Marmara Üniversitesi
İ.İ.B.F. Dergisi
YIL 2008, CİLT XXIV, SAYI 1

CURRENT ACCOUNT SUSTAINABILITY IN TURKISH ECONOMY

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Abstract

Turkish economy has a large current account deficit which has risen 37.7 billion dollars in 2007, in other words, approximately 5,7 percent of its annual GDP. The current account deficits of the country have been financed by capital inflows. The view of the country is frightening for many economists, because, no country is able to run a current account deficit at that rate indefinitely. Current account deficit has been compensated anywise, but the main problem is its sustainability. The purpose of the study is to investigate the main determinants of the current account deficits and its sustainability in Turkish economy in the future. In accordance with the aim of the study, an econometric application is realized to investigate the relationships among interest rates, short term capital inflows, the terms of trade, real effective exchange rate and the current account balance for Turkish economy. According to the econometric application results, current account balance, capital flows, exchange rates and interest rates variables have a close relationship. These variables affect each other simultaneously. It is seen that the finance of current account deficits leads current account to deteriorate again.

Keywords: *Current Account Balance, Capital Flows, Turkish Economy*

TÜRKİYE EKONOMİSİNDE CARİ AÇIĞIN SÜRDÜRÜLEBİLİRLİĞİ

Özet

Türkiye ekonomisinin cari işlemler açığı 2007 yılında 37.7 milyar dolara ya da başka bir ifadeyle yıllık GSYİH'sinin yaklaşık yüzde 5.7 yükselmiş durumdadır. Ülkenin cari açığı sermaye girişleri ile finanse edilmektedir. Pek çok iktisatçıya gore, ülkenin

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görünümü endişe vericidir; zira bu orandaki cari açığı sonsuza dek sürdürmek mümkün gözükmemektedir. Cari açık bir şekilde finanse edilmekte fakat esas sorun bunun sürdürülebilirliğidir. Bu çalışmanın gayesi; Türkiye ekonomisinde cari işlemler açığının temel belirleyicilerini ve sürdürülebilirliğini ortaya koymaktır. Bu amaca uygun olarak çalışmada, Türkiye ekonomisinde faiz oranları, kısa vadeli sermaye girişleri, dış ticaret hadleri, reel efektif döviz kuru ve cari denge değişkenleri arasındaki ilişkiler bir ekonometrik analize tabi tutulmaktadır. Ekonometrik uygulama sonuçlarına göre, söz konusu değişkenler arasında yakın bir ilişki olduğu ve cari açığın finansmanının cari işlemleri yeniden bozucu bir etkisinin olduğu anlaşılmaktadır.

Anahtar Kelimeler: *Cari İşlemler, Sermaye Hareketleri, Türkiye Ekonomisi*

1. Introduction

Recent discussions on international macroeconomic policy have centered on the large current account imbalances experienced by a number of countries, including some developed (like U.S.) and developing countries. Even though the debate is seen current, indeed as Skidelsky pointed out, in the 1940s John Maynard Keynes was clearly aware of the issue, and his proposal for an international "Clearing Union" was based on the notion that in the face of large payments imbalances both deficit and surplus, nations should share the burdens of adjustment[1].

Today, for some economists (for example Poole, 2003), current account deficits (c.a.d.) do not matter when seen in terms of the balance of payments accounting framework[2]. Following this view, the c.a.d. of a country is largely the reflection of the on-going attractiveness of the issue economy as a harbor for international capital. On the contrary, it is argued by some economists (for example Wolf, 2003) that by relying on capital flows, the economies become particularly vulnerable to sudden changes in expectations and economic sentiments[3].

Some economists try to clarify the acceptable levels of current account imbalances in their studies. For example, Dornbusch states that if the c.a.d./GDP ratio of an economy exceeds 4 %, then the issue economy passes into the red zone which implies a dangerous situation[4]. Croke et al argue that an acceptable c.a.d. for an industrialized country is 2 percent of its GDP[5]. They criticize the U.S. current account that is running at around 6 percent of its GDP. According to Obstfeld and Rogoff, the U.S. current accounts for over

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[1] Skidelsky, R. (2000). **"John Maynard Keynes"**, Volume 3. Fighting for freedom, 1937-1946, New York: Penguin Putnam, Viking, xxv, p.579

[2] Poole, W. (2003). **"A Perspective on U.S. International Trade"**, Speech at Louisville Society of Financial Analysts Meeting, Louisville, KY, Nov. 19, 2003, http:// www.stls.frb.org

[3] Wolf, M. (2003). "Funding America's Recovery is a Very Dangerous Game," October 1st, 2003 Financial Times

[4] Dornbusch, R. (2001). "A Primer on Emerging Market Crises**", NBER Working Paper 8326**, **http://www.nber.org/papers/w8326**, January, 2001

[5] Croke, H., Kamin, S. B. Leduc, S. (2005) "Financial Market Developments and Economic Activity during Current Account Adjustments in Industrial Countries." Board of Governors**, International Finance Discussion Paper** 2005-827. http://www.federalreserve.gov/pubs/ifdp/2005/827/default.htm

75 percent of global deficits, even compared with small countries, is of limited value as 6 percent of its GDP[6].

