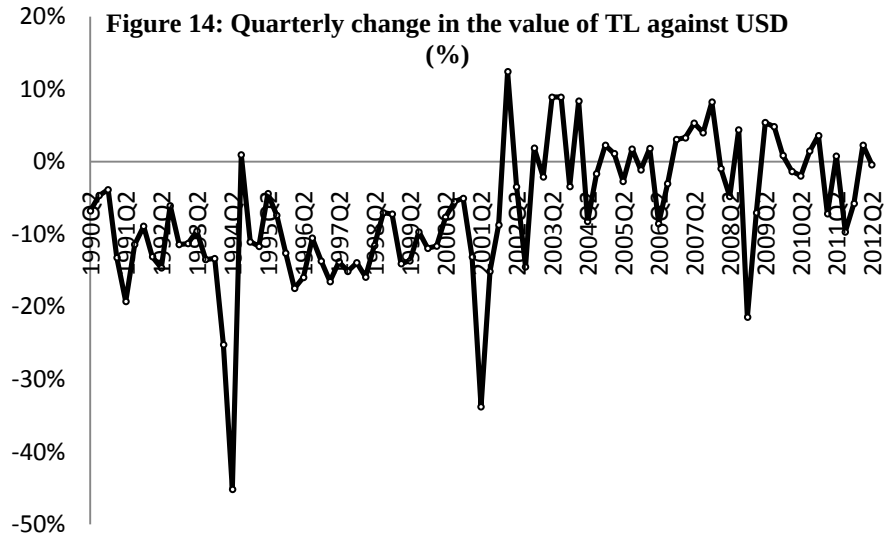
[11] Total stock of foreign funds is the existing foreign investment in Turkish assets in a given quarter. It is represented by the foreign liabilities in the international investment position data.



Source: CBRT

Since some of the pressure related to financial flows can be absorbed by exchange rates movements, exchange rates can be also utilized to examine the magnitude of pressure related to financial shocks. Figure 14 shows that the depreciation pressure was much milder during the global crisis than during previous crises. Here, it could be argued that due to the reserve operations the exchange rate pressure might have been calmed down in the global crisis. In Table 3, we give the ratio of quarterly net financial flows in quarter *t* to the existing international reserves amounts in the quarter *t-2*. The shaded areas in the table depict that the pressure on central bank reserves in the last crisis lasted shorter and also the magnitude of the pressure was lower. In other words, the reserve depletion during the global crisis was also less than the depletion during other crises.[12] In the 3rd quarter of 2008, the reserves of central bank amounted to be $76 billion and it reached at minimum value of $63 billion in 2009. The reserve loss was 17.0 percent of total reserves. Nevertheless, reserve depletion in 2001 crisis was 36.0 percent and in 1994, more than 50.0 percent.

[12] By depletion, we mean the reserve loss occurred from the beginning of the crisis till the reserves reached minimum levels in the crisis period. It is the difference between maximum amounts and minimum amounts of reserves achieved in the course of crisis.



Source: CBRT

Table 3. Net Flows at time t / Foreign Reserves at t-2

	Net Financial Flows / Reserves		
t	1994 Crisis (t0=1993 Q1)	2001 Crisis (t0=2000Q2)	2008 Crisis (t0=2008 Q2)
0	50%	19%	22%
1	36%	13%	17%
2	29%	-6%	**-7%**
3	27%	**-13%**	**-5%**
4	12%	**-29%**	2%
5	**-40%**	**-6%**	10%
6	**-73%**	**-23%**	10%
7	**-5%**	5%	14%
8	42%	-1%	26%
9	24%	-5%	15%
10	17%	7%	29%
11	-14%	15%	30%

