



ERC Working Papers in Economics 03/05

March 2003

The Story of a Stabilization Effort: Turkey (2000-2002)

Nur Keyder*

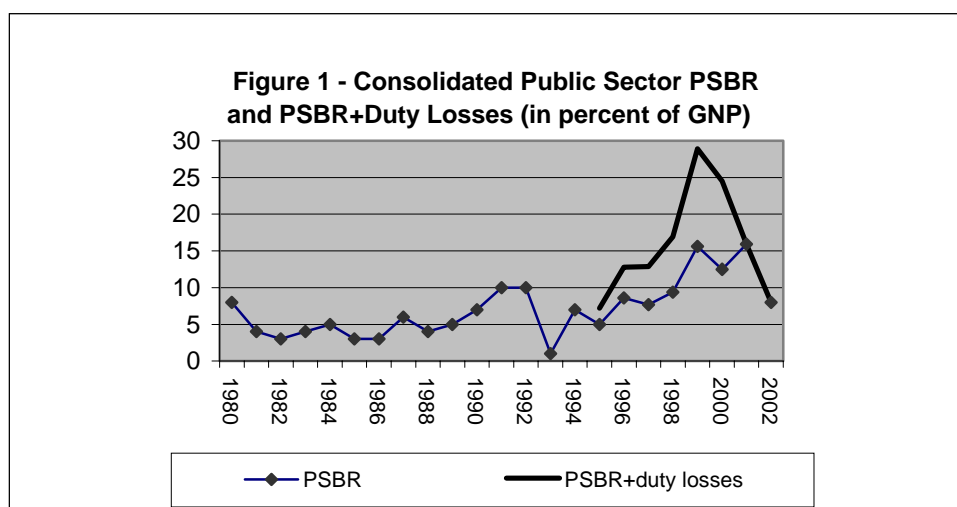
Department of Economics
Middle East Technical University
06531 Ankara Turkey
keyder@metu.edu.tr

Introduction

The purpose of the paper is to give an overview of the Turkish economy before and during the implementation of two different stabilization programs over the 2000-2002 period. Reforms undertaken and things that need to be done in both general terms and in the monetary and fiscal area are listed. The targets of the program are compared with the realizations. Success of the program is discussed in reference to developments in the main economic indicators. The most significant issue remaining concerns debt sustainability. Hence this topic is given special attention against the background of debt stock composition. The paper ends with a conclusion.

An Overview of the Economy Before and During the Recent Stabilization Programs

Full capital account liberalization in 1989; in an environment with no fiscal discipline resulting in continuously rising PSBR¹ (Figure 1), led to the banking system becoming the financier of surging public sector debt. In the end, banks, instead of transferring the resources in their possession to the real sector, became the biggest lender to the public sector. At times, they even funded the public sector through open positions. Share of government debt instruments in total bank assets increased from 10% in 1990 to 25% in recent years. Gross credit-to-deposit ratio, on the other hand, fell from 85% in 1990, to 56% in 2000, while share of total credits in total assets of the banking sector decreased from 47 to 33% between 1990 and 2000. Companies relied on self-finance and the larger ones borrowed from abroad. Even companies, themselves, preferred buying risk-free, high-yield government debt instruments, rather than undertaking investments. All this restricted Turkey's growth potential.



Over the implementation of the Exchange Rate Based Stabilization Program (ERBSP), adopted in December 1999, the exchange rate was used as the nominal anchor (see Keyder, 2001 for ERBSP's application in Turkey). But the banking system was too weak to support this *quasi currency board* regime. The end-result was; overvalued TL, huge current account deficit and enlarged open positions in foreign exchange (FX), which rendered the financial system highly vulnerable to external shocks. Maturity mismatches, on the other hand, increased banks' vulnerability to interest rate shocks. The severe banking and currency crises of November 2000 and February 2001 resulted in loss of international reserves, high capital losses, bankruptcies and increased non-performing loans² (NPLs).

During the financial crisis, the Central Bank's official reserves decreased drastically. Reserves, which amounted to \$27.6 billion in mid-February, 2001, decreased to \$22 billion by end of February and to \$18.8 billion by April 6, 2001. Only over the February 19-22 interval, the size of the Central Bank's (CBRT) reserve loss was \$5 billion, which corresponded to TL 3.5 quadrillion at that date's exchange rate. This meant a withdrawal from the system, liquidity equivalent to 58% of the reserve money, which was around TL6 quadrillion at the time. Abiding with the "no sterilization rule" of the ERBSP, the monetary authority could not take immediate action, hence for a day or two interest rates skyrocketed (on February 19, 2001, the O/N rate was 6,200% in uncompounded terms). The result was collapse of the three-year ERBSP, only after 14 months following its adoption. On February 22, 2001, the crawling peg regime was abandoned and TL was let to float. The immediate devaluation rate against the basket (0.5 Dollar+0.5 Euro) was close to 30%. Both nominal and real interest rates skyrocketed, triggering the banking sector crisis. TL's depreciation continued due to high degree of currency substitution. The crises were followed by a deep recession (GNP declined by 9.5%, GDP by 7.5% over 2001), accompanied by surging inflation and unemployment.

The Strengthened Stabilization Program replacing the ERBSP in May 2001 bore the structural elements of the previous program; but it was to be enforced under a floating currency regime. As of January 2002, the 4th Review by the IMF, of the Stand-by Arrangement covering the 2002-2004 period was under way. The major structural reforms proposed by the program were; public sector reform, restructuring and rehabilitation of the banking sector, liberalizing markets where private sector would have the dominant role.

Implicit public debt in the form of huge *duty losses* originating from uncompensated credit subsidies and payments for agricultural sector and small and medium sized companies, was paid out by the Treasury over the year 2001. Similarly, the ill-managed banks in financial difficulty were turned over to the Saving Deposit Insurance Fund (SDIF). Due to 100% guarantee (blanket coverage) on deposits, Treasury had to take over their deposit liability as well. Because of the *duty losses*, even though state banks held 40% of total deposits, their share in total credit was only 25% prior the banking operation. Total resources transferred to state banks (Ziraat, Halk and Emlak Banks) for securitization of duty losses, their restructuring and re-capitalization, was \$17.7 billion (TL28.8 quadrillion). The necessary amendments to the relevant laws barred formation of further duty losses as of July 3, 2001. From then on, the interest rates offered by state banks would be determined in the same way as in private banks. For rehabilitation of banks turned over to SDIF, the Treasury issued \$16.9 billion (TL 27.5 quadrillion) worth of securities (BRSA, 2002:19). As implied by the figures mentioned above, cost of all this clean up corresponded to around 30% of the GDP of 2001.

