Unorthodox Monetary Policy Of Turkey After The Global Financial Crisis

Ertuğrul KIZILKAYA

Yrd.Doç.Dr. ,İstanbul Üniversitesi Siyasal Bilgiler Fakültesi, Kamu Yönetimi Bölümü İktisat Anabilim Dalı

Abstract: Developed countries experienced serious difficulties after the global financial crisis and used an excessive monetary easing strategy. Due to the decoupling, developing countries recorded high growth rates through raising capital inflows. In this new era, there is an effort to replace the price stability and the inflation targeting regime with a new monetary policy sensitive to financial stability. Also the central bank headed an unorthodox monetary policy in Turkey. The new monetary policy includes new tools such as interest rate corridor and reserve options mechanism. This paper examines this unorthodox monetary policy aiming to sustain macroeconomic stability taking into account the financial stability.

Keywords: Financial crisis, Financial instability, Monetary policy.

Küresel Finansal Kriz Sonrası Türkiye'de Ortadoks Olmayan Para Politikası

Öz: Küresel finansal kriz ertesinde gelişmiş ülkeler ciddi zorluklar yaşadılar ve aşırı parasal genişleme stratejisini kullandılar. Ayrışma bağlamında, gelişmekte olan ülkeler artan sermaye hareketleri sayesinde yüksek büyüme oranlarına ulaştılar. Bu yeni dönemde, fiyat istikrarı ve enflasyon hedeflemesi rejimini finansal istikrara duyarlı yeni bir para politikası ile ikame etme çabası görüldü. Türkiye'de de merkez bankası ortodoks olmayan bir para politikasına yöneldi. Yeni para politikası faiz oranı koridoru ve rezerv opsiyon mekanizması gibi yeni araçları içermektedir. Bu çalışma finansal istikrarı dikkate alarak makroekonomik istikrarı korumayı amaçlayan ortodoks olmayan para politikasını ele almaktadır.

Anahtar Kelimeler: Finansal kriz, Finansal istikrarsızlık, Para politikası.

INTRODUCTION

The world economy has suffered serious economic problems after the global financial crisis. It has been a painful period in which uncertainties have continued, economic and financial stability could not be achieved, concerns about the sustainability of public debts and risks on banking sector have increased. At the same time economic confidence deteriorated and risks on growth have multiplied. Decoupling between developed and developing countries became much more evident despite the achieved economic recovery in

global level. While developed countries experienced difficulties due to high public debt ratios, fragile banking-financial structure and low economic growth performance, developing countries recorded high growth rates through raising capital inflows. However the growth performance of emerging and developing economies including Turkey is expected to be negatively affected through trade and finance channels because of the fiscal and economic problems of the advanced economies. Therefore this paper examines the unorthodox monetary policy of Central Bank of the Republic of Turkey (CBRT) using new monetary policy tools in order to sustain macroeconomic stability and support financial stability.

TURKEY'S MACROECONOMIC PERFORMANCE AFTER THE GLOBAL FINANCIAL CRISIS

Turkish economy, with its increased resilience thanks to strong fiscal position and banking sector, diverged rapidly from negative effects of global crisis and performed a strong growth in the period of 2010-12. This is the consequence of supervisory and regulatory reforms which were put into practice after 2001 economic crisis. Since then CBRT gained instrument independence through the main objective of price stability and support growth and employment policies of the government. Turkey's strong economic recovery was followed by significant increases in employment and substantial decreases in unemployment rate. In parallel with established confidence in economy, growth was above expectations and was driven by private sector in recent years. However a relative slowdown was realized in the last quarter of 2011 and in 2012 depending on global developments. In the new global economic environment, CBRT is willing to apply a new monetary policy. In other words, under the new policies scope CBRT intends to preserve the main objective of achieving price stability while safeguarding financial stability as a supporting objective. The governor of CBRT pointed out the outlines of the new monetary policy:

"As was the case in 2011, the CBRT will continue to safeguard the flexibility of the monetary policy in line with changing global conditions, and ensure predictability through effective communication. The monetary policy will continue to contribute to the sustainable growth prospects of the Turkish economy in the context of price stability." (Başçı, 2012: 26)

According to CBRT inflation targeting regime will be continued in the next years in compliance with the main objective of achieving price stability. Alongside the ultimate target, effective liquidity management through interest rate corridor, reserve requirements and reserve options mechanism will be the new and unconventional policy instruments contributing to the financial stability in the coming period.