In the past, large current account deficits were associated with the currency crises of the 1990s and 2000s. One of them was the Turkish experience in February, 2001. The current account deficit reached five percent of GDP in the Turkish economy at that date and capital outflows put the country into e deep crisis. Today, the Turkish economy has a large deficit which has risen 37.7 billion dollars in 2007, in other words, approximately 5.7 percent of its annual GDP. The current account deficits of the country have been financed by capital inflows. In this respect, the view of the country is frightening for many economists, because, no country is able to run a current account deficit indefinitely. Current account deficit has been compensated anywise, but the main problem is its sustainability. If the current account deficit at some point becomes unsustainable, then a currency crisis – an adjustment to a surplus through a rapid depreciation of the domestic currency- is possible[7]. The key characteristic of the current account deficit is therefore its sustainability not its size. Actually, if you cannot finance the deficit any more, the deficit is closed by changing the exchange rate in the financial markets.

Taking the way at this point, it can be said that the purpose of the study is to investigate the main determinants of the current account deficits and its sustainability in Turkish economy in the future. To attain the goal, general determinants of current account deficits for any economy are clarified in the second section. The relation between current account and capital flows is examined in the third section of the study. The forth section consists of the theoretical and empirical literature review on determinants of current account imbalances. The fifth section includes the major data of Turkish economy in connection with its current account deficits. The relationship among current account deficits and selected macroeconomic variables are analyzed with econometric tools in the sixth part of the study. Finally, in order to avoid disruptive effects of current account deficits, the necessities and the results of the study are argued in the conclusions.

2. Determinants of Current Account Deficits

The determinants of the current account balance of a country can be arranged in order like that:

i) trade balance. The trade account is overwhelmingly the main component of the current account.

ii)output growth. When the economy grows faster, it will have larger current account deficits. There is an excessive domestic consumption demand and this is financed by capital inflows generally. Beyond the elimination of tariffs and a stricter enforcement of competition rules across the European Union, factors such as the harmonization of safety requirements for products and the extension of distribution networks have led to goods

[6] Obstfeld, M. and Rogoff, K. (1995). "The Intertemporal Approach to the Current Account", in G. Grossman and K. Rogoff (eds) **Handbook of International Economics**, Vol. 3. Amsterdam: North Holland.

[7] Saksonovs, S. (2006). "The Intertemporal Approach to the Current Account and Currency Crises", **Cambridge University, Darwin College Research Report**, DCCR-05.

being closer substitutes, and thus to a higher elasticity of demand for each good[8]. Increased goods market integration, which leads to a more elastic demand for all goods, forces the developing country to apply price cuts to repay its debts. However, this case can not be carried on forever. The price cuts in the future start to decrease. Because, the country has to sell abroad more amount of goods for the same export revenue. In response to this case, developing country wants to borrow more. Finally, its current account deficits will widen increasingly in accordance with the domestic demand expansion.

iii) international interest rates. When the country faces higher interest rates abroad, it is more expensive to borrow in international markets, and thus the country will have smaller current account deficits.

iv) the rate of change in the terms of trade. A fall in the international prices of the domestic goods brings about deterioration on the current account.

v) the real exchange rate. If the currency of the country appreciates then the trade imbalances get higher and thus the current account deficits as well.

vi) private sector and public sector balances. According to national income equality, these two variables (S-I) and [T - (G+Tr)] affect current account balance in an open economy.

vii) income per capita. Poorer countries have more potential to catch up rich ones, in other words, convergence among the riches and the poors will occur through either capital accumulation or technological progress[9]. These countries have low initial levels of per capita and so they apply to borrow more and thus have large current imbalances[10].

viii) domestic interest rates. When the country supplies the foreign investors high reel interest rates relatively, then it attracts more short term funds into the country. The national money begins to appreciate and the country loses competition capacity.

ix) Other factors such as structural ones, for example degree of financial openness. Increasing global financial integration can explain larger current account deficits, particularly to the extent that greater trade integration helps underpin financial integration. On the other hand, for some of the poorer countries, goods and financial market integration are likely to lead to both a decrease in saving and an increase in expenditures, and so to a larger current account deficit. This case has been the main force of their economic growth processes. In other words, when some of these countries grow at brilliant rates, they have large current account deficits[11].