Similar to the case of Turkey, developing countries in general did not experience a destructive financial account shock in the global crisis (Comert and Colak 2013 and 2014). For example, if we compare the magnitude of the financial shock in the recent crisis with the 1998 Asian crisis, the shock to net financial account was shorter and smaller during the global crisis compared to Asian crisis. The comparison between the magnitudes in the Latin America crisis in the 1980s and the recent global crisis yields more striking results.[13] The net private flows were amounted to be 3.0 percent of GDP in all developing countries in 1981. Starting from the debt crisis in 1982, net private flows began to fall. And for three years, we observe negative net private flows, indicating that private investors left these economies in the middle

[13] Due to data constraints, this comparison is made through the net private financial flows.

of the 80s. This shock is clearly much larger than the shock occurred in 2008. Overall, all indicators demonstrate that not only Turkey but also developing countries in general experienced relatively milder shock during the recent crisis.

Among other reasons such as the contribution of some policy reforms put into practice in the previous period, there are three distinct reasons behind the mild shocks Turkish economy and other developing countries experienced in the recent crisis. First, financial markets in developed countries could not fully serve their safe heaven roles in the recent crisis as opposed to the crisis in emerging markets in the 80s and the 90s. Second, the massive quantitative easing accompanied by very low interest rates in developed countries rejuvenated financial flows to developing countries very soon. Third, given the turmoil in the US and prolonged instability in the Euro Area, developing countries enjoyed greater legitimacy and autonomy in implementing expansionary monetary and fiscal policies which partially offset inadequate aggregate demand problem in developing countries for a while. [14]

3. Policy Responses to the Crisis

The authorities adopted wide range of policy measures in order to mitigate the impact of financial crisis, albeit criticisms that they were too late to respond. These measures might be grouped into three categories; fiscal policy measures, monetary responses and financial sector measures. Initially, starting from the beginning of 2008, monetary measures were adopted. Later, in March 2009, first fiscal package was introduced. Additionally, Banking Regulation and Supervision Agency (BRSA), in coordination with the Central Bank, implemented several measures in order to control the possible risks that might have occurred in the banking sector during the crisis. Here we will not go into every detail of these policies, but we will broadly explain them.

3.1 Fiscal Policies

Fiscal responses to the crisis came into place, in the form of announcing the first comprehensive fiscal measure package in March 2009, when the crisis already became influential in Turkey (Uygur, 2010).[15] After this package, subsequent fiscal actions were taken over time. Table 4 depicts the types of fiscal measures, their target and general characteristics. Fiscal measures mainly targeted to recover main macroeconomic fundamentals (Table 4). Change in tax regulations and tax reductions aimed at decreasing the tax burden on consumers

[14] The details of this discussion can be found in Comert and Colak 2013 and Comert and Colak 2014.
[15] Many blamed government for being very late in comprehending the severity of the crisis and in its response to the crisis (Uygur, 2010; Öniş and Güven, 2010).

and firms to stimulate consumption and investment which can stir the economy.[16] Through some incentives specifically for firms, the government attempted to mitigate the losses of firms resulting from export squeeze and financing constraints at the time of the crisis. Since already high unemployment continued to rise, government tried to directly create employment opportunities as well. And as stated in previous subsection, the sudden stop in capital inflows resulted in credit shortages and financing issues for investment projects. In order to tackle with this challenge, government enacted several policies to keep global savings in Turkey and also call for the resident's investment abroad.

Table 4: Fiscal Policy Responses

Types of Fiscal Measures	Characteristics	Target
Tax Policies	✓ VAT and Special Consumption Tax reductions ✓ Cuts in corporate tax rates varying to the regions and sectors.	Encouraging consumption and investment
Private sector incentives	✓ Interest rate subsidies ✓ The payment of employers' share in employees social security payments by Treasury	Protecting firms against bankruptcy and promoting them to invest
Employment support	✓ Exemptions in the social security payments of workers ✓ Employing part-time workers whose allowances were paid by Turkish Employment Organization ✓ Hiring nearly 200 thousands people as temporary workers or interns in public sector.	To counteract against rising unemployment and its social costs.
Access to global capital	✓ Tax amnesty for all unrecorded assets if they are declared ✓ Tax relief on credits obtained from foreign sources ✓ Tax exemptions on the foreign assets held by the residents providing that these assets were transferred to Turkey	Softening the impact of sudden stops in capital account.