POST-CRISIS IMPACTS ON TURKEY

In the developed countries, low growth rates and high unemployment rates are key structural problems, in addition to high public debt ratios, transnational interaction of the banking and financial system, debatable monetary fiscal conditions and differences in competitiveness between the countries. To provide macroeconomic confidence, it is primarily recommended to ensure fiscal balance and strengthening fiscal structure through the fiscal consolidation. Nevertheless, in short term, developed countries that struggle with global financial crisis headed to expansionary monetary policy and historically low level of policy interest rate. In the United States, the epicenter of the global crisis, precautionary steps were taken by the Federal Reserve (FED) that triples its balance sheet (Graph 1).

2,800 - 2,400 - 1,600 - 1,200 - 2007 2008 2009 2010 2011 2012 2013

Graph 1. Balance Sheet of FED (billions of USD)

Source: Federal Reserve Bank of St. Louis

Concordantly, Bank of England and Bank of Japan didn't abstain from the application of outrageous precautinary measures similar to the FED's policies. European Central Bank (ECB) that invoked to liquidity expansion at the very early stages of the crisis, later chose to be close to the stabilization policy.

However, fiscal crisis of the Eurozone routed ECB to expansionary monetary policy (Graph 2).

3000000 2750000 2500000 2000000 1750000 1250000 1250000 1250000

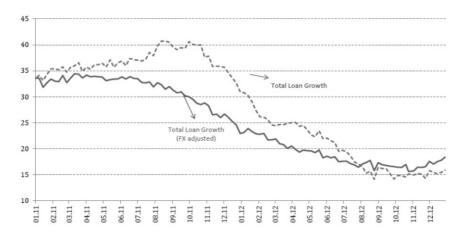
Graph 2. Balance Sheet of ECB (billions of Euros)

Source: European Central Bank

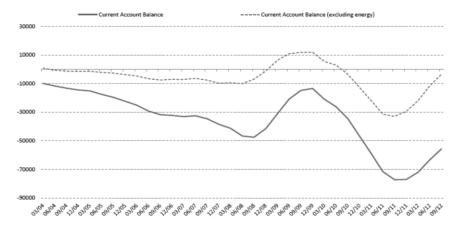
In the light of these developments, it is possible to claim that the world economy was swarmed with low cost and abundant liquidity. While liquidity in question prefers financially safe places in search of yield, the world economy also witnessed a prominent increase in capital flows towards developing countries. Turkish economy, that suffers from structural savings gap, is in need of external financing in order to raise the rate of its economic growth performance.

All the developments listed above, provided a rise in capital flows directed to Turkey. The impact of the situation on Turkish economy was rapid increase (approximately 40% per annum) in credit stock of banking sector (Graph 3). Thereby, according to CBRT, while Turkish economy exhibiting fast growth performance between 2010-2011, it also faced with severe risk in financial stability because of increasing current account deficit (Graph 4).

Graph 3. Total Banking Sector Loans (yearly, %)



Graph 4. Current Account Balance (12 month rolling, million USD)



Source: CBRT

CBRT espouses the hypothesis that the rapid increase in credit stock of banking system has crucial impact on economic growth in realm of the structure of Turkish economy. In that respect, it is obvious that there is an interaction channel that global economic-financial developments are transformed to internal macroeconomic dynamics of the country. As it can be seen in the graph, in post 2009 period, in which severe negative impacts of global crisis occured,

there had been a credit impulse ([change in total credit]/GDP) which approached to 14% of the economic magnitude (Graph 5). If the rate of increase in credit stock had been 10% -15% band instead of being 40% onwards, it can be thought that the level of credit impulse would have decreased in half (Graph 6). In this context, CBRT points that it is necessary to control the rate of credit stock's increse of the banking sector. In other words, the containment of credit impact or credit expansion significantly reduces the probability of moving into a higher current account deficit regime (Akçay ve Ocakverdi, 2012: 77).

Policy Induced Soft Landing

14

12

Global Stimulus

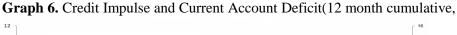
6 1987-2012 avg.