The Central Bank of the Republic of Turkey (CBRT) played a major role during the restructuring of State and SDIF banks. As of March 3, 2001, the state and SDIF banks' overnight exposure was TL 21 quadrillion, which was 4.5 times the base money at the time. Starting on March 16, 2001, CBRT made direct purchases on initially 41% of the securities issued by the Treasury for rehabilitation of the State and Fund banks. As of May 2001, 91.5% of the securities in their hands were turned into cash by the Central Bank, either through direct purchases or repo transactions. The result was an extraordinary expansion of Net Domestic Assets (NDA) during the banking operation. The NDA value on the CBRT balance sheet increased six fold by end-2001, compared to pre-February 2001 level. Yet, as a result of a highly skillful liquidity management displayed by the CBRT, *base money* growth was kept at 34% over 2001. The liquidity injection was mopped up from the system by the Central Bank through reverse repo or foreign exchange (FX) sales to private banks. The liquidity operation was successfully completed by May 2001.

SDIF, founded in 1983, is the deposit insurance fund and the agency responsible for liquidating the insolvent banks. Deposits and FX liabilities of banks taken over by the SDIF, were transferred to other banks in 5 tranches. Also, according to the press release of October 31, 2002, it was planned that portfolios of corporate and commercial loans would be sold in a number of tranches to other banks. Of the 20 banks taken over by the Fund, 12 were merged and 5 were sold to domestic and foreign

investors. On September 20, 2002, SDIF announced the sales strategy planned for the disposition of banks' assets accumulated at the Fund, as a result of the takeovers.

The Strengthened Stabilization Program and the legal and structural changes introduced by it, made the Turkish economy more resistant to shocks; by loosening the ties between politics and the economy on the one hand; and between fiscal and monetary policy, on the other. Factors contributing to this resilience are the floating exchange rate system, stronger fiscal stance, reduced fiscal dominance, autonomy of the CBRT and BRSA, and a stronger financial system, which is less vulnerable to shocks. The turmoil in the financial markets triggered by political tensions created by 2002 early elections, for example, lasted only a short time.

Over the implementation of the "Strengthened Stabilization Program" the Central Bank used monetary targeting, where the primary goal was lowering the inflation rate (set as an *implicit* target) gradually, reaching a single-digit-rate by 2005. The Central Bank intends to adopt an inflation-targeting regime whenever macro-economic environment becomes conducive.

Reforms Undertaken and What Needs to be Done

- Structural problems faced by the banking sector during and following the crises were; extreme exposure and fragility toward market risk due to maturity mismatch and FX open positions; small scale, inefficient, fragmented banking structure; dominance of loss-ridden state banks, weak asset quality (group banking, mismatch between loans and provisions, low capital adequacy ratio (CAR)), lack of transparency; inadequate internal control, risk management and corporate governance. Tax advantages extended within the context of bank reform, encouraged merging and takeovers. As a result of this, along with the turnover of non-viable banks to SDIF, the number of banks decreased from 81 to 55 between 1999 and November 11, 2002. Of the 55 banks, 41 were commercial, and 14 were investment and development banks (Source: BRSA, 2002:2).
- Public units responsible for monitoring and supervising the banking sector were combined under the structure of Banking Regulation and Supervision Agency (BRSA), which was founded in June 1999 and became operational on August 31, 2000. The Agency holds an autonomous status, and functions independent from political powers.
- Private banks were urged to strengthen their capital. As of September 2002, the Capital Adequacy Ratio of the private banks was 16.2%, which was well above the 8% requirement (Table 1). Risk-adjusted CAR implementation started on February 2002.

Table 1 - Capital Adequacy Ratio (CAR) (%)

	State Banks	Private Banks	SDIF Banks
	CAR	CAR	CAR
1999-12-31	11,66	17,23	-94,91
2000-12-31	7,71	15,27	-62,32
2001-03-31	10,42	13,67	-117,93
2001-06-30	19,82	10,41	91,37
2001-09-30	26,86	10,92	12,80
2001-12-31	34,70	14,23	-11,59
2002-03-31	39,84	18,58	-50,80
2002-06-30	31,97	15,91	-45,01
2002-09-30	47,26	16,20	-4,97

Source: BRSA.

- Banking sector reform required banks to reduce their open positions in FX to limits set by law (20% of equity capital). As of September 2002, private banks' open position in FX was equivalent to 3% of their equity capital; while state banks ran a surplus equivalent to 6% of their equity capital. (Table 2).

Table 2 - Foreign Exchange Exposure of Banks

Millions US \$	12/2000	03/2001	06/2001	09/2001	12/2001	03/2002	06/2002	09/2002
STATE BANKS								
IN BALANCE SHEET POSITION	(545)	(503)	(288)	(337)	(384)	(467)	(446)	(501)
FX INDEXED POSITION	401	437	483	453	575	671	676	674
IN BALANCE SHEET POSITION (FX indexed included)	(144)	(66)	196	116	191	204	230	173
FORWARD POSITION	54	41	5	0	(2)	(0)	2	(0)
NET POSITION	(91)	(25)	200	117	189	203	232	173
NET POSITION / CAPITAL (%)	(6)	(3)	16	4	7	6	8	6
PRIVATE BANKS								
IN BALANCE SHEET POSITION	(10.876)	(8.222)	(7.916)	(7.784)	(8.264)	(8.190)	(6.477)	(7.003)
FX INDEXED POSITION	2.499	2.037	5.772	6.877	6.777	7.199	6.476	7.014
IN BALANCE SHEET POSITION (FX indexed included)	(8.377)	(6.185)	(2.145)	(907)	(1.487)	(991)	(1)	11
FORWARD POSITION	7.195	5.756	2.196	1.216	1.597	1.312	(88)	(155)
NET POSITION	(1.182)	(429)	53	309	110	321	(89)	(144)
NET POSITION / CAPITAL (%)	(14)	(7)	1	9	3	5	(2)	(3)
SDIF BANKS								
IN BALANCE SHEET POSITION	(4.314)	(5.232)	(4.281)	(3.799)	(1.188)	(824)	(1.435)	(1.852)
FX INDEXED POSITION	330	680	3.679	2.550	747	168	430	1.523
IN BALANCE SHEET POSITION (FX indexed included)	(3.984)	(4.552)	(602)	(1.249)	(441)	(656)	(1.005)	(329)
FORARD POSITION	(46)	(118)	44	84	-	(0)	12	0
NETOSITION	(4.030)	(4.670)	(561)	(1.165)	(441)	(656)	(993)	(329)
NET POSITION / CAPITAL (%)	(597)	(219)	(38)	(51)	(71)	(122)	(1.400)	(287)

(1) Legal minimum for net position/capital ratio is 20%.

(2) Numbers in () bracket indicate short position.