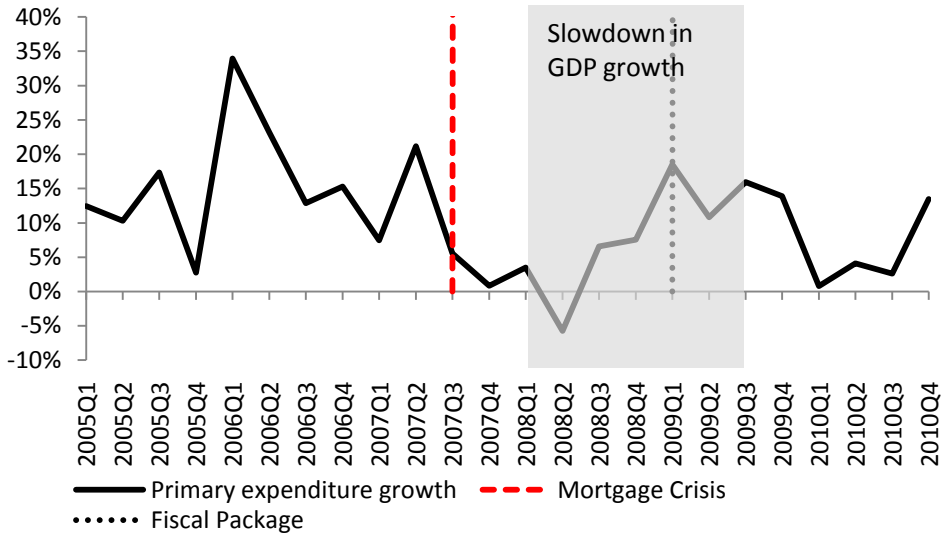
Compared to advanced countries and many other developing countries, Turkish government was reluctant in its fiscal response to the crisis. For example, while the advanced countries decided to implement huge stimulation packages in the second quarter of 2008, the Turkish government did not adopt countercyclical fiscal policy in 2008. The only apparent direct significant fiscal measures took place in the first quarter of 2009, when the crisis had already affected Turkish economy. Figure 15 depicts the year-on-year change in the quarterly non-interest government expenditure from the same quarter a-year-ago[17]. The beginning of

[16] Besides expanding expenditures, Turkish government enacted several tax reforms as demonstrated in Table III.5 above. These reforms resulted in a decline in the growth rate of tax revenues in 2009 compared to 2008. However, albeit a decline in growth rate, tax revenues continued increasing in 2009 by 3.0 percent. Considering the income effect of falling GDP in 2009 by 4.9 percent, Turkish government did not seem to face a tax income shock in the recent global crisis.

[17] Real primary expenditure is calculated as the nominal expenditure over CPI taking 2003 as base year. Since there is a high seasonality in the government expenditures, the growth rate was calculated not from the previous

subprime mortgage crisis is dated back to the third quarter of 2007 and the slowdown in economic activity in Turkey started in the second quarter of 2008 with 2.7% GDP growth. In the subsequent quarters till the fourth quarter of 2009, GDP growth remained negative in Turkey (Table 1). Nevertheless, despite low growth since the 2nd quarter of 2008, Turkish government seemed to be inactive in stimulating government spending in these early periods of crisis. Besides, the year-on-year growth rate of quarterly primary expenditure plummeted till the third quarter of 2008, even become negative in the 2nd quarter, and only substantial increase in the expenditure growth rate was observed in the first quarter of 2009 (Figure 15). With the comprehensive stimulus package in the first quarter of 2009, a high level of increase occurred in primary government expenditures by nearly %15 percent. Taking the implementation and response lags of these stimulus measures into account, the fiscal response of government spending seems to be quite delayed in Turkey.

