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ABSTRACT: In the aftermath of the 2001 crisis Turkey took important steps towards achieving macroeconomic and financial stability. Together with favorable international financial conditions, this helped to achieve a rather high per-capita GDP growth. The high growth period failed to be sustainable, however. In the 2008-13 period, Turkey had a rather volatile and low growth performance. This paper aims at analyzing the underlying reasons and discussing short-term economic policy alternatives to mitigate such undesired fluctuations.

KEY WORDS: savings rate, liability dollarization, capital flows, credit, asset prices, growth, short-term economic policy

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In the aftermath of the 2001 crisis Turkey took important steps towards achieving macroeconomic and financial stability. Establishing fiscal discipline, strengthening the financial sector, and changing the institutional structure that triggered off the 2001 crisis were the main pillars of the economic program which had been almost uninterruptedly implemented up to the onset of the global financial crisis. As a result, at the end of 2007 compared to the end of 2001, the central government budget deficit reduced to 1.6 percent of GDP from 11.5 percent of GDP, public debt to GDP ratio declined to 40 percent from 74 percent, the share of credit volume in banks' total assets increased by a factor of 2.5, non-performing loan to loan ratio decreased to a mere 3.5 percent from the striking 41.4 percent level, inflation rate reduced to 8.4 percent from 68.5 percent. The Central Bank of Turkey (CBT) became independent, an autonomous financial sector supervisory and regulatory agency was formed, the banking sector was recapitalized and agricultural support system was redesigned. Thanks to these strong positive developments cum ample global liquidity in most of the period, the average per-capita GDP growth rate was 5.5 percent in 2002-07 -more than two times of the average of the preceding 50 years.

Notwithstanding these improvements, the high growth period did not continue. Turkey was one of the countries that the global financial crisis hit most: the per-capita GDP contracted by 0.6 percent in 2008 and 6.1 percent in 2009. Consequently, the unemployment rate jumped to a record high of 15 percent in seasonally adjusted terms in April 2009 from 10.2 percent average of 2007. The 2010-12 period witnessed significant fluctuations in the per-capita GDP growth. In the first two years of this period the growth rate was rather high. However the per-capita GDP was almost flat in

2012 and registered a rather slight pick-up in the first half of 2013. Contrasting the mean per capita growth rate for the 2002-07 and 2008-12 periods is striking. The mean per-capita GDP growth rates were 5.5 and 1.8, respectively.

Table 1. Growth Performance: Turkey, Emerging Economies and Developing Countries

	Mean (%)				Coefficient of variation			
	1990-2001	2002-12	2002-07	2008-12	1990-2001	2002-12	2002-07	2008-12
World	3.1	3.8	4.5	2.9	0.27	0.46	0.22	0.74
Emerging market and developing economies	3.9	6.4	7.2	5.6	0.28	0.28	0.21	0.33
Central and eastern Europe	1.9	4.1	5.7	2.2	1.80	0.73	0.19	1.61
Commonwealth of Independent States	-1.6	5.2	7.6	2.4	-4.77	0.82	0.18	2.08
Developing Asia	7.2	8.6	9.2	7.9	0.26	0.18	0.18	0.17
ASEAN-5	4.9	5.3	5.7	4.8	0.93	0.26	0.08	0.41
Latin America and the Caribbean	2.8	3.7	4.1	3.3	0.62	0.67	0.57	0.89
Middle East, North Africa, Afghanistan, and Pakistan	4.3	5.4	6.3	4.4	0.42	0.29	0.23	0.22
Middle East and North Africa	4.3	5.5	6.4	4.5	0.45	0.29	0.24	0.23
Sub-Saharan Africa	2.6	5.7	6.4	4.8	0.76	0.23	0.14	0.25
Turkey	3.4	5.2	6.8	3.2	1.60	0.84	0.27	1.84

Source: Author's calculations based on the IMF World Economic Outlook Database (April 2013 version).

Though the main culprit of this rather poor performance of the 2008-12 period is the global financial crisis and the following European crisis, it is highly plausible to think that without significant vulnerabilities of the Turkish economy, such developments would not have had an impact of the order mentioned above. Contrasting the growth performance of Turkey with those of emerging and developing economies supports this view firmly. There is not much difference between the average growth rates of Turkey and the emerging market and developing economies in the 1990-2001 and 2002-07 periods.¹ Nonetheless, this is not the case for the 2008-12 period: the average growth rate of Turkey was significantly below that observed in the emerging and developing world. Moreover, while the growth performance of Turkey was surpassed by two regions in the 2002-07 period, in the following period six regions outperformed Turkey. It should be emphasized that low per-capita growth performance

of Turkey after 2007 -relative both to the 2002-07 period and to its peers- was not the only problem. In the 2008-12 period, Turkey had a rather volatile growth performance as implied by high coefficients of variation - the ratio of a variable's standard deviation to its mean-, even above that observed in the 1990-2001 period (Table 1).

Five main questions follow. Despite the long mileage taken towards establishing fiscal discipline and financial stability in the aftermath of the 2001 crisis, first, why has the Turkish economic growth has fluctuated sharply and second, why is it low? Third, what are the challenges for macroeconomic policymakers to reduce such sharp fluctuations? Fourth, what are the lessons that can be drawn from the Turkish experience? Fifth, what can be done to increase the sustainable growth rate of Turkey? In this paper, our objective is to answer the first, third, and fourth questions. The remaining issues necessitate a long run perspective and are left for future research.