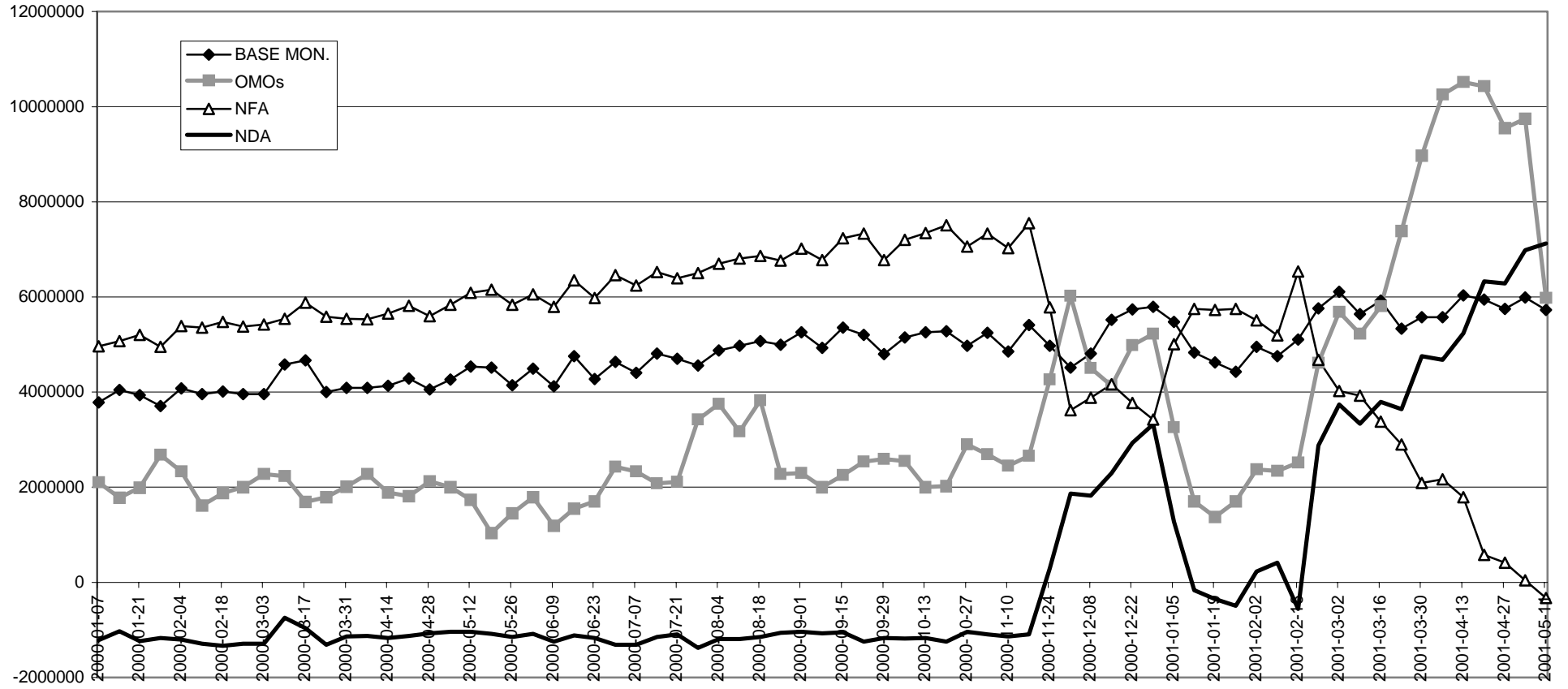
Source: BRSA.

- Banking regulations, which were strengthened following the crises, should continue to be enforced, and non-viable banks, if any, should be subject to intervention.
- Limits on depositor and creditor protection must be introduced. Blanket guarantee on deposits must be lifted.
- To ensure continuing stability in the banking sector, internal control and risk management systems introduced, should continue to be implemented.
- Implementation of new regulations on connected lending (related-party loans) and open positions should continue.
- Requirement on related companies' balance sheets to be reported and viewed in a consolidated manner should be enforced without any interruption. This will contribute to increased transparency.
- Implementation of inflation accounting allowed for tax purposes started on January 1, 2003. Both banks as well as the corporate sector are expected to benefit from this.
- Actually, privatization overall, has been slow. Since the activation of the privatization program in mid '80s, revenues from privatization totaled around \$7 billion. Of this sum, only 30% was used in reduction of public liabilities, the remaining was used in restructuring of the companies prior to divesting. Currently, privatization of POAŞ, Türk Telekom, TEKEL and ŞEKER Companies are on the agenda. Privatization plan should be implemented for public banks as well.
- Fiscal discipline needed for the achievement of the targeted primary surplus and the structural reforms need to continue. Among the reforms; we can list downsizing personnel in the public sector and the shift from backward to forward indexation in conjunction with incomes policy as well as administered prices. Administered prices make up 20% of the CPI basket and almost 25% of the WPI basket. SEE's financial standing, however, cannot be ignored in determining their price adjustments. Forward indexation will also contribute to the breaking of inflation inertia.
- Spending control as well as tax reform is needed for meeting the ambitious 6.5% primary surplus target set for 2002 and 2003. Additional tax collection introduced on a one-time-only basis (as happened following the 1999 earth-quake and during March, 2003), does not provide the continuity needed in tax revenue increase. SEEs in the energy sector and social security institutions carrying high deficits, remain to be the major problem areas.
- Public procurement law was amended. *Action Plan on Increasing Transparency and Good Governance in the Public Sector* was adopted to tackle problems in public administration management. These should be enforced without interruption.
- In agriculture, market oriented reforms and direct income support system were introduced. Their implementation should continue.
- In mid-August 2002 the *Primary Dealer System* was reinstated and it became effective on September 2, 2002. The purpose was to encourage participation at government debt auctions and ease secondary market liquidity needs. Banks selected as primary dealers were given access to O/N and 1-week maturity repo funds at favorable interest rates (the rate was lowered from 49 to 47% on November 11, 2002). Primary dealers are given the right to switch the government debt instruments in their portfolio with the new auction securities, up to 5% of the net amount they get at the new auction.
- In August 2002, Banks Association of Turkey (BAT) started to give quotations on TL inter-bank offer rate.
- EU related reforms are under way.