Furthermore, political stability plays an important role on many of the determinants examined so far. In the context of current account sustainability, political instability can be important for various reasons. It makes domestic and foreign investors

[8] Blanchard, O. J. and Giavazzi, F., (2002). "Current Account Deficits in the Euro Area: The End of the Feldstein Horioka Puzzle?", **MIT Department of Economics Working Paper,** No. 03-05., September, p.153

[9] Barro, R. J. and Sala-i-Martin, X. (1992). "Convergence", **Journal of Political Economy**, 100(2), 223-251

[10] Blanchard, O. J. and Giavazzi, F., Ibid, p.159

[11] Obstfeld, M. and Rogoff, K., Ibid, p.70

more susceptible to the risk of a sudden policy reversal, reducing the credibility of the current policy stance[12]

3. The Relation between Current Account and Capital Flows

During the 1970's we have seen dramatic changes in world capital flows, related to collapse of Bretton Woods system, oil price increases, OPEC's huge surpluses and the recycling of the oil revenues. These events have spurred an interest in the relation between current account and capital flows, and resulted in a considerable literature.

Higgins and Klitgaard for example, showed this relation by using a different but especially a clear way[13]. Using national income accounting, they demonstrate how the equivalence of the current account balance and net capital inflows arises. Specifically, the national income accounts treat gross national product (GNP) as the sum of income derived from producing goods and services under the following categories: private consumption (C), private investment (Ip), government goods and services (G), and exports (X). Imports (M) are treated as a negative item to avoid the double counting of consumption or investment goods purchased at home but produced abroad. Thus, GNP is given by

$$GNP = C + Ip + G + X - M,$$

with X - M representing net exports plus net factor income.

A second basic equation in the national income accounts is based on the insight that any income received by individuals has four possible uses: it can be consumed (C), saved (Sp, for private savings), paid in taxes (T), or transferred abroad (Tr). Because GNP is simply the sum of the income received by all individuals in the economy, we have

$$GNP = C + Sp + T + Tr.$$

By equating the two expressions for GNP developed above, cancelling out C, and rearranging terms, we derive the following equation:

$$X - M - Tr = (Sp - Ip) + (T - G),$$

with X - M - Tr equalling the current account. In other words, the current account balance is equal to the surplus of private savings over investment and the gap between government tax receipts and government expenditure on goods and services, that is, the government budget surplus.

A final equation is needed to clarify the link between the current account balance and the net flow of foreign investment capital. A dollar of savings can be classified according to the type of asset it buys. In particular, the dollar can be used to purchase domestic physical capital, domestic government debt, or a foreign asset (FA) of some sort.

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[12] Ferretti, M. and Razin, A. (1996). "Current Account Sustainability", **Princeton Studies in International Finance**, No.81, Princeton, New Jersey, pp.28-29

[13] Higgins, M.,and Klitgaard, T. (1998). **"Viewing the Current Account Deficit as a Capital Inflow"**, Current Issues in Economics and Finance, **Federal Reserve Bank of New York**, Volume 4, Number 13, December 1998

Recalling that net issuance of government debt is equal to the government budget deficit, G - T, we have

$$Sp = Ip + (G - T) + FA.$$

Rearranging, we have

$$FA = (Sp - Ip) + (T- G)$$

This equation can be interpreted as representing the fact that a country accumulates foreign assets (or equivalently, is a net lender to the rest of the world) when domestic private saving is more than sufficient to finance private investment spending plus the government budget surplus.

With combining the current account equation, the last equation is reached as $FA = X – M-Tr$

which represents that the foreign assets of a country equal to its current account. This means that if a country has a current account surplus, it is a net lender to the rest of the world at the same amount, or on the contrary, if a country has a current account deficit, it is a net borrower from the rest of the world at the same amount exactly.

If we consider the knowledge given above, we can say that the country compensates the amount in its current account with capital inflows. Long term capital inflows (foreign direct investment) into a country consider the rate of profit that expected to made in long run and also some private conditions (for example political stability) that make the country investable. Short term capital inflows to a country take into account interest rates abroad ($r_ş$), domestic interest rates (r), current exchange rate (e) and expected exchange rate (e^e), except for risk share and operation expenses. If we summarize the method Ertop[14] used with symbols:

We assume that one dollar ($) of a foreign investor is e Turkish lira (TL), the value of this amount of money at the end of the term is

$$e\,(1+r)\ TL$$

At the end, the expected value of that amount as dollar is

$$\frac{e(1+r)}{e^e}\ \$.$$

On the other hand, if the investor does the same operation in USA, at the end of the term, 1 $ will reach the value of

$$1+ r_ş$$

[14] Ertop, K. (2006). **"Makroiktisat"**, Marmara Üniversitesi, N.S Vakfı. Yay. 534/767

In this case,

if

$$(1+r_{ş}) < \frac{e\,(1+r)}{e^{e}}$$

then this 1 $ capital flows into Turkey to buy Turkish securities.

The relation above shows that capital flows into the issue country, ceteris paribus, if domestic interest rate is higher than global interest rate. However, this cannot be sustained eternally, because of its disruptive effects on the budget and trade balances of the country. Capital inflows make the national currency overvalued at the end. In this manner, the current account becomes worse increasingly.