The plan of the paper is as follows. In the second section we point to two interrelated important reasons for the observed large swings in real economic activity: low domestic savings rate and high level of dollarization. Episodes of excess volatility in capital flows between 2002 and 2013 are documented in the third section. The fourth section is on the effects of capital volatility since 2002. Two effects are highlighted. First, surges in capital inflows (capital reversals) are leading indicators of rapid (slow) credit growth periods. Second, there has been a significant comovement between capital flows and asset prices. Both effects have important repercussions on GDP growth. In the fifth section we discuss economic policy challenges for the short-term. The final section concludes.

Low Savings Rate and High Liability Dollarization

Table 2 shows gross savings and investment to GDP ratios for the same inter-periods and country groups as in Table 1. This time, as a second panel, we add relevant data for high-middle-income countries as Turkey. According to the World Bank's classification, high-middle-income countries are countries with per capita gross national income (GNI) between \$9000 and \$13000 as of 2012. The table clearly indicates that Turkey does not have an outstanding investment performance. On the contrary, its investment-to-GDP ratio is below most of its peers. Despite this fact, Turkey is one of the most foreign-financing dependent countries: it has the lowest savings rate among these countries. Note further how savings-to-GDP ratio of Turkey declined in the 2002-12 period and especially in the last five years.

The mirror image of heavy dependence on foreign financing is the significant level of liability dollarization. The CBT has been releasing net international investment position (NIIP) of Turkey and its breakdown since 1996. As percent of GDP the period averages are as follows: 1996-2001: -30.2; 2002-07: -38, and 2008-12: -43. Moreover, in 2012 the NIIP-to-GDP ratio was at a record level: -52.8 percent. We cannot contrast the Turkish NIIP figures with those for the regions and countries in Table 2 due to the lack of data. However, after the global financial crisis, the IMF, in cooperation with a number of international organizations, started to release NIIP data for the G-20 countries. It is very telling when the Turkey's NIIP with those of the emerging and developing countries in the G-20 are compared. Within this group, Turkey has the highest -in absolute value terms- NIIP-to-GDP ratio for the 2010-12 period.²

Table 2. Gross Domestic Savings and Investment: Turkey, Emerging Economies and Developing Countries (percent of GDP)

	Investment/GDP				Gross savings/GDP			
	1990-2001	2002-12	2002-07	2008-12	1990-2001	2002-12	2002-07	2008-12
World	22.7	22.7	22.3	23.1	22.0	22.9	22.5	23.4
Emerging market and developing economies	25.4	28.9	27.1	31.1	23.8	31.4	30.1	33.0
Central and Eastern Europe	21.8	21.7	21.8	21.7	19.5	16.4	16.3	16.4
Commonwealth of Independent States	24.2	22.8	22.5	23.1	26.6	28.3	29.4	27.0
Developing Asia	32.8	38.2	35.6	41.3	32.3	41.8	39.7	44.3
ASEAN-5	31.2	26.4	25.1	27.8	28.4	29.7	28.9	30.7
Latin America and the Caribbean	20.9	21.3	20.7	21.9	18.4	21.0	21.4	20.6
Middle East, North Africa, Afghanistan, and Pakistan	23.5	25.9	24.6	27.4	23.1	35.5	34.8	36.4
Middle East and North Africa	24.0	26.5	25.0	28.2	24.0	37.0	36.0	38.1
Sub-Saharan Africa	17.4	21.1	20.2	22.1	15.6	20.0	19.7	20.4
Countries with per-capita GNI ^a between 9000\$-13000\$								
Russia (12700) ^b	25.7	21.6	21.1	22.4	28.7	28.7	29.9	27.2
Poland (12670)	21.0	20.9	20.4	21.6	18.5	16.7	16.5	16.8
Venezuela ^c (12470)	21.4	23.8	23.1	24.7	24.8	32.8	35.6	29.5
Hungary ^c (12390)	23.7	22.2	24.2	19.7	19.6	17.9	17.1	18.9
Brazil (11630)	18.1	17.9	16.7	19.2	16.6	17.3	17.4	17.3
Turkey (10830)	21.7	19.9	19.6	20.3	20.8	15.1	15.8	14.3
Malaysia (9800)	34.6	22.8	23.2	22.3	34.5	35.4	36.1	34.5
Mexico (9740)	25.8	24.8	24.6	24.9	22.7	23.8	23.6	24.1
Kazakhstan (9730)	23.9	28.9	31.4	25.9	16.9	28.7	28.6	28.8

Notes. ^a: GNI is gross national income as defined by the World Bank. ^b: Numbers in parentheses denote GNI per capita for 2012. ^c: Savings rate for Venezuela is for 2010 and for Hungary 2011.

Source: Author's calculations based on savings rates from the IMF's World economic Outlook Database and GNI from the World Bank's database.

Low savings rate exposes the country to the 'mercy' of changes in international financial conditions even in sustaining a growth rate that falls short of narrowing the per-capita income gap with the developed world. While ample foreign financing generally leads to booming economic activity, capital reversals often cause busts. Below, we identify periods with ample foreign financing as well as those with capital reversals.