What Has Been Done/What Needs to be Done by the Monetary Authority:

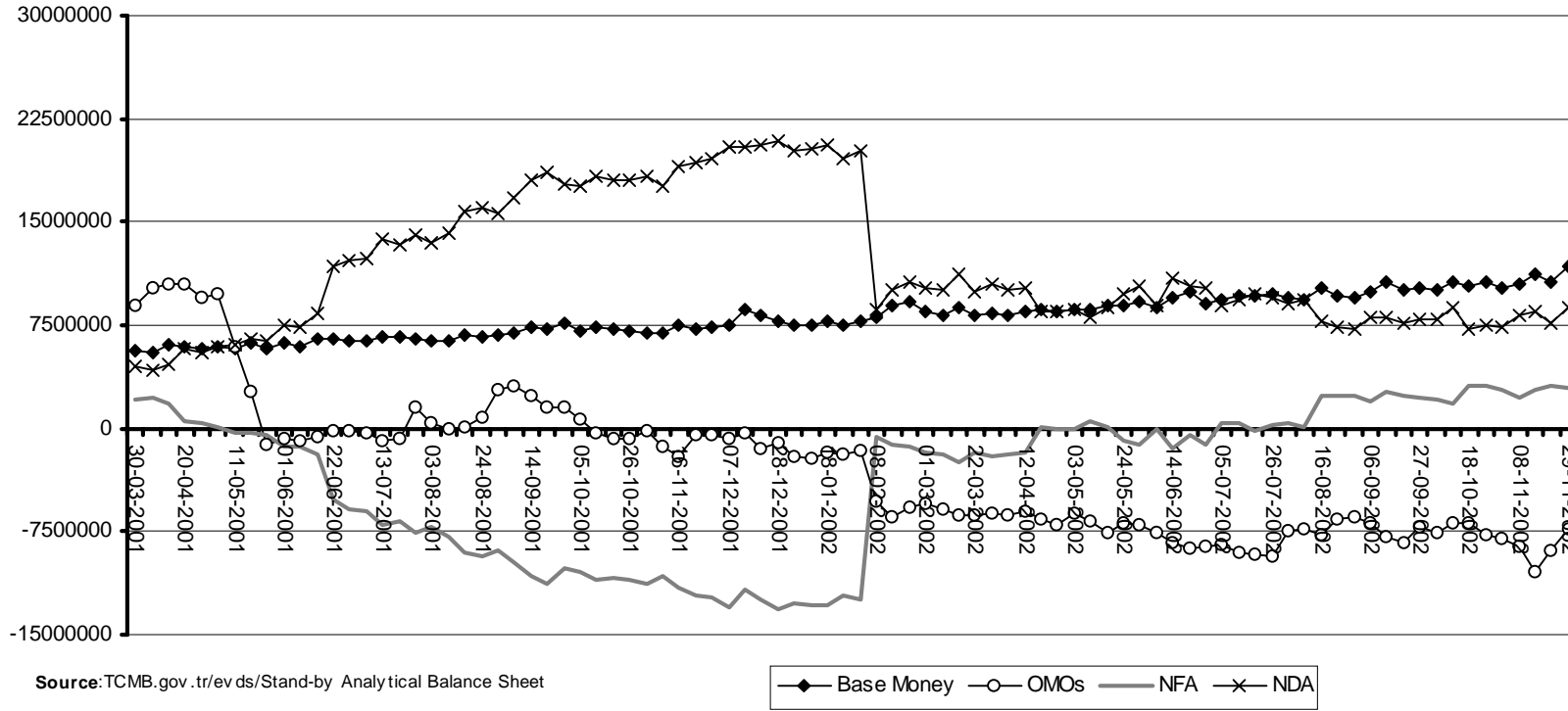
-During the crises and the banking operations, the monetary authority had to participate actively as a financier. To allow this, a provisional article, for a period of six months, was added to the CBRT Law, which gave the Central Bank the right to extend credit to public institutions and buy debt instruments from the primary market. This article expired on November 5, 2001. Only then Central Bank gained its full autonomy in the true sense.

Figure 2 - Base Money, NFA, NDA, OMOs Developments During ERBSP (TL Billion)



Source : TCMB.gov.tr/evds/Stand-by Analytical Balance Sheet.

Figure 3- Base Money, OMOs, NFA, NDA Developments During the Monetary Targeting Regime (TL Billions)



Source: TCMB.gov.tr/evds/Stand-by Analytical Balance Sheet

Besides the banking operations, the liquidity increase in 2001 was also due to Treasury's utilization of IMF credit in budget financing (Treasury used \$9.6 of \$9.9 billion IMF credit in this year). The excess liquidity so formed, was partially mopped up from the system as a result of currency substitution and capital outflows, and the remaining through OMOs in conjunction with reverse repo, conducted by the CBRT.

-As seen in Figure 2, over the implementation of the ERBSP (until mid-November, 2000), monetary policy had no role to play. Base money could increase only against FX purchases. During the *monetary targeting regime's* implementation over the period 2001-2002, however, monetary policy played an active role. Movements in NDA, in the opposite direction, neutralized the liquidity effect of the volatility in NFA during and after the crises. OMOs in conjunction with repo/reverse repo, were the most frequently used monetary policy tool, producing the neutralizing effect (Figure 3).

-Base Money (BM), Net Domestic Assets (NDA)³ and Net International Reserves (NIR)⁴, which are the main monetary aggregates on the Central Bank balance sheet, were specified as indicative targets for the second half of 2002 in the Letter of Intent of January 18, 2002. In the Letter of Intent of July 30, 2002, BM and NIR became performance criteria, while the indicative target for NDA was revised. As seen in Table 3, all the targets set by the monetary program were realized, as of December, 2002.

- In 2001, Central Bank used its short-term interest rate, which is the reference rate in Treasury borrowing, as a powerful monetary policy instrument. For example, during the financial crisis, in order to discourage currency substitution, CBRT increased its O/N borrowing rate up to 68%. As things got better, the rate was gradually decreased, reaching 59% level in August 2001, and 44% level on November 11, 2002 (lending rate was reduced to 51%). Since currency depreciation and catch-up increases in public sector prices are expected to pass-through to consumer prices after a lag, CBRT is acting highly cautious in reducing its overnight rates in fear of inflation surge. .

-CBRT's move to 2-weeks reserve-averaging led to better management of daily liquidity demands of banks.

- The CBRT, in late June 2002, temporarily suspended pre-announced FX purchase auctions in light of BOP developments and return of currency substitution. However, when things were back to normal FX purchases would be resumed, with the purpose of strengthening Central Bank's international reserve position⁵. CBRT's end-2002 net international reserve position was -4.6 billion U.S. Dollars. Following the Central Bank's direct intervention in the FX market on July 11, 2002, which aimed at eliminating excess volatility of the exchange rate, the next intervention came after a long interval, on December 2, 2002, in the form of FX purchases, aimed at cutting back on the overvaluation of the TL.

-The Central Bank established a *Contingency Credit Window* in June 2002, to meet banks' late liquidity needs.

-Throughout 2002, CBRT gradually withdrew from acting as a blind broker in the inter-bank money market. While doing so; CBRT, working jointly with BRSA, tried to ensure that only sound financial intermediaries would participate in the TL and FX inter-bank, following CBRT's exit by end-2002.