Raghbendra[15] looks at the same picture from a different point of view. Developing countries have considerable difficulties in meeting internal and external deficit sustainability conditions. The fact that external sustainability conditions are hard to meet would imply the need for continual capital inflow in order to keep the balance of payments in equilibrium. In particular, this would translate into substantially higher domestic rates of interest as compared to global interest rates. As Raghbendra clarifies, this acts as a drag on higher growth and makes the problem of debt servicing harder, this, in turn, exacerbates the problem of internal fiscal deficit.

As Edwards[16] pointed out, major reversals in current account deficits have tended to be associated to "sudden stops" of capital inflows. Stiglitz has argued that "excessive" capital mobility is highly disruptive. Restricting the degree of capital mobility will reduce the probability that a country faces an external crisis, including a sudden stop and a current-account reversal[17].

4. Review of the Literature

The elasticity approach to trade is one of the most successful areas of empirical economics. The elasticity approach briefly emphasizes the role of the relative prices (or exchange rate) in balance of payments adjustments by considering imports and exports as being dependent on relative prices (through the exchange rate). Cooper[18] analyzed the consequences of 21 major devaluations in the developing world in the 1958-1969 period, focusing on the effect of these exchange rate adjustments on the real exchange rate and on the current account balance in point of elasticity approach. Cooper (1971) argued although the relevant elasticity was indeed small, devaluations had, overall, been successful in helping improve the trade and current account balances in the countries in his sample. In an

[15] Raghbendra, J. (2001). "Macroeconomics of Fiscal Policy in Developing Countries", **WIDER Discussion Paper** No:2001/71, p.19

[16] Edwards, S. (2004). "Thirty Years of Current Account Imbalances, Current Account Reversals, and Sudden Stops," **IMF Staff Papers**, 51, pp.1-49.

[17] Stiglitz, J. E. (2002). **"Globalization and İts Discontents"**,.New York: Norton

[18] Cooper, R. N. (1971). "Currency Devaluation in Developing Countries", **Princeton Essays in International Finance**, No. 86, Princeton, N. J.

extension of Cooper's work, Kamin (1988) confirmed the results that historically (large) devaluations tended to improve developing countries' trade and current account balances[19].

The absorption approach is against the elasticity approach. If the country has a current account deficit, the amount of absorbed by domestic demand is higher than domestic output. So, for the current account balance, the country has to increase the output level or decrease the amount of absorbed by domestic demand. Otherwise, it is impossible to provide the current account balance by applying devaluations.

After the devaluation of 1967 failed to produce the expected improvement in the British balance of payments, the monetary approach to balance of payments is carried out by the economic policy makers. According to the monetary approach, the official settlements balance is in surplus (deficit) when the monetary authorities of a country are purchasing (selling) foreign-exchange assets in order to prevent their own money from appreciating (depreciating) relative to other monies. Thus, analysis of the balance of payments only makes sense in an explicitly monetary model, and, in this sense, the balance of payments is an essentially monetary phenomenon[20].

During the second part of the 1970s, and partially as a result of the oil price shocks, most countries in the world experienced large swings in their current account balances. The most important analytical development during this period was a move away from these approaches. The new one named intertemporal approach to the current account recognizes that saving and investment decisions result from forward looking calculations based on the expected values of various macroeconomic factors. As Obstfeld and Rogof (1995) state, it achieves a synthesis between the trade and financial flow perspectives by recognizing how macroeconomic factors influence future relative prices and how relative prices affect saving and investment decisions. According to them, the persistence of the shocks, whether transitory or permanent, may produce a different response of the current account balance. For instance, a permanent productivity shock may widen the current account deficit as it may generate a surge in investment and a decline in savings[21].

Recent studies about the current account are based on the panel data techniques in general. For instance, Debelle and Faruqee (1996) use a panel of 21 industrial countries over 1971-93 and an expanded cross-sectional data set that includes an additional 34 industrial and developing countries[22]. Their paper attempts to explain long-term variations and short-run dynamics of the current account by specifying cross-section and panel data models, respectively. They find that the fiscal surplus, terms of trade and capital controls do not play a significant role on the long-term (cross-sectional) variations of the current account, while relative income, government debt and demographics do.

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[19] Kamin, S. B. (1988). "Devaluation, Exchange Controls, and Black Markets for Foreign Exchange in Developing Countries.", **Board of Governors of the Federal Reserve System, International Finance Discussion Paper: 334**.

[20] Mussa, M. (1974), "A Monetary Approach to Balance-of Payments Analysis**", Journal of Money, Credit and Banking**, Vol. 6, No. 3. (Aug., 1974), pp. 333-351.

[21] Obstfeld, M. and Rogoff, K., Ibid, p.72

[22] Debelle, G. and Faruqee, H. (1996), "What determines the Current Account? A Cross- Sectional and Panel Approach", **IMF Working Paper** WP/96/58.

Edwards (2001) suggests, the typical mechanics of current account deficits is that countries that experience large imbalances do so for a limited time; after a while these imbalances are reduced and a current account reversal is observed. He observes that, reversals do have a negative effect on economic performance. They affect negatively aggregate investment; moreover, his regression analysis suggests that reversals have a negative impact on GDP growth per capita. His results show that larger deficits increase the probability of a country experiencing a currency crisis[23].