Volatile Capital Flows

A well known study for the effects of capital flows by Kaminsky et al. (2004) has the title "when it rains, it pours". Both surges in capital inflows and reversals have the potential to create headwinds for an economy. We use quarterly and monthly data to pinpoint such episodes between 2002 and 2013.³ Evolution of net capital inflows to

GDP ratio in this period is shown in Figure 1. Between the first quarter of 2002 and the second quarter of 2013, the mean of this ratio is 5.9 percent and its standard deviation is 4.16 percent. During this time period, there is not any quarter in which net capital inflows-to-GDP ratio exceeds its mean plus two times its standard deviation, which is 14.2 percent. If we lower the threshold to mean plus 1.5 standard deviation -12.1 percent- we end up with 2005Q4-06Q1, 2011Q1, 2012Q2 and 2013Q1. Further lowering the threshold to mean plus one standard deviation -10.1 percent- we have 2005Q4-06Q1, 2007Q1, 2008Q2, 2010Q2, 2010Q4-11Q2, 2012Q2, and 2013Q1-13Q2 periods. Note that ratio values for 2010 Q4 and 2013Q2 are marginally below this threshold.

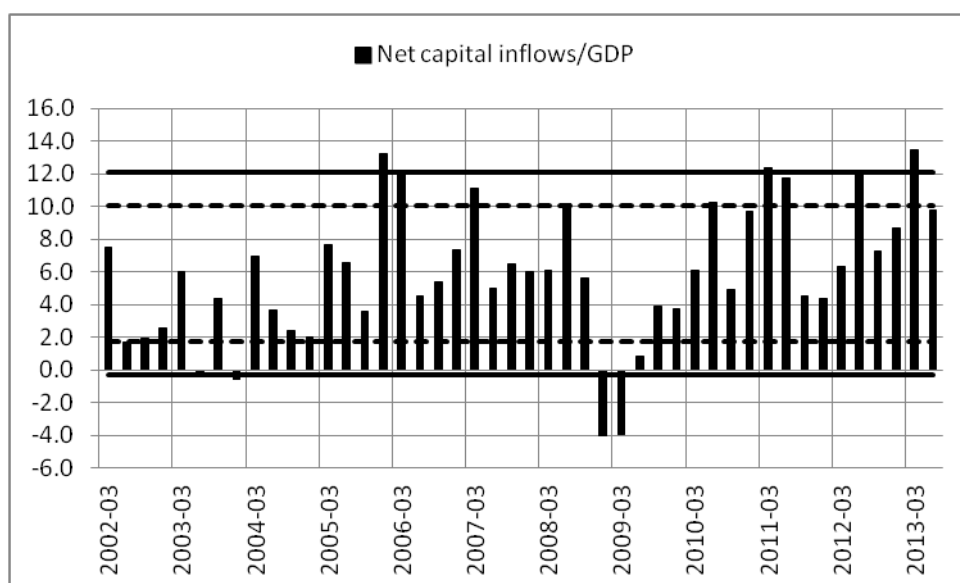


Figure 1. Net Capital Inflows to GDP ratio: 2002Q1-2013Q2 (%).

Source: The author's calculation from the original data of the Central Bank of Turkey.

Notes. The upper (lower) horizontal solid line shows the mean plus (minus) 1.5 standard deviation of the ratio, upper (lower) horizontal dashed line shows the mean plus (minus) one standard deviation of the ratio.

To finalize the timing, lastly, we make use of monthly data and look at positive financing gaps –the difference between the need for financing –the current account deficit- and net financing- around the beginning and end of these episodes. We use months with positive financing gaps -months that witnessed lack of necessary financing- to pinpoint the final timing. Around the starting quarter of the episode, the month that succeeds the month with the first positive financing gap marks the exact starting month of the episode. Similarly, around the end of the episode, the month just before the first month with first positive gap marks the exact final month of the episode. We eliminated episodes that last too short –less than or equal to four months. So, for episodes of surges in capital inflows we have September 2005-February 2006, March 2010-April 2011, and April 2012-April 2013 periods.

There is only one period in which net capital inflows-to-GDP ratio remains below its mean minus two times its standard deviation, which is minus 2.4 percent: 2008Q4-09Q1. Even if we increase the threshold to mean minus one standard deviation -1.7 percent- we do not have any additional two consecutive quarters with net capital flows-to-GDP ratio below this threshold level. However, this time the episode identified in the previous stage becomes wider: 2008Q4-09Q2. Finally, making use of monthly financing gap data like in the ‘when it pours’ episodes, but this time looking for negative financing months to mark the interim months of sudden stops, the exact timing is the October 2008-April 2009 period.

Impact on the Turkish Economy

Periods of surge in capital inflows, especially “when it pours” types, excessive risk taking behavior becomes the norm rather than the exception. Low interest rates and

ample foreign financing lead corporate sector to borrow heavily from abroad. In this environment, domestic credit expands as well. For example, for a sample of 19 advanced and 28 emerging market economies, the IMF (2011, Box 1.2) finds that excessive capital inflows are good predictors of credit booms, between 1960 and 2010. Credit booms cause a significant overheating in economic activity. Episodes of sudden stops are not less traumatic; one observes sharp declines in credit and economic activity which lead to financial disruptions.