-Monetary policy should continue to be enforced independently, and should remain focused on achieving the inflation target.

Table 3 -Turkey: Quantitative Performance Criteria and Indicative Targets for 2002

	Ceiling/Floor	Outcome	Ceiling/Floor	Outcome	Ceiling/Floor	Outcome	Ceiling/Floor	Outcome	Ceiling/Floor	Outcome
	March 31, 2002		May 31, 2002		August 31, 2002		November 30, 2002		December 31, 2002	
I. Performance criteria										
1. Floor on the cumulative primary balance of the consolidated government sector (TL million) ¹	2,847	2,924	4,714	5,365	9,600		14,900		16,050	
	February 28, 2002		April 30, 2002		June 30, 2002		September 30, 2002		December 31, 2002	
2. Ceiling on contracting/guaranteeing of new ext. pub. debt with orig. maturity of more than one year (\$ millions) ²	6,500	1,645	10,000	2,402	11,100	3,690	14,300	4,844	17,500	
3. Ceiling on ext. debt stock with original maturity of up to and including 1 year (\$mil.) ³	1,000	0	1,000	0	1,000	0	1,000	0	1,000	
4. Floor on level of net international reserves of CBRT and Treasury combined (\$mil.)	-6,500	-4,907	-7,200	-4,926	-7,800	-5,755	-8,500	-5,889	-9,700	-4,614
5. Ceiling on base money (TL trillions) ⁴	8,250	7,823	8,900	8,680	9,250	9,009	10,600	10,104	10,850	10,720
II. Indicative targets										
1. Floor on cumulative primary balance of consolidated government sector (TL trillion)	.....		....		11,300	11,330	12,250		....
2. Floor on cumulative overall balance of consolidated government sector (TL trillions)	-17,486	-16,367	-28,250		....		....		-39,750	
	February 28, 2002		April 30, 2002		June 30, 2002		September 30, 2002		December 31, 2002	
3. Floor on cumulative primary balance of other public entities sector (TL trillions)	....		....		550		....		1,100	
4. Ceiling on the stock of net domestic assets of the CBRT and Treasury combined (TL trillions)	26,100	24,318	27,700	25,197	28,739	26,374	31,139	28,551	33,129	28,603
5. Privatization proceeds (\$ millions)	....		....		....		220	400	700	

¹ For January 31, 2002, the ceiling applies to the cumulative primary expenditure of the central government since Jan 1, 2001. For the other test dates, the starting date is January 1, 2002.

² The target for end-March has been adjusted for expenditure arrears outstanding at Bag-Kur (a social security fund).

³ Applies to non-concessional external debt with an original maturity of more than one year, Excludes purchases from the IMF, adjustment lending from the World Bank, and other external program financing, long-term liabilities of the CBRT and sales of Treasury bills and bonds denominated in TL or foreign exchange to non-residents in either the domestic primary market or the secondary market.

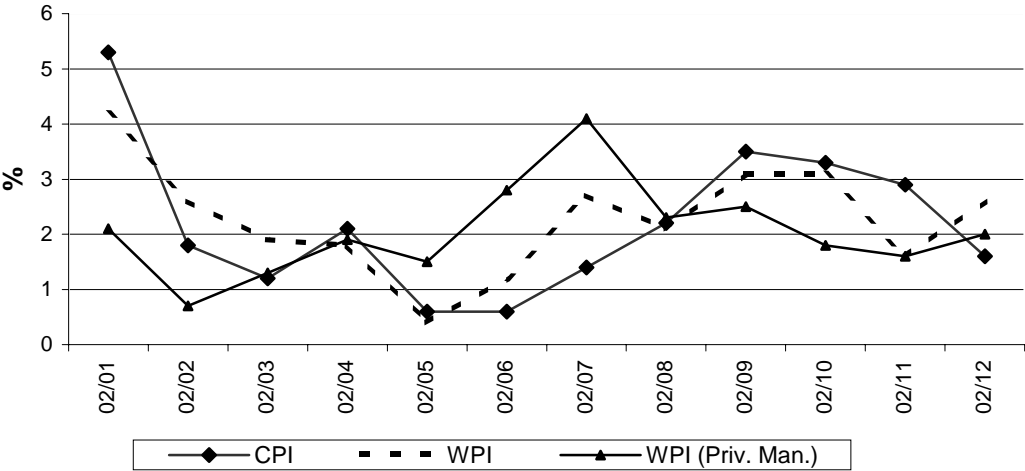
⁴ Stock of debt of maturity of 1 year or less, owed or guaranteed by the consolidated government sector. Excludes external program financing, sales of Treasury bills denominated in TL or FX to non-residents in either the domestic primary market or the secondary market, normal import-related credits, reserve liabilities of the CBRT, and forward contracts, swaps and other futures market contracts.

Source: OECD Economic Surveys-TURKEY(Country Reviews), October 2002, p.33. (Original source: Undersecretariat of Treasury); CBRT, Monetary Policy Report, October 2002.

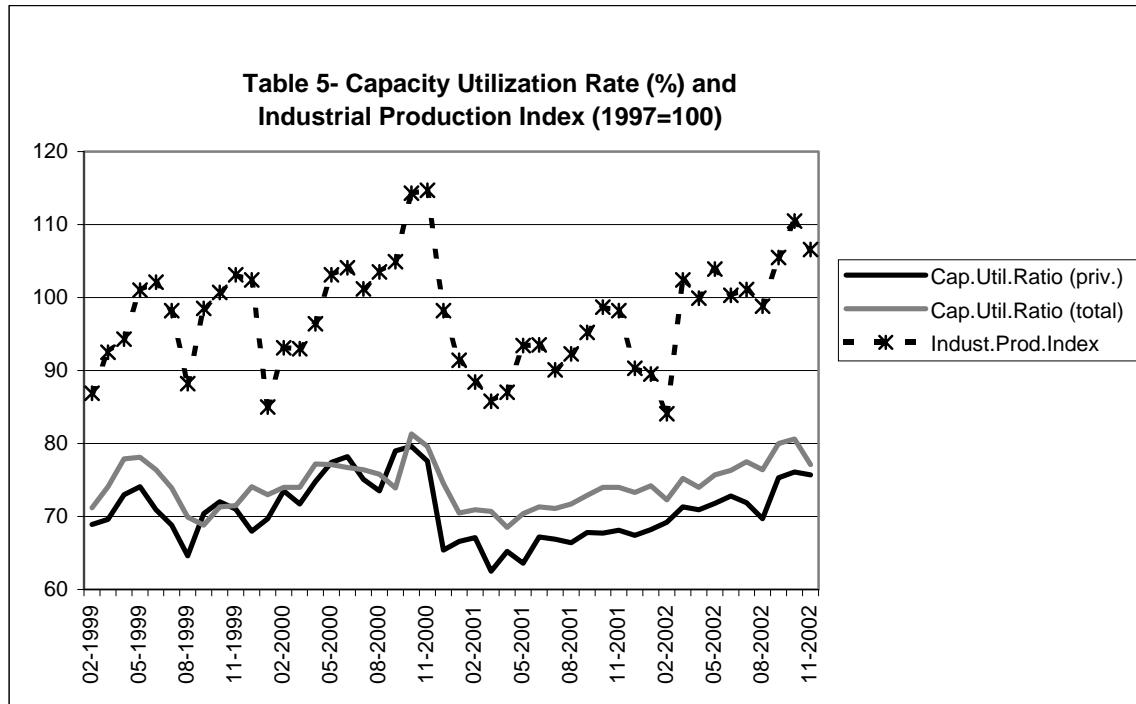
Developments in Main Economic Indicators:

- The new program, which was backed by significant international financial support⁶, started to give its fruits in the latter half of 2002. Confidence was gradually being restored, a reversal of currency substitution started, structural adjustment and rehabilitation of the banking system was largely tackled, anti-inflationary policies pursued by the newly independent Central Bank along with fiscal tightening and repressed domestic demand, contributed to reduction in the country's inflation rate (Figure 4).

Figure 4 - Monthly Inflation Trend

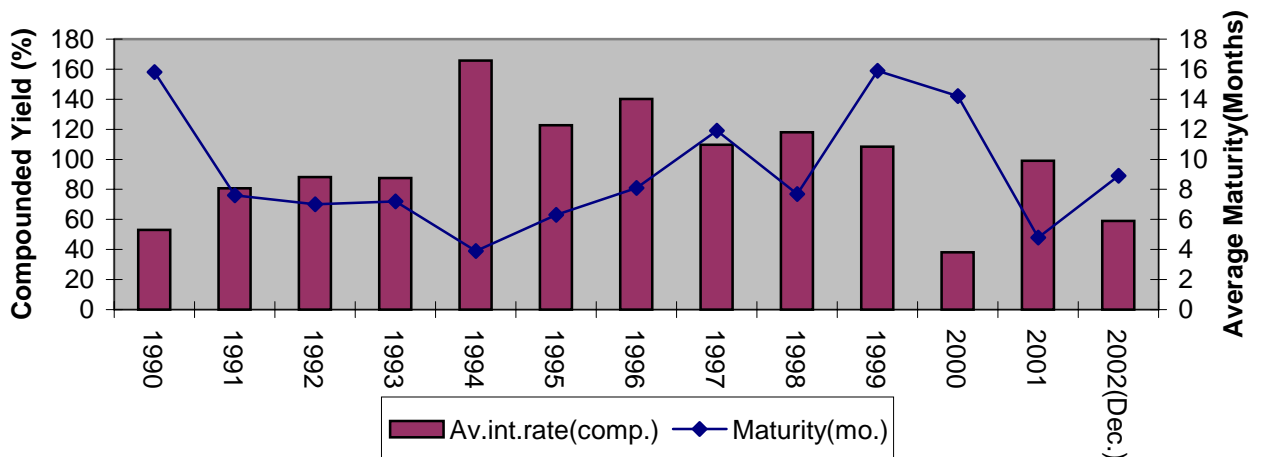


- The 30% inflation rate achieved in 2002 was below the 35% target. An inventory and export led recovery started in early 2002, which is likely to lead to a GNP annual growth rate of 6.5% (the target for 2002 was 3%, later revised as 4%). The contribution of domestic demand to this increase was around 1.4% only. The capacity utilization rate (manufacturing industry production weighted), hit the bottom, reaching 68.5% level in April 2001. It peaked in October 2002, reaching 80.6% level. Parallel to this development, the industrial production index (1997=100), which was lowest in March 2001 (85.8), reached a peak in September 2002, at 110.5 levels. (Figure 5)



- Over 2002, economic and financial indicators outperformed the program targets. The benchmark bond rate fell from 70% to 50% (Figure 6), while WPI inflation fell sharply from 89% in 2001 to 31% in 2002, while CPI inflation decreased from 69% to 30%. The exchange rate pass-through weakens when the monthly inflation rates fall behind devaluation rates. In Turkey, due to repressed demand conditions, during 2001-2002, devaluation pass-through to inflation has been low⁷.

Figure 6 - Interest Rates (compound, annual) (%) and Average Maturity (months) at Treasury Auctions



- BOP performance was better than expected, thanks to high export and tourism revenues. Current account, which ran a surplus of \$3.4 billion in 2001 (January-October), recorded a surplus of only \$594 million over the same period in 2002. 2002 is likely to close the year with a small current account surplus, despite increased imports due to better than expected

growth (capital goods make up 16% and intermediary goods 74% of total imports (January-August 2002)); and the disappointing *worker remittances* and *other services* receipts. When the January-October periods of 2001 and 2002 are compared; exports (fob) increased by 9.6%, shuttle trade by 31.7% and imports (cif) by 14.8%. Net revenues originating from “other goods and services” and “unilateral transfers”, however, showed a 14.4% decrease. Trade deficit, on the other hand, increased from \$-3.9 billion to \$-5.6 billion, implying a 44% increase (gold imports included). Foreign direct investment continued to be sluggish. Capital account transactions point to higher net purchases of international bonds by Turkish residents during 2002. Portfolio investments recorded a net outflow of \$746 million over the January-October 2002 period, compared to the net outflow of \$4 billion in the same period of the previous year. Long-term capital movements, on the other hand, resulted in a net inflow of \$1.84 billion over January-October 2002, whereas the same period of 2001 had recorded a \$561 million net outflow. Official international reserves; which had recorded a \$3.2 billion decrease over the January-October 2001 period, over the same period of 2002, showed a \$5.8 billion increase. (CBRT Press Release dated January 6, 2003 on BOP Developments over the Period January-October 2002 (<http://www.tcmb.gov.tr/yeni/duyuru/2003/DUY2003-2.htm>)).

- Statistical evidence suggests that real exchange rate (RER)⁸ has an effect on Current Account Balance (CAB), as well as its sub items; namely, Trade Balance, “exports plus tourism” and imports (Figures 7 and 8). The correlation coefficient between RER and the Trade Balance is 0.39, between RER and CAB, 0.29, between RER and ‘Exports+Tourism’ 0.50 and between RER and Imports it is 0.34⁹. TL, which became overvalued over the implementation of the Exchange Rate Based Stabilization Program (Figure 9), drastically depreciated following the February 2001 devaluation, and remained so until end of 2001. As the TL value of the basket (0.5 Dollar+0.5 Euro) decreased, TL again appreciated in real terms over the first half of 2002. Then, as the exchange rate surged due to political uncertainty, TL again remained undervalued between June-August, 2002. The confidence build-up and reversal of currency substitution resulted in a decline of the exchange rate, making TL again overvalued over the September-December 2002 period. TL’s purchasing power was slightly above its end-1999 level at the close of 2002 (Figures 10 and 11). During periods when TL is overvalued, current account shows a deficit and when TL is undervalued current account gives a positive balance, as seen in Figure 7.