Figure 15: Quarterly Real Government Primary Expenditure
(growth rate from the same quarter in previous year **)**



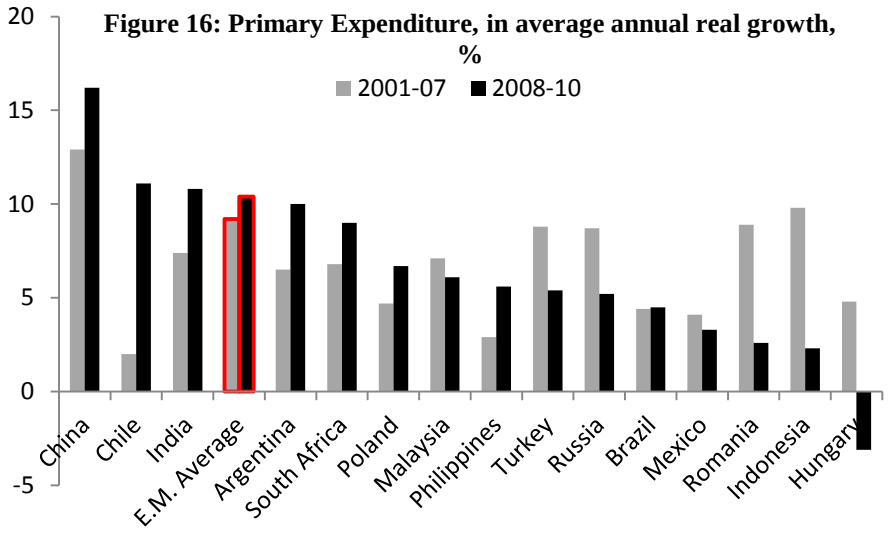
Source: Undersecretariat of Treasury

Furthermore, several reports by the OECD and the IMF reveal that Turkey was among the latest respondents in terms of fiscal stimulus compared to other countries. And besides delayed response, the costs of adopted fiscal measures as a ratio of GDP were among the lowest considering other advanced and developing economies. An OECD report (2009) on countries' fiscal stimulus in the crisis indicates that Turkey and Greece were only two OECD economies having no fiscal stimulus package till the March 2009. An IMF report (2009) on

quarter but the a-year-ago quarter in order to deal with the seasonality problem. Government spending usually tends to increase as the year ends.

G-20 economies' fiscal measures in crisis demonstrates while the average cost of fiscal measures already amounted to 0.5% of G-20 GDP, Turkey did not announce any measure in 2008. And the costs of discretionary fiscal measures enacted in 2009 in Turkey were among the lowest in G-20 economies and much below the G-20 emerging markets average[18] (IMF, 2010). In Turkey, the average annual growth rate of the real government primary expenditure during the crisis (2008-10) was also much below the same ratio in 2001-07 period . Figure 16 demonstrates the averages of annual real growth rate of primary spending in 2001-07 and 2008-10 periods in several emerging markets. In many emerging markets, as expected, this growth rate was larger in the crisis years than the prior-to-crisis average. However, in Turkey this ratio declined unexpectedly from 8.8 percent in 2001-07 to 5.4 in 2008-10. Besides, the primary government expenditure growth in Turkey was significantly lower than the emerging market average of 9.2 during the crisis years.

Figure 16: Primary Expenditure, in average annual real growth, %



Source: IMF (2010)[19]

Overall, the fiscal response to the global crisis was relatively weaker and late in Turkey compared to other advanced and developing countries. This ended up with a rise in general government budget deficit by 4.2 percent of GDP, which was smaller than that of the OECD average of 6.3 percent (Rawdanowicz, 2010). This might be explained by the fact that Turkish government did not require to bail out its financial market as in the case of 2001 crisis, because Turkey did not experience a financial collapse in the global crisis, as presented

[18] The emerging markets in G-20 group on average spent 2.4% of their GDP on fiscal measures in 2009, and Turkey's fiscal spending amounted to only 1.2% of GDP.