Capital flow volatility has repercussions on competitiveness and strength of balance sheets of the corporate sector as well. Surges in capital inflows to emerging economies (sudden stops) have tended to lead to appreciated (depreciated) currencies. A depreciation (an appreciation) of domestic currency has a positive (negative) effect on growth through a rise (fall) in exports. However, in countries with significant negative NIIP, that is in highly dollarized countries balance sheet channel leads to just opposite impact on growth. In sudden stop episodes (episodes of surges in capital inflows), given the large positive gap between foreign exchange denominated liabilities and assets, depreciation (appreciation) of domestic currency decreases (increases) net worth of the corporate sector. A similar negative (positive) impact of sudden stops on balance sheets is through declines (increases) in asset prices. A reduction (an increase) in the net worth of the non-financial corporate sector decreases (increases) its investment expenditures by increasing (decreasing) its external finance premium. Note that the financial accelerator theory, which is at the core of New Keynesian models, derives an investment behavior as a function of net worth to external financing ratio from micro foundations.⁴ This ratio declines, so does investment. It is worth mentioning that this

channel has become the focal point for scholars of financial crises since the 1997-98 Asian crisis.⁵

Table 3. Fluctuations in Capital Flows and Asset Prices

		Sovereign spread (EMBI) ^a		Basket exchange rate ^b		Benchmark rate-policy rate ^c
		Average	Change (bp) ^{d, e}	Average	Change (%) ^d	Average (pp) ^f
Surge-in-capital-flows						
2005M9-2006M2 ^g	Before ^h	292.3	-65.3	1.52	-2.6	0.9
	During	227.0		1.48		-0.5
	After ⁱ	221.0	6.0	1.64	-9.8	0.7
2010M3-2011M4	Before	246.7	-32.7	1.82	-2.2	1.8
	During	214.0		1.78		1.5
	After	266.1	-52.1	2.05	-13.2	2.4
2012M4-2013M4	Before	350.9	-112.3	2.11	-2.8	2.3
	During	238.6		2.05		0.5
	After ^j			2.23	-8.1	2.2
Sudden stops						
2008M10-2009M4	Before	322.7	223.9	1.56	18.6	-2.3
	During	546.6		1.85		2.4
	After	310.5	236.1	1.83	1.1	2.0

Notes. ^a JPMorgan emerging market bond index for Turkey. ^b Lira equivalent of the equally weighted basket of the US dollars and euro. ^c The secondary market benchmark treasury bond rate minus the policy rate of the Central Bank. For 2005M9-06M12 and 2008M10-09M4, the policy rate is the overnight borrowing rate. For the 2010M3-11M4, the policy rate is the weekly repo rate. For 2012M4-13M4, the policy rate is the average funding rate. ^d 'Change' in each entry is with respect to 'during' periods. ^e 'bp' stands for basis points. ^f 'pp' stands for percentage points. ^g 'M' stands for 'month'. ^h 'Before' is the preceding six-month period. ⁱ 'After' is the post 6-month period. ^j For this episode 'after' denotes the post five-month period, which is dictated by the availability of data during the time of writing.

Source. The author's calculations based on the original data from the Central Bank of Turkey and Bloomberg.

Given the nature of the Turkish economy emphasized above –low level of savings and high liability dollarization-, it would be a surprise if capital flow volatility had not had important repercussions on the Turkish economy. To have a more clear understanding of these effects, we first focus on the impact of such episodes on the exchange rate, Turkish sovereign spreads, and the gap between the secondary market benchmark treasury rate and the policy rate of the CBT. As the exchange rate, the lira

equivalent of an exchange basket with half euro and half US dollars is taken. Turkish sovereign spread is measured by EMBI+, which is the gap between the 10-year US dollars denominated Turkish treasury bonds and the 10-year US treasury bonds and an important indicator for risk perception for Turkey.⁶ An increase in this index points to an increase in risk perception.

In Table 3, we compare the average of daily values of each of these variables during each of the above mentioned episodes with the averages of those observed in the preceding and post six months. Narrowing the window to the preceding and post three, four or five months does not change the main message.⁷ Compared to the relative tranquil periods surrounding them, as expected a-priori, during periods of surge in capital flows periods (sudden stops), both of the spreads –EMBI and the gap between benchmark rate and the policy rate- decline (rise) and lira appreciates (depreciates).

Secondly, we turn to credit cycles. For Turkey, Günay and Kılınç (2011) report that, relative to tradable sector, non-tradable sector is more volatile over the business cycle and this asymmetry stems from the heavy dependence of non-tradable sector on credit. Binici and Köksal (2012) show that as net capital inflows increases the probability of a credit boom rises in Turkey. Figure 2 shows evolution of the cyclical component of real credit stock together with the six-month moving average of net capital inflows between January 2002 and July 2013.⁸ In the region above (below) the horizontal dotted line, real credit stock exceeds (falls short of) its trend. It is instructive to compare the phases of the credit cycle with the episodes of surges in capital flows and sudden stops.