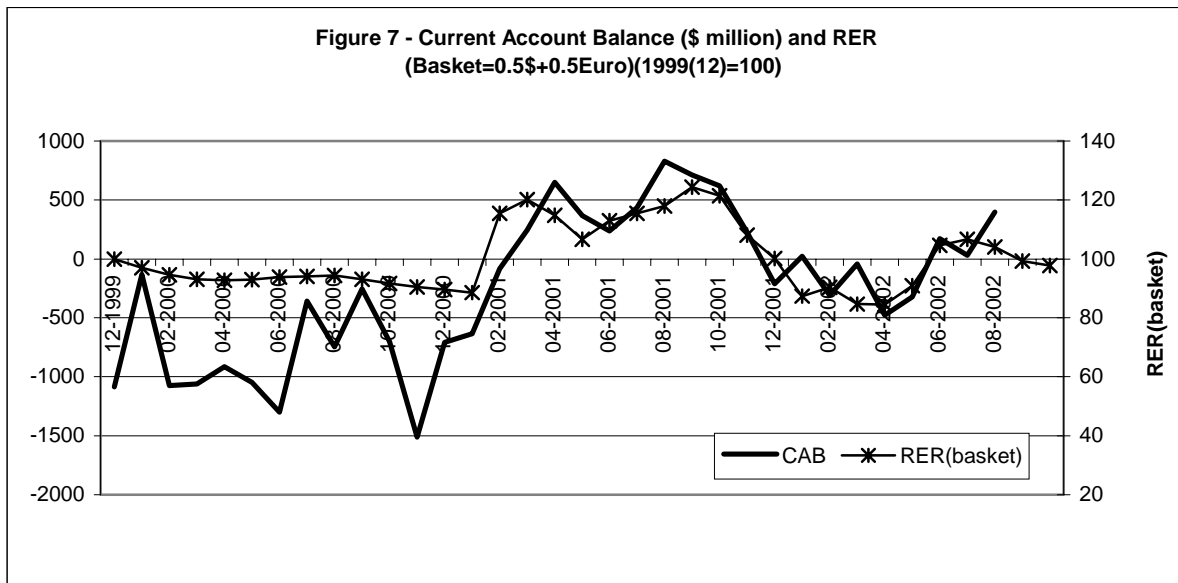


Figure 8 - Export+Tourism, Import, Current Account Balance, Trade Balance (\$ Million) and RER (Basket, 1999(12)=100)

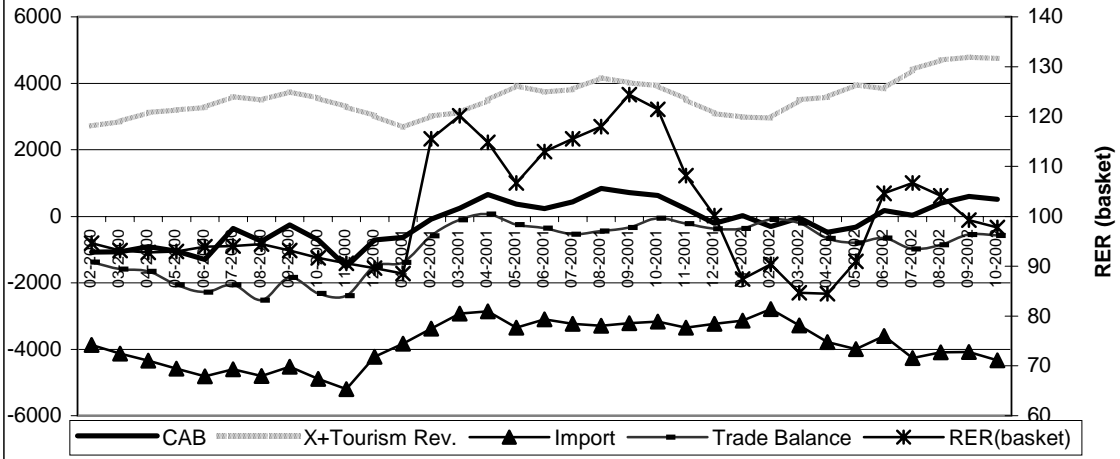
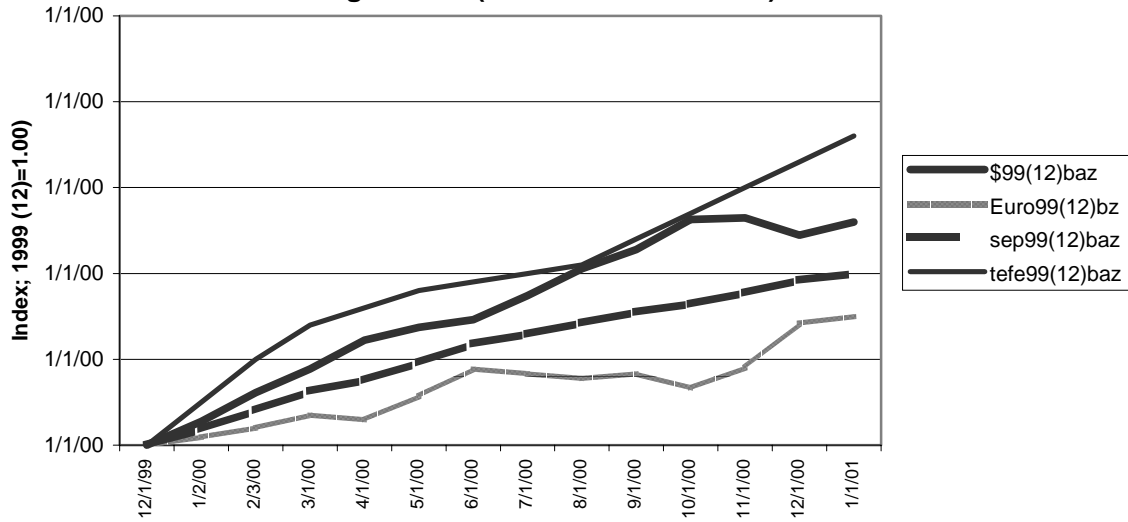
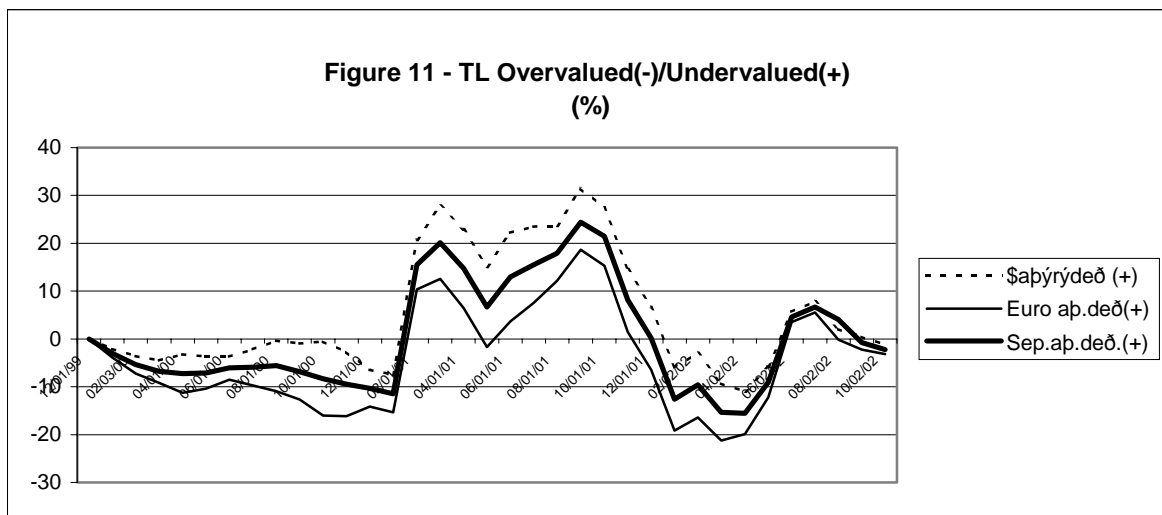
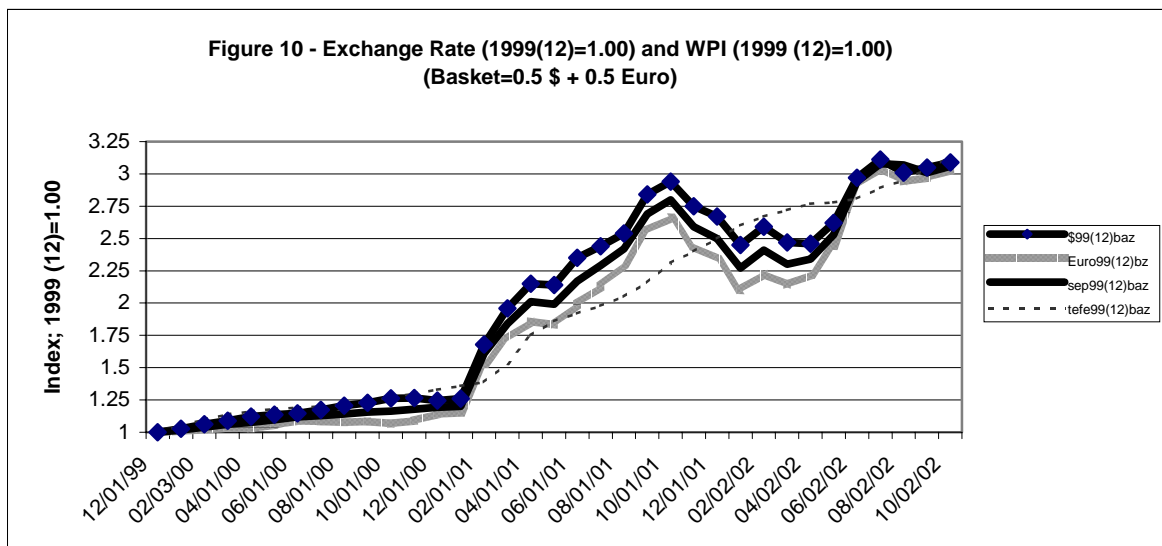