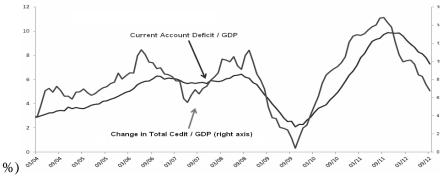
5 10 credit growth

2 5 10 credit growth

Graph 5. Credit Impulse ([Change in Total Credit]/GDP), %)

Source: CBRT





Source: CBRT

It is necessary to highlight that the current account deficit seen in Turkish economy is a long run structural problem. In other words, by depending on the conceptualization of economics' terminology, we can utter that it is not possible to meet the planned investment with domestic savings (Graph 7). On the

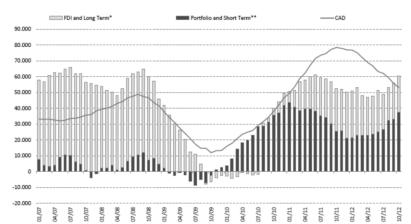
grounds of low level of savings rate, Turkish economy seeks external savings and in the ultimate analysis current account deficit grow out.

Graph 7. Investments and Savings (% GDP)

Source: CBRT

Mechanically speaking, in order to heal the problem of current account deficit, it is necessary to increase the domestic savings. Nevertheless, savings rate is not a variable easily increasable. In that case, the only economic policy to be implemented is decreasing the investments which will negatively affect the economic parameters-slows the growth down, rise the unemployment up-and separate Turkey from other emerging markets. It is clear that we face with a dilemma. In this framework, the only policy prescription is adopting a strategy that will increase the savings in long run and consent to a low rate of growth and current account deficit that ensures short term external fragility.

Another external fragility of Turkish economy is seen in financing process of current account deficit. Especially in post 2008 period, financial downturn led capital flows to low risk & short term options. Thus, while financing current account deficit, Turkey utilized short term capital flows namely portfolio investment in 2010-2011 period, in which Turkish economy experienced high rate of economic growth performance (Graph 8). It is obvious that it is not a long-standing solution. Financing current account deficit through the means of portfolio investment for specific year means adding it to upcoming year's external financing requisite. An economy that bears structurally high level of current account deficit, with the means of short term financing will lead itself to a dead-end in external financing requirement in medium term. As a matter of fact, CBRT included current account deficit and its financing to its financial stability targeting.



Graph 8: External Finance (12 month cumulative, million USD)

CBRT'S NEW MONETARY POLICY FORMULA

After the global economic crisis, in order to prevent an appreciated currency, overheated economy, developing bubbles or increasing current account deficit central banks considered worldwide new measures including capital flow controls (Svensson, 2011: 10). Therefore central banks of developing countries have also emphasized designing policies to offset macro imbalances and fluctuations (Borio ve Disyatat, 2009: 25-26; Gallo, 2012; N'Diaye, 2012; Moreno, 2012; Choi, 2012; Wu, 2012). The addition of financial stability to monetary policy targeting requires structurally and conjucturally numerous tools (Graph 9) as could be seen in CBRT case (Başçı ve Kara, 2011: 17). Problems which are not owned by any policymaking institution, such as rapid credit expansion, current account deficit and its financing orientates CBRT (Akkaya ve Gürkaynak, 2012: 93). The Bank, as it does not have appropriate tools at its disposal to address such problems creating an efficiency loss in policymaking and an institutional cost for itself, used its initiative in favor of unconventional policy.

In post global crisis period, ongoing expansionary monetary policies which is the consequence of fragile economic panorama, increase in risk perception and excessivelly volatile capital flows are the main nourishing factor of macroeconomic and financial risks. In this context, it is necessary to increase the stamina of the economy in order to combat with sudden change in capital flows and risk appetite. Thereby, during 2010 and after, through the means of policy instruments, the impact of volatility in capital flows is tried to be

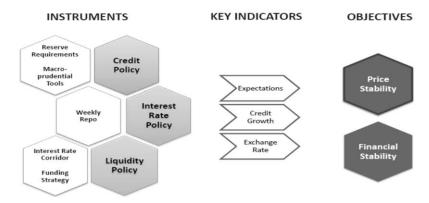
diminished. Fluctuations in capital flows oriented to internal economy and global liquidity conditions stand out as changes in credits and in foreign currency rates. In developing countries, like Turkey, rapid revaluation in currency drives firms to make banks rapidly expanding the credit. Both rapid credit growth and overvaluation of currency distorts the resource distribution and causes macroeconomic instability because of the discrepancy between domestic demand and total income. In this framework, the monetary policy of CBRT deviates from price stability to macroprudential tightening (Table 1) till the first half of 2011 (Kara, 2012: 23). From the beginning of the 2011's second half, interest rate corridor, increasing required reserve ratios and reserve options mechanism instruments are applied.