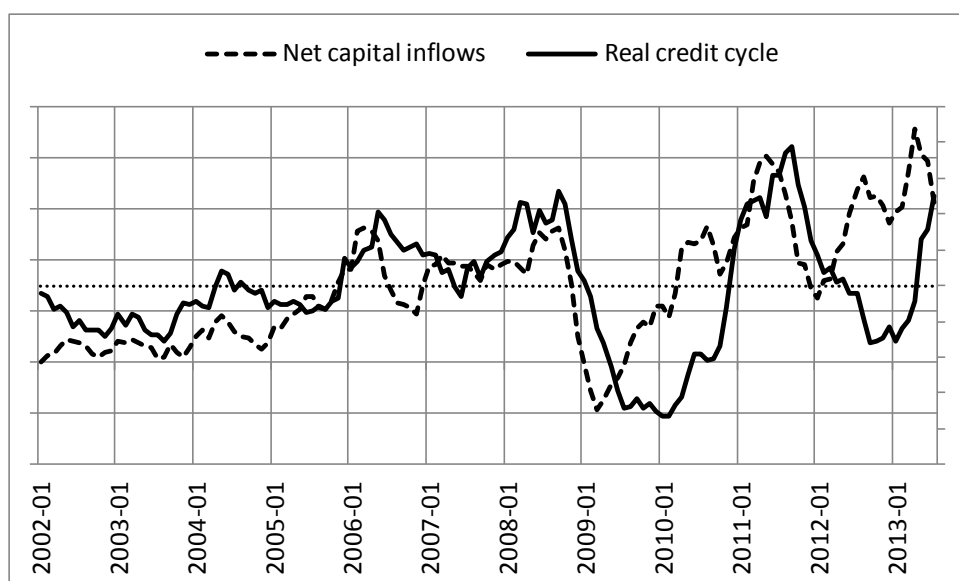


Figure 2. Net Capital Inflows (six-month moving average) and the Cyclical Component of the Real Credit Stock: January 2002- July 2013.

Notes. The horizontal dotted line shows the zero line above which real credit stock exceeds its trend. The cyclical component is calculated as explained in the endnote 8. Source. The author's calculations based on the data from the Central Bank of Turkey.

[Table 4 shows the peak and trough dates of the credit cycle together with changes in capital flow episodes given in Table 3. A peak marks the beginning of a low credit growth phase whereas a trough indicates the start of a high credit growth phase. There is a close relation between the high credit growth phases and the episodes of surges in capital flows on the one hand and the low credit growth episodes and sudden stops on the other hand.⁹

Table 4. Capital Flows and Credit Cycles

	Corresponding credit cycle	
	Trough	Peak
Surges in capital flows		
2005M9-2006M2	2005M8	2006M7
2010M3-2011M4	2010M2	2011M9
2012M4-2013M4	2012M11	
Sudden stops	Peak	Through
2008M10-2009M4	2008M10	2010M2

Notes. See notes for Table 3 and Figure 1.

Source. The author's calculations.

More formal evidence comes from the Granger-causality analysis. A close inspection of Figure 2 raises the possibility that fluctuations in net capital inflows have predictive power for credit cycles. Indeed, the null hypothesis that states that net capital inflows does not Granger-cause real credit cycle is rejected at least at the 2.5 percent level, for alternative lag selections and alternative filters (Table 5). But the reverse is not true: The null hypothesis that states that real credit cycle does not Granger-cause net capital inflows cannot be rejected.¹⁰

Table 5. Granger Causality Between Net Capital Inflows and Cyclical Part of Real Credit

Null hypothesis	Number of lags ^a	p-values	
		HP filter ^b	Deterministic Trend ^c
NCI ^d does not cause RCC ^e	1	0.000	0.000
	3	0.000	0.000
	6	0.010	0.020
	12	0.001	0.024
RCC does not cause NCI	1	0.837	0.836
	3	0.356	0.987
	6	0.571	0.974
	12	0.726	0.927

Notes. ^a The Schwarz information criterion indicates that the lag length should be 1 whereas the appropriate lag length is 12 by the Hannan-Quinn criterion. ^b Cyclical component of real credit is obtained by applying Hodrick-Prescott filter to the de-seasonalized real credit. ^c Cyclical component of real credit is the residual term of an OLS regression of de-seasonalized real credit on a constant, time trend, and the square of time trend. ^d NCI: Net capital inflows (no moving average). ^e RCC: Real credit cycle. Source: The author's calculations.

Evidence documented so far clearly show that there is a significant and positive relation between net capital inflows and real credit cycle. Moreover, the former has significant predictive power for the latter. The next question that follows is obvious: What is the impact of credit on growth?

There is a wealth of evidence pointing to a strong and positive relation between credit and growth in Turkey. For example, Özatay (2008) using quarterly Turkish data

for the period of 1994-2006, reports that there is a significant influence of consumer credit growth on consumption growth. Moreover, both business confidence and real credit to the corporate sector is an important determinant of private investment. In a more recent study, Ermişoğlu et al. (2013) show that change in credit stock has a rather significant predictive power for the future values of GDP growth. Kara and Tiryaki (2013) point to the important impact of credit impulses on growth. The significant and positive relationship between real credit and real income in Turkey is not a new phenomenon. There is wealth of evidence that shows that this relation also holds for the 1980-2000 period (Özatay and Sak, 2002).

There is also evidence that real appreciations are expansionary in Turkey, at least, in the short-run (Kara et al., 2007). Expansionary affects depend on the level of dollarization. Levy-Yeyati and Sturzenegger (2009) document that real exchange rate appreciations are associated with slow growth periods or contractions in the absence of dollarization, whereas financial dollarization may reverse this effect. Frankel (2005) points to contractionary effects of devaluations in highly dollarized economies. These observations hold for Turkey as well: Kesriyeli et al. (2013) show that real appreciation increases investments and profitability of firms with high liability dollarization in Turkey.

Policy Challenges

International capital flows can be very volatile. Capital flows to Turkey is not an exception. As shown in the preceding sections, a rise in this volatility has the tendency to create significant fluctuations in real credit and asset prices. Credit booms stemming from surges in capital flows jeopardize financial stability. The global financial crisis

once again showed how excessive risk taking eventually ends with a bust. Studies on crises point to rapid credit expansion as the main culprit of most of the financial crisis observed in the past. Surges in capital flows do not last forever; capital reversals are inevitable. A credit crunch caused by capital reversals leads to a painful adjustment. It forces real economy activity to remain much below its potential and unemployment to increase.¹¹ One of the main economic policy problems that has been intensively discussed since the global crisis is what can be done to curb such excessive risk-taking behavior in sunny days.¹² So the first question that arises is how the amplitude of credit cycles can be mitigated.