[19] The numbers in the figure collected from the report, "From Stimulus to Consolidation: Revenue and Expenditure Policies in Advanced and Emerging Economies" prepared by IMF(2010).

in detail in the sections above. Another factor might be that the government size became significantly smaller after the huge privatization efforts in 2004-6 period. Finally, those countries which were unwilling to use active fiscal measures or/and did not have enough fiscal space witnessed deeper declines in their GDP. Turkey can be considered as one of them. In the Turkish case, although the government had enough fiscal space for an expansionary policy its reluctance in conducting expansionary fiscal measures might have had an important role in the severity of the crisis in terms of both magnitude and duration.

3.2 Monetary Measures

Besides these fiscal measures, the Central Bank of Turkey took monetary actions as in the case of majority of crisis-countries. The monetary responses to the crisis preceded the fiscal actions and started to take place in the first half of 2008. The primary objectives of monetary policy during the crisis were to stabilize inflation, meet the FX demand (to ease the pressure on the exchange rates) and TL liquidity needs of private sector. For these purposes several policies were put into practice by the central bank (Table 5).

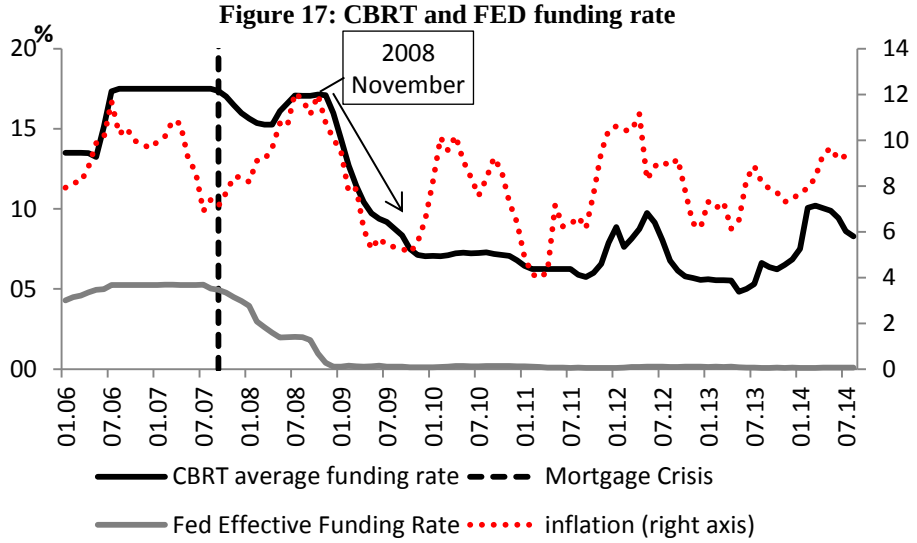
Table 5: Monetary Policy Responses

Types of Monetary Measures	Characteristics	Targets
Interest rate adjustments	✓ Policy rates were increased since first half of 2007 till July 2008 to stabilize rising inflation ✓ The rates sharply declined by 11 times after November 2008 from 16.75 percent to 7.25 percent till September 2009	To meet the inflation target, spur domestic demand and meet the liquidity needs of private sector.
FX interventions	✓ FX purchase auctions nearly stopped in the second half of 2008 ✓ FX selling auctions took place 20 times from late 2008 till mid-2009 ✓ The maturity of FX lending to banks was extended from one week to three months ✓ The interest rate on FX lending was significantly reduced ✓ The FX required reserve ratio was declined from 11percent to 9 percent.	To meet the FX demand of private sector and lessen the volatility in the exchange rate
Other liquidity policies	✓ Liquidity started to be provided via 1-week repo auctions. ✓ Interest payments on TL required reserves were increased ✓ Export rediscount credits were issued to more exporting firms ✓ The upper limit of export rediscount credits was increased from $500 million to $2.5 billion. ✓ TL required reserve ratio dropped	To ease the conditions of banks and firms in reaching the liquidity.