Table 1. CBRT Against Excessive Credit Growth

Predominant Policy:	
Before August 2011	Macroprudential Tightening
After October 2011	Monetary Tightening

Source: CBRT

Graph 9. Multiple Objectives and Multiple Instruments



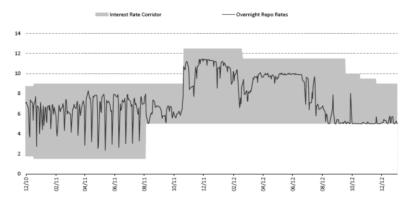
Source: CBRT

Interest rate corridor

The implementation of this new policy is as follows: CBRT sets the average funding rate at any point within the interest rate corridor between overnight lending and borrowing rates through liquidity operations (Graph 10 and 11).

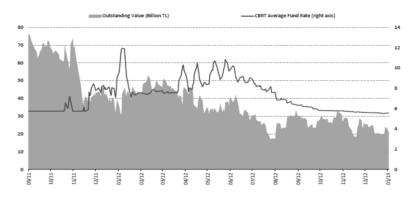
The interest rate corridor provided CBRT more flexibility in monetary policy. CBRT can change its policy stance on a daily basis and does not need to wait until the next monetary policy committee meeting for a monetary policy action. The effect of the interest rate corridor tool is similar to unsterilized foreign exchange intervention and reduces the need to buy or sell foreign exchange.

Graph 10. Interest Rate Corridor and O/N Rates (%)



Source: CBRT

Graph 11. CBRT Average Funding Rate (%)



Source: CBRT

On the other hand, if needed CBRT can also change the width of the interest rate corridor and set the degree of its policy predictability to manage the variability of capital flows. A wider corridor enables to reduce the volatility of exchange rates by increasing the volatility of the short term interest rates. The corridor has other functions, especially for credit transmission channel and

active liquidity management: interest rate corridor can be used to control the spread between lending and deposit rates or there is a direct impact on banks' lending behavior and credit conditions. On the other hand, the corridor provides a flexibility to adjust policy stance by changing the liquidity conditions (Koray vd., 2012: 11).

New reserve requirements policy

Since the last quarter of 2010, with the help of the positive inflation outlook in Turkey, CBRT designed policies to contain macroeconomic and financial risks in addition to its primary objective of price stability. The CBRT started to actively use reserve requirements and other liquidity tools besides its policy rate or namely one week repo repurchase agreement- auction rate. In addition to that, to bring limitation to credit expansion behavior, there had been an increase in required reserves ratios (Graph 12). Especially, the weighted average reserve ratio of TL liabilities was approximately doubled and it had crucial impact on banks' balance sheets. CBRT implemented also time-varying required reserve policy and will start to apply the leverage-based reserve requirements policy by the last quarter of 2013 (CBRT, 2012a: 28).

TL Reserve Requirements (%) FX Reserve Requirements (%) 18 14 16 12 14 10 12 8 6 6 0 06/10 09/10 12/10 06/12 09/12 03/11 03/12 12/11 03/12 06/1 99/ 12/1 99/ 12/1 06/1 RRR range Weighted average RRR RRR range • Weighted average RRR

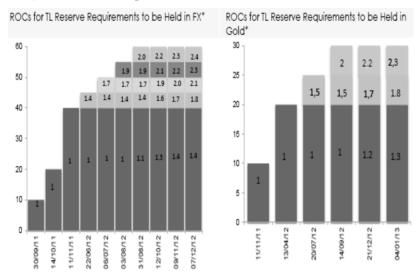
Graph 12. TL and FX Reserve Requirements (%)

Source: CBRT

Reserve options mechanism

A new innovation namely reserve options mechanism has been added to the system is the possibility of keeping TL reserve requirements in terms of foreign currency or gold. Firstly the amount determined was at rate of 10% but then after they raised them to 60% (FX) and 30% (gold). In other words, 90% of TL

reserve requirements to be kept in central bank by banking system can be hold as gold or foreign currency. The mechanism includes also reserve options coefficients enforcing to hold more FX or gold (Graph 13). CBRT increased these coefficients to sterilize the excessive portfolio investments flows towards Turkish banking sector. It is necessary to emphasize that there are two dimensions of the new application. In one hand, CBRT's gross foreign currency reserves increased (Graph 14) and banking systems' financing cost is diminished. As is known, while developed countries are keeping policy interest rates close to zero, market interest rate courses historically lowest level. In order to overcome the problem of high level of TL's funding cost, banking system used the CBRT's new application to great extent. This means that banking system fullfill the reserve options mechanism to CBRT by borrowing from abroad.