Calderon et al (2002) studied the empirical relationship between the current account deficit and some of the main economic variables proposed by the theoretical and empirical literatures. They focused on the data set of 44 developing countries for the period 1966-94 and reached that the current account deficits are moderately persistent. According to them, a rise in domestic output growth generates larger current account deficits and shocks that increase the terms of trade or appreciate the real exchange rate are linked with higher current account deficits. Moreover, either higher growth rates in industrialized economies or larger international interest rates reduce the current account deficit in developing economies[24].

Calvo[25] (2003) and Ferretti and Razin[26] (1996) look at a large number of episodes of current account reversals in emerging market countries since the early 1970s. They show that both domestic variables (the current account balance, openness, the level of reserves) and external variables (terms-of-trade shocks, US real interest rates, US growth) help to predict the occurrence of current account reversals.

Mueller (2004) states in his paper, that it is not so much a problem when a country has a high current account deficit in one or even for a few years. Seen from the perspective of its impact on the capital structure, the problems come with the persistency of current account deficits and their necessary equivalent of a long period of debt accumulation[27].

In his another study, Edwards (2004) emphasizes that major reversals in current account deficits have tended to be associated to sudden stops of capital inflows. The probability of a country experiencing a reversal is captured by a small number of variables that include the (lagged) current account to GDP ratio, the external debt to GDP ratio, and the level of international reserves, domestic credit creation, and debt services. He shows that, current account reversals have had a negative effect on real growth that goes beyond their direct effect on investments. There is persuasive evidence indicating that the negative effect of current account reversals on growth will depend on the country's degree of openness. According to Edwards, more open countries will suffer less -in terms of lower growth- than countries with a lower degree of openness. His empirical analysis suggests

[23] Edwards, S. (2001). "Does the Current Account Matter" ' **NBER Working Paper** 8275, http://www.nber.org/papers/w8275, May,2001

[24] Calderon, C.,A., Chong, A., Loayza, N.V. (2002). "Determinants of Current Account Deficits in Developing Countries", **Contributions to Macroeconomics**, Volume2, Issue1, Article2

[25] Calvo, G. (2003). "Explaining Sudden Stops, Growth Collapse and BOP Crises: The Case of Distortionary Output Taxes," **IMF Staff Papers** 50 (2003):1–20

[26] Ferretti, M. and Razin, A., Ibid,

[27] Mueller, A. (2004). "Do Current Account Deficits Matter?", **Mises Institute Working Papers**, February 27, 2004. http://www.mises.org/workingpapers

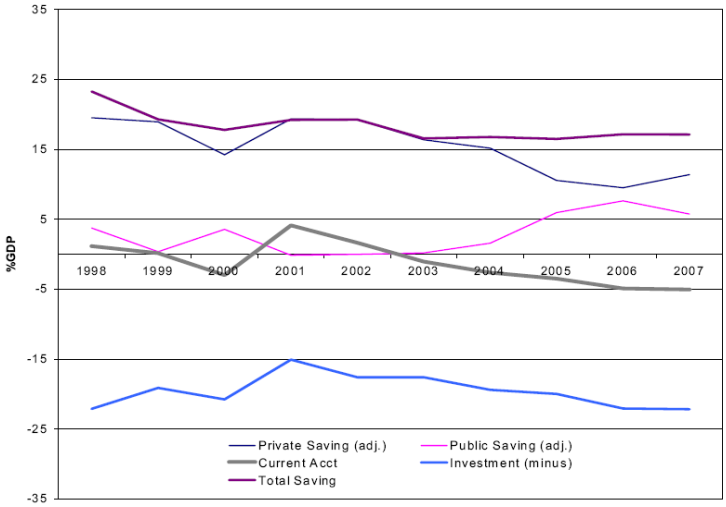
that countries with more flexible exchange rate regimes are able to accommodate the shocks stemming from a reversal better than countries with more rigid exchange rate regime[28].

Debelle and Galati (2007) examined episodes of current account adjustment in developed countries over the past 30 years in their study. The paper found that current account reversals were associated with a notable slowdown in domestic growth and large exchange rate depreciation[29].

5. Some Macroeconomic Indicators with Relevant to Current Account in Turkish Economy

(Saving-Investment)/GDP rate in Turkish economy has been increasing continuously after the financial crisis in 2001, while budget deficit has been decreasing.

Figure-1 Saving-Investment Structure of Turkish Economy



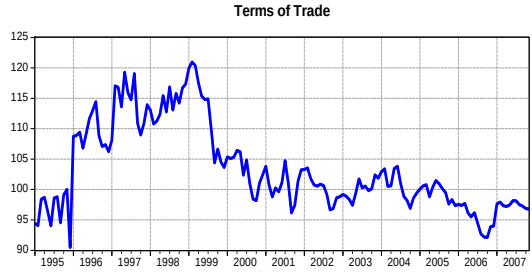
Source: Van Rijckeghem, Caroline And Üçer Murat (2008)

The figure-1 shows that Turkish saving-investment and current account deficit structure have been increasing to critical levels, and chronic deterioration on the current account balance of the economy after the 2001 financial crisis and also the quite volatile capital flows.