As discussed above, sharp asset price changes have been observed during highly volatile capital flows episodes. Especially, fluctuations in exchange rate are an area of concern. As the amount of net capital inflowing to Turkey rapidly rises, keeping all else constant, the lira appreciates. While as highlighted above, recent empirical literature on Turkey shows that real appreciations are expansionary, it is not something desirable due to at least two reasons. First, real appreciations lead to a loss in competitiveness. Second, a sufficiently long lasting real appreciation renders borrowing in foreign exchange attractive. But, this is exactly at the core of the reason why a real appreciation is expansionary in the first place: liabilities denominated in foreign exchange exceeding assets denominated in foreign exchange; making Turkey vulnerable to the mercy of international financial markets. Real depreciations as a result of reversals in capital flows are not less problematic. What one generally observes is deterioration in balance sheets and culminating inflationary pressures. So, the second question: how can excess volatility in real exchange rate be reduced?

The two questions posed above have both short and long run economic policy dimensions. However, as emphasized at the outset, discussing long run policy issues are out of the scope of the current study. To answer the first question we first discuss fiscal policy. If not in all schools of economic thought, in economic policy-making circles it is widely accepted that, if conditions which we will shortly discuss permit, fiscal policy should be countercyclical.¹³ That is, in good times governments should decrease public debt by not expending all extra revenues obtained due to above trend growth and spend more in bad times to restrict the sharpness of GDP slowdowns. Under such a policy, it is expected that a rise in public debt in bad times would be more or less offset by reduction in public debt in good times, preventing a significant increase in indebtedness of public sector.

However, the qualification in the fourth sentence of the preceding paragraph is important. Emerging market economies were once notorious for their inability to implement countercyclical policies.¹⁴ The mere reason was that they were struggling with enormous macroeconomic imbalances –especially they had high budget deficits and public debt. Under such circumstances, they did not have the room for maneuver in bad times to increase government spending. Doing so would have increased public debt and plausibly caused a rise in risk perception for that country leading to a rise in real interest rates, decline in business confidence, and triggering even a sudden stop. Clearly, to the extent that this possibility materialized, such a policy would have backfired; caused even a lower growth than in the absence of fiscal easing. For example, this was the situation in most of the Latin American countries and Turkey throughout the 1990s.

By the implementation of sound fiscal policies shortly discussed in the introduction, this incapacity has gradually eliminated in Turkey as indicated recently by the experience of 2009. Contractionary pressures had started to build-up starting in the last quarter of 2008 and remained in force in most of 2009. As a response, Turkey took a series of fiscal stimulus measures. The reaction of financial markets was not hostile. This was something unimaginable in the 1990s in Turkey.¹⁵ This evidence revealed that, in the absence of a sharp and persistent deterioration in fiscal balances in the future, countercyclical fiscal policy is at the disposal of Turkish policymakers. Thus, in an episode of a surge in capital flows, as a response to rapid credit growth and the following above the trend GDP growth rate, policymakers have the option to tighten fiscal policy. Contrary, during sudden stops they could ease fiscal policy and allow a mild increase in public debt.

There has been a heated debate ongoing on monetary and macro financial stability policies in the aftermath of the global crisis.¹⁶ Monetary policy framework which primarily focused on price stability before the global financial crisis has been criticized for ignoring macro financial stability. As shown in the preceding sections, fluctuations in capital flows have led to parallel fluctuations in volume of credit and caused volatility in asset prices in Turkey, which, especially when sharp, not desirable from macroeconomic and financial stability perspectives.

Indeed, the CBT changed its monetary policy framework towards the end of 2010 as a response to the excessive capital inflows that started in March 2010 and documented in Table 3. Since then it has two final objectives: Financial stability and price stability. There are two intermediate targets: Volume of credit and the exchange

rate. The CBT tries to achieve its final objectives via these two intermediate targets by using short-term policy rate, the interest rate corridor –the band between the lending and borrowing rates of the CBT in which the policy rate remains- and the required reserve ratio (CBT, 2011, pp 2-3; CBT, 2012, pp 2-6; Kara, 2013). A new policy tool, which effectively allows banks to hold a certain fraction of lira reserves that they have to hold at the CBT as foreign exchange was added to the multi policy tool set towards the end of 2012.¹⁷ Note that the CBT was a formal inflation targeting central bank up to the new framework starting from 2006; so the new framework marks a rather significant change as also emphasized by the CBT (CBT, 2012, pp 1-2).

It is not our objective to evaluate to what extent the new monetary policy framework has been successful.¹⁸ Instead, what we want to concentrate on headwinds facing this policy since its inception and problems revealed so far. Changing the inflation targeting regime which has a strong theoretical background and accumulated enormous implementation experience, and shifting into uncharted waters itself shows how pressing high capital volatility can be, in the first place.

The new policy framework raises the question that which policy tools should be at the disposal of monetary policy and what should be the institutional set up. The CBT interpreted the surges in capital inflows that started in early 2010 as a threat to financial stability and to curb the following rapid credit expansion raised required reserve ratios in successive steps between October 2010 and April 2011. However, the credit growth did not decline in the first three quarters of 2011 (see also Table 4). Through the end of June 2011, the Banking Regulation and Supervision Agency (BRSA) took various macro prudential measures. Almost at the same time, the European crisis was on track

to intensify causing a significant reduction in global risk appetite. Consequently, credit growth declined sharply in the last quarter of the same year.