Graph 13. Reserve Options Coefficients for FX and Gold Reserves

Source: CBRT

Another fact is the willlingness of holding gold by banking system. As Turkish citizens' vast amount of physical gold accumulation considered, CBRT has grounds of carrying gold in question that are out of balance sheet into its accounts. Thus the huge increase in gold accounts can easily be seen. Through the means of gold accounts, banking system carry the gold gathered from citizens to CBRT benefiting from the reserve options mechanism. Consequently, gold and foreign exchange reserves of CBRT increased tremendously.

Graph 14. CBRT International Reserves (FX and Gold, million USD)



Exchange rate regime

The floating exchange rate regime will continue in the forthcoming period within its ongoing framework. Under the floating regime, the exchange rate is not used as a policy instrument and the CBRT has no nominal or real exchange rate target. When unhealthy price formations are observed due to the possible loss of market depth, CBRT may hold foreign exchange selling auctions, compatible with the spirit of the floating exchange rate regime, and/or intervene directly. The Bank is involved in interventions solely to prevent excessive volatility in exchange rates. CBRT may also start to hold foreign exchange buying auctions depending on global conditions and the developments in the foreign exchange market (CBRT, 2012b: 16-18). Any intervention by the CBRT in the FX markets is not aimed at determining the level or direction of exchange rates. But rapid portfolio investment flows appreciating TL will be the cause of high credit impulse and increasing current account deficit. Therefore CBRT assumes that there is a potential risk of being totally indifferent about the real value of national currency. In other words, CBRT is willing to maintain at least the persistence of the real value of TL (Graph 15) in order to reach macroeconomic and financial stability.

Graph 15. CPI Based Real Effective Exchange Rate (2003 = 100)

DISCUSSION ON THE NEW MONETARY POLICY TOOLS

Eventually CBRT entered a new era in its monetary history. We are witnessing an unorthodox monetary policy aiming financial stability instead of strict inflation targeting regime. High rate of reserve requirements and also the reserve options mechanism with its flexible reserve options coefficients are the most important policy tools against the financial instability of Turkish economy. However, CBRT's new measures are coherent with the ongoing world financial and economic conditions, but also have some characteristics necessary to be discussed.

Open economy trilemma

As is known, there is the impossible trinity for open economies especially for developing countries implying that the economic policy could achieve two of the following three macroeconomic goals: monetary policy efficiency, exchange rate stability and capital account openness. Investigating this famous Mundell-Fleming concept or open economy trilemma for Turkey, we are witnessing serious economic problems between these. But some recent works indicates that foreign reserves to GDP ratio and required reserves ratio augment trilemma residuals, hence mitigate the policy trade-offs (Akçelik vd., 2012: 12). In other words, a new monetary policy could avoid the trilemma to a degree. Therefore, recent changes in the monetary policy of CBRT are coherent with this argument. CBRT raised its foreign reserves due to the reserve requirements

and the reserve options mechanism. As seen above, commercial banks benefited the facility to hold reserve requirements for TL liabilities in terms of FX or gold. Additionally CBRT gained the ability to sterilize increasing capital inflows without changing its policy rate or intervening FX market. As an automatic stabilizer, reserve options mechanism contributes to lessen the volatility of the exchange rates (Oduncu vd., 2013: 16). The mechanism induces banks to adjust their FX reserves endogenously, and therefore it helps CBRT to disentangle FX liquidity management from TL's (Agénor vd., 2012: 13).

New tools but untested under different conditions

Through the reserve options mechanism, foreign reserves are largely accumulated by banks rather than CBRT. The banking sector used significant part of the external borrowing for the maintenance of reserve requirements in FX and gold. Therefore, holding TL requirements as FX and gold has increased the share of banks FX liquid and equivalent assets in their balance sheets (CBRT, 2012b: 63). In other words, a new type of currency substitution occurring. Depending on the outlook for the global growth, the adverse movements in short term capital flows and their effects on national currency would be a potential risk on the reserve options mechanism and the banking system stability. Additionally, this mechanism encourages the banks to benefit from the excess liquidity of the developed countries. CBRT's decision to sterilize the capital inflows is logical, but it is also untested in the opposite conditions.