[28] Edwards, S. (2004). "Thirty Years of Current Account Imbalances, Current Account Reversals, and Sudden Stops," **IMF Staff Papers**, 51, pp.1-49

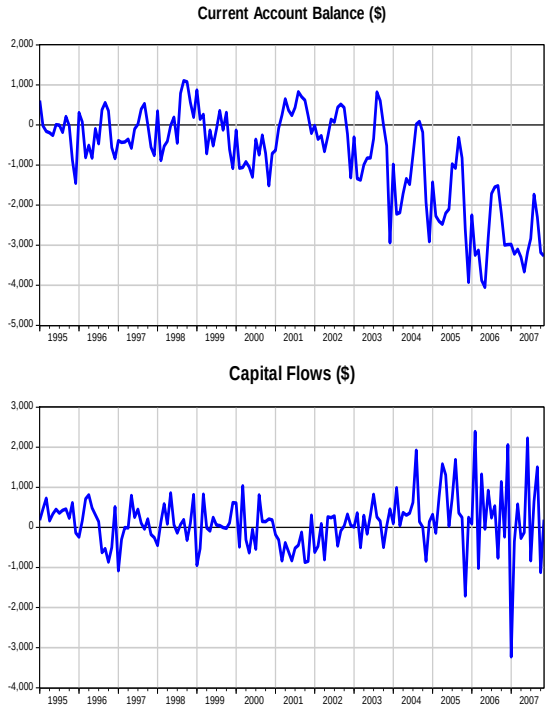
[29]Debelle, G. and Galati, G. (2007). "Current Account Adjustment and Capital Flows", **Review of International Economics**, 15 (5), 989-1013

Figure -2 Terms of Trade for Turkish Economy



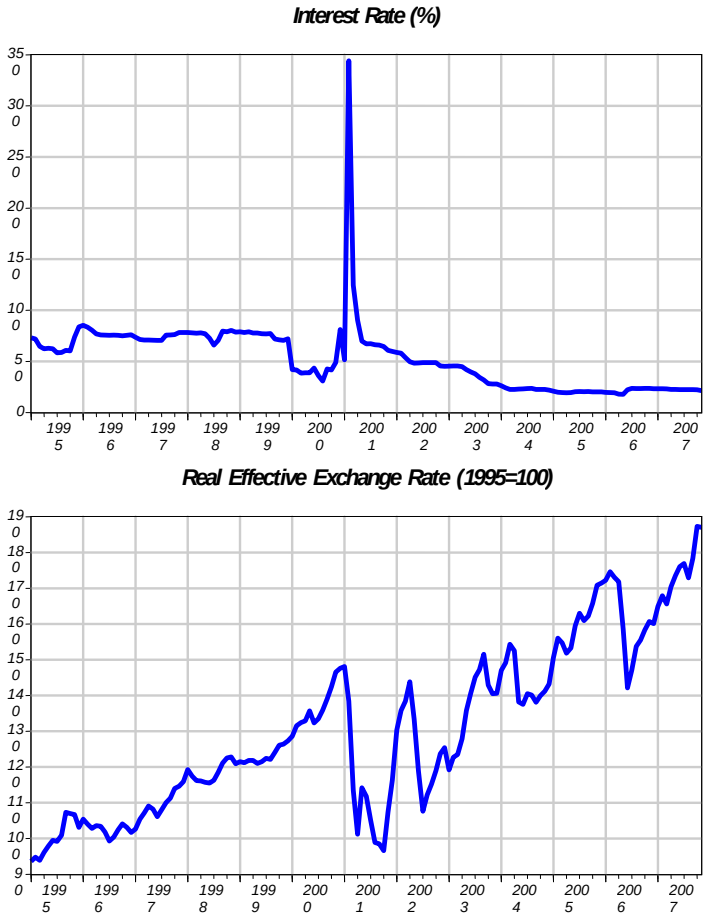
Source: CBRT

Figure-3 Current Account Balance and Capital Flows



Source: CBRT

Figure-4 Interest Rate, Real Effective Exchange Rate



Source:CBRT

According to Figure 4, there has been inertia in the interest rates since 2003 and Turkish Lira has been living appreciation since the post crisis of 2001. Thus, the economy has also deterioration on the terms of trade.

6. Econometric Application

Main aim of this econometric application is to investigate the relationships among the interest rate, short term capital inflows, the terms of trade, real effective exchange rate and the current account balance for Turkish economy for the 1995:01-2007:11 periods by applying time series econometric techniques. Data source for the variables is the CBRT and

the Turkstat. First of all, we analyze the stationary characteristics of the variables by using unit root tests.