In the initial phase of the crisis, CBRT did not adapt an expansionary stance till November 2008. In this period, the measures taken by the Central Bank were mostly

concerned about inflation and financial stability without much emphasize on growth and unemployment issues which were among main considerations of some central banks in advanced countries. When Lehman collapsed in third quarter of 2007, it was apparent that a plunge in aggregate demand and recession was upcoming for advanced countries. Hence these countries significantly cut their policy rates. However, CBRT took tightening stance in this period and did not cut its rates and even increased the policy rates further in the second quarter of 2008 (Figure 16). According to the authorities, the rationale behind this stance was higher level of exchange-rate pass through, low output gap and hence rising inflation expectations[20].

Figure 17: CBRT and FED funding rate



Source: CBRT and FED

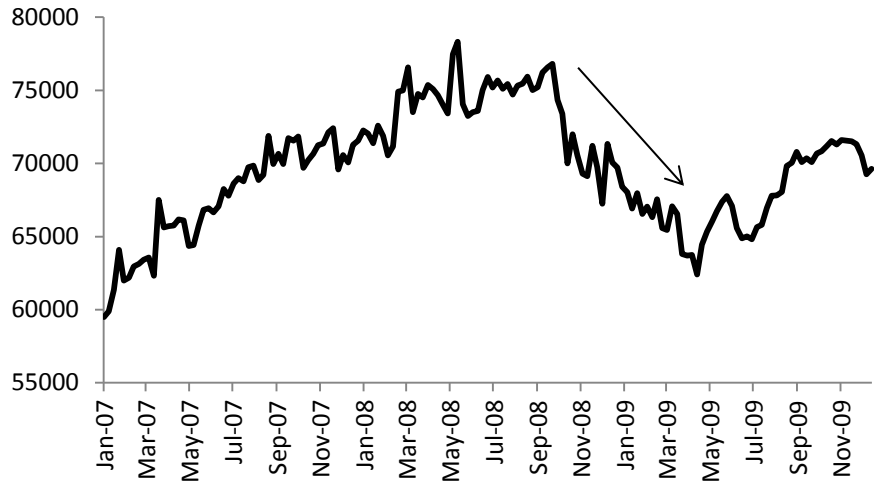
As Figure 17 demonstrates, after the eruption of the crisis in the US, there was a rising tendency in the CPI inflation. Nevertheless, when the inflation pressure calmed down in the last quarter of 2008, CBRT started to take expansionary stance. As the former president of CBRT, Durmuş Yılmaz, (2009) stated in a speech "…*the rather low exchange rate pass-through under deficient domestic and foreign demand conditions coupled with the tightness of financing conditions for the corporate sector, the downward trend in import prices, accompanied by improving inflation expectations not only necessitated, but also made possible, a 'controlled but rather rapid rate cut cycle*'." Hence, as the inflation became no longer a concern due to slowing aggregate demand, monetary policy loosened significantly by cutting policy rates by 10.5 basis points in 11 months from November 2008. Figure 16 clearly

[20] Furthermore, the confidence of Turkish government that Turkish economy was strong enough to alleviate the crisis might have caused the CBRT to wait long for policy rate cuts.

indicates that the policy rate cuts after 2008 November perfectly coincides with the plummeting inflation rates.