Indefinite outcomes

Another issue about this strategy is that the increasing international reserves are gross reserves instead of net reserves. If the banking system does not use the facility of the reserve options mechanism, foreign reserves to GDP ratio will decrease. CBRT has to maintain the advantage of the mechanism by the relative low funding cost of FX reserves. Additionally, it is necessary to emphasize that interest rate spreads are sensitive to external funding conditions and risk appetite (Küçüksaraç ve Özel, 2012: 8). When the spread between FX and TL funding costs is tending to zero, the effectiveness of the mechanism will be questionable.

Ineffectiveness in the context of the structural economic conditions

Increasing required reserves and implementing as time-varying CBRT has gained a macroprudential policy tool. Especially, time-varying reserves policy has the potential to reduce the inter-temporal distortions credited by the credit spreads. This means a trade-off between price stability and financial stability

(Mimir vd., 2012: 25). On the other hand, the reserve policy sensitive to time is restricted by structural characteristics of the Turkish economy. As is known, average maturity of total deposits is very short in Turkey. Therefore until the average maturity has been increased, the efficiency of time-varying reserves policy will be limited.

Unexpected but possible adverse effects

CBRT accentuated several times the correlation between the financial stability and the growth rate of total banking credit as defined as credit impulse (Ganioğlu, 2012: 21). Taking into account that the total credit to GDP ratio is relatively low in Turkey, there could be some difficulties to control the banking system activities. To restrain the credit impulse CBRT could increase the reserve requirement ratios to higher levels, but in this instance the interest rates would rise to undesirable levels. And the cost of this decision is mostly affecting the banking sector's capital adequacy. Here is a new dilemma: in order to maintain financial stability indispensable for the banks, the policy might originate a growing damage to the banking sector.

Divergence from the indispensable price stability target

The last but may be the most important aspect of the new steps of CBRT is the divergence from the price stability emphasis. Although CBRT had accentuated several times that its main objective is the price stability, new monetary policy measures put forward the financial stability. When the financial stability is the priority in the CBRT's discourse, the possible initiative to carry out counter cyclical measures will be overshadowed. A central bank so harmonious with the financial markets will nurture the opposite of its priority, or the financial instability as Hyman Minsky described in an elegant style:

"The financial instability hypothesis is a model of a capitalist economy which does not rely upon exogenous shocks to generate business cycles of varying severity. The hypothesis holds that business cycles of history are compounded out of (i) the internal dynamics of capitalist economies, and (ii) the system of interventions and regulations that are designed to keep the economy operating within reasonable bounds." (Minsky, 1992: 9)

Many economists as well as Minsky (Tokucu, 2012: 204) and also some central bankers have attempted to define contemporary financial capitalism and investigated new proposals in line with the financial architecture, but these Minskyian reasonable bounds must contain surely the price stability.

CONCLUSION

Distinctly from the developed world, central banks of the emerging markets are searching new measures and CBRT put into practice an unorthodox monetary policy to overcome the adversities of the global crisis. New policy tools brought the possibility to stay immune from the negative effects of the increasing capital flows without relinquishing their benefits. However there are some deficiencies of these new tools. These are compatible with the abundance of liquidity originating from the developed world, but when this era closes to its end monetary authorities of the developing countries must find promptly new effective policies. Eventually, the divergence from the orthodox price stability target may create a vicious circle which can be described as the absence of economic confidence due to the unsolved structural problems of the economy. Therefore the monetary policy -whether unorthodox or not- must strictly compromise the indispensable target of price stability.