Table-1 ADF Unit Root Test Results for the Variables

	ADF	
Variables	**Level**	**First Difference**
Current Account Balance	**-1.19**	**-4.68***
Terms of Trade	**-3.72****	**-15.05***
Short Term Capital Flows	**-13.27***	
Interest Rate	**-5.56***	
Real Effective Exchange Rate	**-4.32***	
Significant at * %1, ** %5		

According to the ADF test results, all variables except current account balance (CAB) are stationary in the level. The CAB is stationary in the first difference.

In order to determine the direction of variables, we analyze the Granger Causality among the variables. The results in Table-2 show that, capital flows and current account balance has a mutual causality.

Table-2 VAR Granger Causality/Block Exogeneity Wald Tests

Dependent variable: D(Current Account Balance)			
Excluded	**Chi-sq**	**df**	**Prob.**
CAPITALFLOWS	**5.154869**	**1**	**0.0232**
Dependent variable: CAPITALFLOWS			
Excluded	**Chi-sq**	**df**	**Prob.**
D(Current Account Balance)	**2.840515**	**1**	**0.0919**
Interest rate	**6.896983**	**1**	**0.0086**
Exchange rate	**4.317206**	**1**	**0.0377**
Dependent variable: Interest rate			
Excluded	**Chi-sq**	**df**	**Prob.**
Exchange rate	**5.465033**	**1**	**0.0194**
Terms of trade	**7.823367**	**1**	**0.0052**

Dependent variable: REXCH			
Excluded	**Chi-sq**	**df**	**Prob.**
INTRST	**23.13641**	**1**	**0.0000**

Interest rate and exchange rate affect the capital flows; also affect indirectly current account balance. Interest rate is affected by exchange rate and terms of trade. It seems that the current account balance is affected by the capital flows and capital flows are affected by current account balance, exchange rate and interest rate. On the other hand, interest rates affect exchange rates.

Table-3 Variance decomposition of the variables

Variance Decomposition of DCAB:						
Period	**S.E.**	**DCAB**	**CAPTLFLOWS**	**INTRST**	**REXCH**	**TOT**
1	**668.5205**	**100.0000**	**0.000000**	**0.000000**	**0.000000**	**0.000000**
2	**690.2380**	**96.65847**	**2.706048**	**0.555931**	**0.018610**	**0.060943**
3	**693.5011**	**96.04203**	**3.179397**	**0.629326**	**0.033362**	**0.115884**
4	**693.9082**	**95.96446**	**3.217006**	**0.633670**	**0.033614**	**0.151249**
5	**694.0754**	**95.92271**	**3.227410**	**0.636945**	**0.035681**	**0.177250**
6	**694.1419**	**95.90486**	**3.226866**	**0.636949**	**0.036409**	**0.194910**
7	**694.1920**	**95.89109**	**3.227164**	**0.637440**	**0.037098**	**0.207203**
8	**694.2241**	**95.88226**	**3.226977**	**0.637611**	**0.037512**	**0.215644**
Variance Decomposition of CAPTLFLOWS:						
Period	**S.E.**	**DCAB**	**CAPTLFLOWS**	**INTRST**	**REXCH**	**TOT**
1	**679.4776**	**1.557399**	**98.44260**	**0.000000**	**0.000000**	**0.000000**
2	**704.3861**	**2.219345**	**93.18581**	**4.030591**	**0.560519**	**0.003739**
3	**707.9643**	**2.414002**	**92.70216**	**4.165212**	**0.655974**	**0.062651**
4	**709.1505**	**2.414471**	**92.39871**	**4.317266**	**0.735401**	**0.134150**
5	**709.7392**	**2.418195**	**92.26339**	**4.342843**	**0.770411**	**0.205164**
6	**710.1233**	**2.415722**	**92.16475**	**4.360746**	**0.792582**	**0.266201**
7	**710.3979**	**2.414755**	**92.09658**	**4.367229**	**0.804697**	**0.316740**
8	**710.5969**	**2.413686**	**92.04642**	**4.370810**	**0.811823**	**0.357256**