The expansionary stance of the Central Bank was not only observed in its monetary policy decisions but its several liquidity and FX market intervention policies, which were detailed in Table 5. Central Bank even added new policy instruments to its arsenal. CBRT stopped FX buying auctions in late 2008 and started to drain its FX reserves by selling auctions and direct FX interventions till the second half of 2009 (Figure 18). Nearly 15 billion USD worth of reserves were sold in this period. In addition to FX interventions, monetary authorities enacted several FX policies from decreasing FX reserve requirement ratio to extending maturity of FX lending, in order to mitigate the FX illiquidity risk in the financial markets. Furthermore, some policies aiming at helping institutions reach TRY liquidity were put into practice. The amount of export rediscount credits widened, TRY reserve requirement ratio was lowered and interests paid for required reserves increased.

Figure 18: CBRT FX reserves, million $



Source: CBRT

After the initial shock of the crisis, advanced countries began implementing extreme monetary easing with efforts to recapitalize their destructed financial markets. This led developing economies to welcome cross-border short-term liquidity bonanzas. The illiquidity problem in the early phase of the crisis was replaced by short-term volatile capital flows. Considering the threats of short-term volatile cross-border flows, Turkish monetary authorities started implementing non-conventional monetary policy since 2009. In addition to conventional inflation targeting regime, CBRT targeted financial stability as another objective and utilized non-conventional policy instruments with a particular emphasis on credit

expansion and exchange rate volatility (Kara, 2011). Several macro prudential measures were taken and are still being taken.[21]

3.3 Financial Sector Measures

Besides fiscal and monetary authorities, BRSA adapted measures specifically geared towards financial sector stability and health of bank balance sheets. In order to lessen the influence of liquidity tightness in the global economy on banking sector, and hence enable banks to extend more credits, some balance sheet adjustments were made. For this, the amount of provisions set aside for extended loans lessened and the calculation of liquidity adequacy ratio has, to some extent, been adjusted. Furthermore, in order to strengthen the capital structure of banking sector, profit distributions to shareholders were limited and only allowed under the control of BRSA. Also to decrease the amount of risky assets, the risk weights on credit card usage were raised. Finally, in coordination with the central bank, wide ranges of debt relief regulations were put into practice.

Table 6: Measures related with Banking Sector

Types of Financial Sector Measures	Characteristics	Targets
Banking sector Liquidity	✓ Provision rules are loosened. ✓ Adjustments made in the liquidity adequacy ratio	To mitigate the impacts of liquidity tightness in global economy on Turkish banking sector.
Banking Sector Capital Adequacy	✓ Restrictions on profit distribution of banks ✓ Risk weights of credit-card credits were risen	To strengthen the capital structure of Turkish banks
Debt Relief	✓ The records of bad cheques, protested bills and dead loans by legal entities and households are erased providing that they are paid in six months. ✓ Debts of credit card holders rescheduled	To eliminate the systemic risk that may arise from the liquidity problem in real sector.

4. Conclusion

The financial systems in Turkey and in many developing countries were stable in the 2000s. They were not hit by destructive financial crises as experienced many times in the 80s and the 90s. Even though domestic factors might have played some roles for this stability, external factors and policies in the North would account for much of the success in developing countries in the 2000s. The recent crisis ended this honeymoon. It has inflicted a heavy toll on Turkey and many other developing countries through different channels, namely

[21] Since the policy shift in central banking is a significant issue all by itself, we will not go into details of the new monetary framework and leave the discussion for other studies.

expectation, trade and financial channels. In turn, the Turkish economy experienced one of its worst economic crises in its history. Although there are many similarities between the recent crisis and the crises after the 80s of the Turkish economy, there are some important differences as well. First, as opposed to the recent crisis, a large decline in demand for Turkish goods amid a considerable depreciation of TRY never occurred in the crises after the 80s. Second, there was not a significant financial reversal during the last crisis whereas the previous crises were mainly triggered by massive financial reversals. In this sense, the financial shocks hitting the economy in the recent crisis were very low both in magnitude and duration relative to the shocks in earlier crises. As a result the Turkish financial system, as in the case of many other developing countries, did not experience a collapse. The financial markets in Turkey might not have been tested enough during the last crisis. It is very difficult to know how the Turkish economy would behave under a severe financial reversal.

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