With few observations in the aftermath of these policy moves and turbulence in financial markets it is rather difficult, if not impossible to be sure which factor played the dominant role in the decline of credit growth in the last quarter of 2011. It is plausible that the successive required reserve ratio hikes showed their effect with a considerable lag. The turbulence in financial markets might be the main reason. It is also possible that the BRSA decision might dominate the others. Or, all factors might contribute to the dampening of the credit growth. But what is important is that almost all of the important policy tools proposed in recent research to use for fulfilling macro financial stability objective are at the disposal of BRSA in Turkey. This brings us to the institutional design issue.¹⁹

At the one extreme, a central bank can be held responsible from both objectives –price stability and macro financial stability. The main shortcoming of this institutional set up is that one ends up with a “super” central bank holding a lot of power, which on the one hand raises questions regarding how compatible this would be with democracy, on the other hand such a setup as time evolves could jeopardize the independence of such a central bank. At the other extreme of the institutional structure spectrum is a central bank responsible from price stability and a macro prudential authority responsible from macro financial stability, and a coordination committee to assure that these institutions act in concert. Various in between combinations are of course available. Discussing these issues in depth is, however, out of scope of this article.²⁰

Turkey currently selected the second option and established the “Financial Stability Committee” in 2011.²¹ One important shortcoming is the absence of a detailed description of responsibilities and powers of this committee. We do not know whether the committee is rather an advisory one or has power to enforce its decisions to its members. If the committee is an advisory one and one of the member institutions of the committee disagrees to take a decision which other members ask to take, who will have the final word, for example? If the committee is not an advisory one, will not the independence of its independent members be jeopardized?

If these problems are satisfactorily addressed, then together with countercyclical fiscal policy, monetary and financial stability policies can be used in tandem to curb excessive credit cycles. Of course, there is another policy choice, which, if effectively used as a supplement to these policies, can help to curb excessive credit cycles: capital controls. But, this is a big if and discussing whether such controls can be successful in the Turkish economy in light of the experience of other countries -while very important- is obviously beyond the scope of this study.

Turning to the second question posed at the beginning of this section, reducing excess volatility in exchange rate is basically in the domain of monetary policy given that a central bank has the main policy tools necessary. In theory, one can write down and solve a model with an objective function for the central bank which has the difference between the inflation and its target, output gap, and the difference between the real exchange rate and its long-term value as its arguments, for example. Accordingly, this central bank can make use of its policy tools as a reaction to not only inflation and output developments but also to exchange rate developments: It can lower

(increase) its policy rate as a response to a real appreciation (depreciation) more than it would, were the exchange rate absent in its objective function.

There are at least two potential problems for conduct of such a monetary policy in Turkey. First, despite the inflation rate is currently at low levels relative to 1990s, it is still high among its peers. The annual consumer inflation rate has been fluctuating around a mean of 8.4 percent since 2004 and showing a strong tendency to revert to this mean. For example, the mean of annual inflation rate since 2006 is 8.3 percent, which is also the mean since the beginning of 2012. Given that exchange rate pass-through is still important –in the range of 15 percent according to the CBT-, such a monetary policy has the danger to undermine aims for achieving lower inflation levels.

Second problem is related with volatile capital flows. Think that, due to appreciation pressures stemming from surge in capital inflows, the CBT starts to reduce its policy rate signaling that policy rate would be lessened further in the period ahead. However, suppose that in the midst of this easing cycle, due to whatever reason, risk appetite in international financial markets decreases, and the capital reversal begins. This time the CBT has to hike its policy rate. Obviously, this would be a rather erratic monetary policy, causing a lot of uncertainty in the upcoming periods regarding monetary policy for economic decision makers.

Indeed, this is exactly what happened in Turkey during the 2010-2011 period. Starting from late 2010, in successive steps, the CBT reduced both its policy rate and the lower limit of its interest rate corridor (its overnight borrowing rate) to counter culminating appreciation pressures on the lira (CBT, 2012, p. 5). However, as of August, crisis in Europe intensified leading to an increase in risk aversion which put a

sharp depreciation pressure on the lira which had already been depreciating due to the policy of the CBT (Table 4). A few weeks later, intensification of uncertainties started to depreciate the lira this time sharply, and the CBT initiated to implement just the opposite of the policy that it had implemented in the first seven months of 2011. Following a greatly questioned mild rate cut in early August, it both increased its lending rate and let the overnight market rate to diverge from its policy rate in the upward direction.

These problems do not mean that the CBT should always abstain from conducting monetary policy with the real exchange rate in its objective function as an additional argument. On the contrary, there could be conditions in which such a monetary policy would be optimal. What we instead want to emphasize is that the proper timing for putting in place such a monetary policy is crucially important. The recent experience of the CBT reveals the fact that in times of increased capital volatility current economic conditions with average inflation rates at 8 percent and significant liability dollarization is hardly a starter.

Conclusion

Despite important steps taken towards establishing macroeconomic stability in the aftermath of the 2001 crisis, the Turkish economy is still vulnerable to the mercy of international financial markets basically due to two reasons: low savings rate and high level of liability dollarization. Consequently, volatile capital flows aggravate credit cycles and lead to significant changes in asset prices. Such effects by amplifying business cycles undermine both macroeconomic and financial stability.