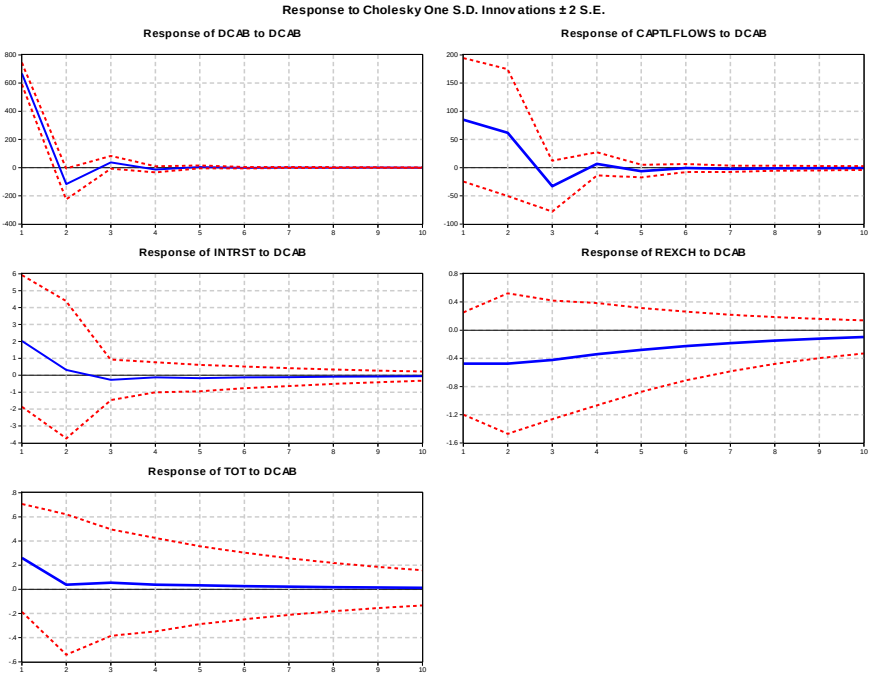
Variance decomposition of the variables in Table-3 shows that, the changes of the variance of CAB variable resulted from capital flows up to 3.22 % and other variables. The changes of the variance of capital flows variable resulted from CAB variable up to 2.41 % and other variables. Exchange rate and interest rate affect each other mutually and importantly.

Table-4 Impulse-Response Results

Response of DCAB:					
Period	**DCAB**	**CAPTLFLOWS**	**INTRST**	**REXCH**	**TOT**
1	**668.5205**	**0.000000**	**0.000000**	**0.000000**	**0.000000**
2	**-116.5712**	**113.5446**	**51.46467**	**-9.416143**	**17.03962**
3	**37.41352**	**-48.97687**	**-19.44462**	**8.472731**	**16.33983**
4	**-12.99503**	**14.10824**	**4.946729**	**1.185569**	**13.07436**
5	**4.650675**	**-7.588784**	**-4.152753**	**3.167358**	**11.20747**
6	**-1.605061**	**0.600116**	**-0.781420**	**1.882305**	**9.233499**
7	**0.598953**	**-1.918768**	**-1.675769**	**1.828306**	**7.705516**
8	**-0.185977**	**-0.729365**	**-1.052221**	**1.418262**	**6.385232**
Response of CAPTLFLOWS:					
Period	**DCAB**	**CAPTLFLOWS**	**INTRST**	**REXCH**	**TOT**
1	**84.79596**	**674.1657**	**0.000000**	**0.000000**	**0.000000**
2	**61.81541**	**-88.60609**	**-141.4149**	**52.73585**	**-4.307195**
3	**-32.98182**	**47.80326**	**-29.63831**	**22.51132**	**-17.18904**
4	**6.552824**	**-5.685206**	**-28.89100**	**20.25989**	**-18.99001**
5	**-6.239252**	**9.493264**	**-12.84126**	**13.50911**	**-18.94305**
6	**-0.848072**	**2.419740**	**-10.67564**	**10.77057**	**-17.57584**
7	**-2.130553**	**3.925011**	**-7.051394**	**8.014540**	**-16.00294**
8	**-1.197292**	**2.686112**	**-5.516934**	**6.185279**	**-14.33448**

As we see from Table-4 and the Figure 5-6, impulse response functions for the variables are moderate volatile structures up to 8 lag. Capital flows has an important response for the terms of trade.

Figure-5 Impulse Response Results



According to the econometric application results, current account balance, capital flows, exchange and interest rate variables have a close relationship. These variables affect each other simultaneously. In order to establish supportive relationships among the variables, international competition strategies, monetary and exchange rate policies should be designed and managed harmoniously.

7. Conclusion

In the study, we clarified that the relatively high reel interest rates attract the capital inflows and so the national currency starts to appreciate. This leads the trade imbalances overwhelmingly and thus the current account imbalances as well. It is seen that the finance of current account deficits leads current account to deteriorate again. That means, if you continue to finance the deficit with capital flows, you cannot balance the current account. This condition is seen as a dilemma for Turkish economy.

We see that, Turkish economy has postponed the adjustment process of its current account deficits with capital inflows continuously. This situation increases the possible invoice of the final position. It is clear that no developing country could achieve to sustain its current account deficits in these rates in the long term. Capital outflows will cause Turkish Lira to depreciate in the future probably. This process provides the current account deficits of the economy to balance. However, the increase in the exchange rates might

induce higher inflation rates in the future. In addition to this, growing oil and energy costs - 35 billion $ in 2007- are one of the other important determinants of current account deficits in Turkish economy. If we consider the economy to materialize these expenditures on high exchange rates in the future, we can say that Turkish economy cannot go on to grow at the brilliant rates of the past. This case might have two different effects in the economy. One of them is a reduction of the domestic demand through depreciation of TL, and the other is a possible recovery in the current account balance.

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