REFERENCES

- Agénor, P. R.; Alper, K.; da Silva, L. P. (2012). "Capital Regulation, Monetary Policy and Financial Stability", Central Bank of the Republic of Turkey Working Paper, no. 12/28, Ankara.
- Akçay, C.; Ocakverdi, E. (2012). "An Interim Assessment of the Ongoing Turkish Monetary and Macroprudential Experiment", İktisat İşletme ve Finans, 27 (315), 77-92.
- Akçelik, Y.; Çörtük, O.; Turhan, İ. M. (2012). "Mitigating Turkey's Trilemma Tradeoffs", Central Bank of the Republic of Turkey Working Paper, no. 12/29, Ankara.
- Akkaya, Y; Gürkaynak, R. S. (2012). "Cari Açık, Bütçe Dengesi, Finansal İstikrar ve Para Politikası: Heyecanlı Bir Dönemin İzi", İktisat İşletme ve Finans, 27 (315), 93-119.
- Başçı, E.; Kara, H. (2011). "Finansal İstikrar ve Para Politikası", Türkiye Cumhuriyet Merkez Bankası Çalışma Tebliği, no. 11/08, Ankara.
- Başçı, E (2012). "Monetary Policy of Central Bank of the Republic of Turkey after Global Financial Crisis", **Insight Turkey**, 14 (2), 23-26.
- Borio, C.; Disyatat, P. (2009). "Unconventional Monetary Policies: An Appraisal", Bank of International Settlements Working Papers, no. 292, Basel.
- Central Bank of the Republic of Turkey, (2012a). **Financial Stability Report**, vol. 15, Ankara.

- Central Bank of the Republic of Turkey, (2012b). **Monetary and Exchange** Rate Policy for 2013, Ankara.
- Coi, W. G. (2012). "Macro-Prudential Policies in Korea", presentation in the Conference on Reserve Requirements & Other Macroprudential Policies: Experiences in Emerging Economies, October 8-9, Istanbul.
- European Central Bank, Statistical Data Warehouse, sdw.ecb.europa.eu
- Federal Reserve Bank of St. Louis, **Federal Reserve Economic Data**, research.stlouisfed.org
- Ganioğlu, A. (2012). "Finansal Krizlerin Belirleyicileri Olarak Hızlı Kredi Genişlemeleri ve Cari İşlemler Açığı", **Türkiye Cumhuriyet Merkez Bankası Çalışma Tebliği**, no. 12/31, Ankara.
- Gallo, F. L. (2012). "Latin American Experience with the Use of Macroprudential Policies", presentation in the Conference on Reserve Requirements & Other Macroprudential Policies: Experiences in Emerging Economies, October 8-9, Istanbul.
- Kara, H. (2012). "Küresel Kriz Sonrası Para Politikası", Türkiye Cumhuriyet Merkez Bankası Çalışma Tebliği, no. 12/17, Ankara.
- Koray A.; Kara, H.; Yörükoğlu, M. (2012). "Reserve Options Mechanism", **CBT Research Notes in Economics**, no. 2012-28, Ankara.
- Küçüksaraç, D.; Özel, Ö. (2012). "Reserve Options Mechanism and Computation of Reserve Options Coefficients", CBT Research Notes in Economics, no. 2012-33, Ankara.
- Mimir, Y.; Sunel, E.; Taşkın, T. (2012). "Required Reserves as a Credit Policy Tool", Central Bank of the Republic of Turkey Working Paper, no. 12/24, Ankara.
- Minsky, H. P. (1992) "The Financial Instability Hypothesis", **The Jerome**Levy Economic Institute of Bard College Working Paper, no. 74,
 New York.
- Moreno, R. (2012). "Dealing with Financial Stability Risks: Macroprudential and Other Tools", presentation in the Conference on Reserve Requirements & Other Macroprudential Policies: Experiences in Emerging Economies, October 8-9, Istanbul.
- N'Diaye, P. (2012). "Countercyclical Macro Prudential Policies in a Supporting Role to Monetary Policy", presentation in the Conference on Reserve Requirements & Other Macroprudential Policies: Experiences in Emerging Economies, October 8-9, Istanbul.

- Oduncu, A; Akçelik, Y.; Ermişoğlu, E. (2013). "Reserve Options Mechanism and FX Volatility", Central Bank of the Republic of Turkey Working Paper, no. 13/03, Ankara.
- Svensson, L. E. O. (2011). "Monetary Policy after the Crisis", prepared for the Conference Asia's Role in the Post-Crisis Global Economy, November 28-30, San Francisco.
- Tokucu, E. (2012). "Hyman Minsky'nin Finansal İstikrarsızlık Hipotezi Çerçevesinde Finansal Krizler ve Çözüm Önerileri", Ankara Üniversitesi Siyasal Bilgiler Fakültesi Dergisi, 67 (2), 189-212.
- Wu, X. (2012). "Macroprudential Policy: What Instruments and How to Use Them? Lessons from Country Experiences", presentation in the Conference on Reserve Requirements & Other Macroprudential Policies: Experiences in Emerging Economies, October 8-9, Istanbul.