In this paper, first we documented episodes of surges in capital inflows and sudden stops between 2002 and 2013 in Turkey. We then investigated how such episodes have led to credit cycles and changes in asset prices between 2002 and 2013. Finally, we discussed economic policy changes posed by credit cycles and changes in asset prices and drew some lessons. We argued that Turkey has no longer doomed to implement procyclical policies; it has the room for maneuver to mitigate magnitude of business cycles amplified by volatile capital flows.

Regarding the macro financial stability policies, almost most of the policy tools to curb sharp credit cycles are currently at the disposal of the BRSA. Monetary authorities should take this fact into consideration when forming their policy to achieve their dual objective of price and financial stability. The recently established Financial Stability Committee could help in this respect. Nonetheless its governance structure is not clear yet and this opaqueness might raise concerns about the independence and autonomy of its independent and autonomous members, which could undermine the effectiveness of monetary policy decisions. Finally, we argued that in principle the CBT can include real exchange rate in its objective function in addition to inflation and output gap. Nevertheless, we raised the possibility that unless the inflation rate reduces to a level that does not jeopardize competitiveness of the economy, such a policy could be counterproductive especially during episodes of high capital volatility.

We should emphasize that the two important problems of the Turkish economy –low savings rate and high liability dollarization- do not bear easy solution. This is an important avenue of future research and necessitates a medium to long run perspective.

Notes

¹ Our sample starts by the year of 1990 when the capital account was liberalized.

² All values are taken from the “principal global indicators database” and can be downloaded from the IMF’s website: www.imf.org. Emerging and developing countries in the G-20 are Argentina, Brazil, China, Indonesia, India, Mexico, Russia, Saudi Arabia, South Africa, and Turkey.

³ At the time of writing the latest available quarterly data was for the second quarter of 2013 and monthly data for July 2013.

⁴ Bernanke et al. (1999).

⁵ For the relation between balance sheet deteriorations and financial crises, among others, see the following studies: Chang and Velasco (1998), Krugman (1999), and Jeanne and Zettelmeyer (2002).

⁶ This data is published by the JPMorgan.

⁷ The reason of taking the difference between the benchmark rate and the policy rate as the relevant measure of stress in the financial markets, rather than the benchmark rate, is the fact that the benchmark rate has been highly affected from the policy rate, which may blur the picture since we take averages around a relatively wide window. For example, during a sudden stop period, initially the benchmark rate could rise, but if shortly after the CBT cuts its policy rate as a response to economic conditions then prevailing, we might observe a decline. Instead, as the stress in financial markets increases, it is reasonable to expect the gap between these two variables to widen. As tension eases, this gap should reduce. Obviously, during surges in capital inflows, just the opposite of these movements should be expected.

⁸ Real credit stock is calculated by dividing nominal credit stock to the consumer price index. In the second step we deseasonalized real credit stock by the Tramo/Seats methodology. Finally, the trend of the deseasonalized real credit stock data is found by the Hodrick-Prescott filter. The cyclical component in Figure 2 is the deviation of the seasonally adjusted real credit stock from its trend. The original data is obtained from the Central Bank of Turkey. Six-month moving average value for any month is the last six months average.

⁹ There is not an exact match; this is not something unexpected, however. Note also that there are extra credit cycles, which are not shown in Table 5. This is again something natural. After all there are other factors behind credit fluctuations as well. However, some of the credit cycle phases that do not match with capital flows episodes shown in Table 5, have actually close relationship with somehow less pronounced capital flow episodes. For example, net capital inflows-to-GDP ratio remains below its mean minus one standard deviation at 2004Q4. Corresponding to it, there is a rather mild slow credit growth period starting at the peak of 2004M6 and ending at the trough of 2005M8. Similarly, net capital inflows-to-GDP ratio exceeds its mean plus one standard deviation at 2007Q1 and 2008Q2. There is a high credit growth cycle that starts at the trough of 2007M6 and ends at the peak of 2008M10.

¹⁰ For the net capital inflows we used the original series, not the 6-month moving average version. ADF unit root test reveals that both of the series are stationary (I(0)). See the notes for Table 5 for the necessary details.

¹¹ See for example Schulirck and Taylor (2012).

¹² An important summary for this debate is provided by Blanchard et al. (2013).

¹³ Optimal policy response in macroeconomic models with sticky prices is countercyclical fiscal policy.

¹⁴ See, for example, Frenkel et al. (2013).

¹⁵ The IMF (2009) attempts to measure the magnitude of fiscal stimulus policies of the members of G-20. According to the IMF, the fiscal stimulus of Turkey was at roughly 1.1 percent of GDP. Note that the estimate for Turkey does not include the measures taken in June 2009. For the details, see Özatay (2010).

¹⁶ A good source is Blanchard et al. (2013).

¹⁷ By varying this fraction the CBT can adjust foreign exchange and lira liquidity in the interbank market. In addition, the CBT effectively sets the exchange rate used to calculate amount to be held in foreign exchange instead of lira at the CBT. For more details, see Alper et al. (2013).

¹⁸ For this evaluation, see Ersel (2012), Özatay (2012), Akçay and Ocakverdi (2012), and Akkaya and Gürkaynak (2012).

¹⁹ See, for example, Shin (2012).

²⁰ For a detailed discussion, see BIS (2011).

²¹ The head of the committee is the Treasury minister, and its members are governor of the CBT, undersecretary of the Treasury, presidents of the BRSA, the Capital Markets Board of Turkey, and the Deposit Insurance Fund.

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