Figure 9 - Exchange Rate 1999(12)=1.00 and WPI (1999(12)=1.00) during ERBSP (Basket=0.5\$+0.5Euro)



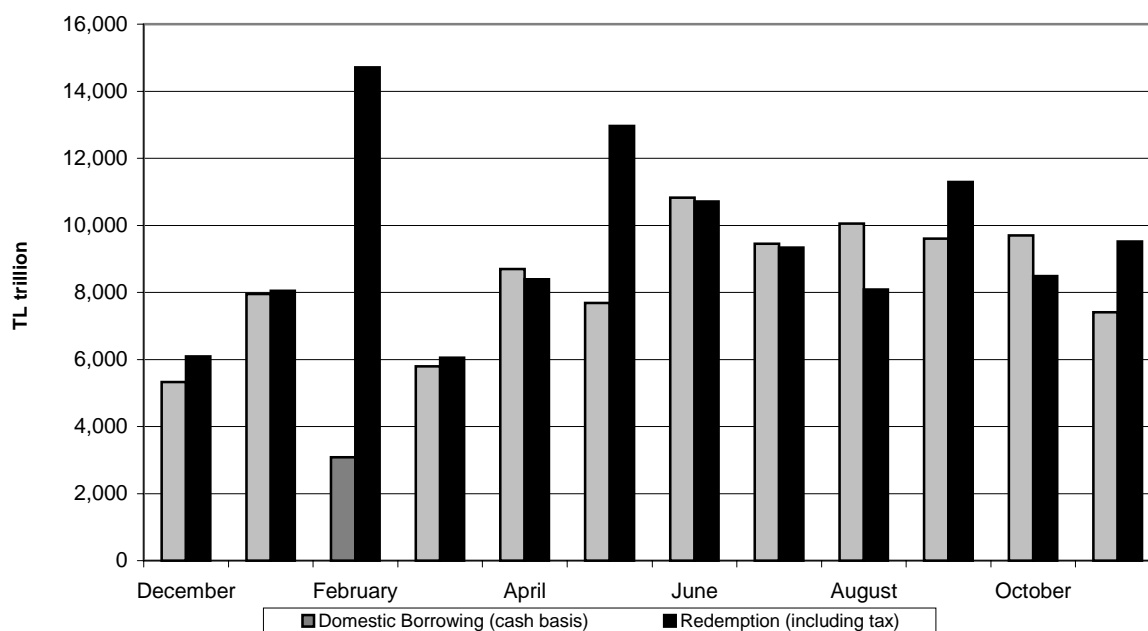


- Following the crises, capital adequacy ratios of banks were far below and open positions were far above allowable limits. As a result of re-capitalization and restructuring of state banks and insolvent banks turned over to the SDIF, and the strict enforcement of the relevant ratios; as of end-2002, legal limits set for both capital adequacy and open positions were met (Tables 1 and 2) The banks were fully provisioned against NPLs. Increased share of FX related bonds in total borrowing of the Treasury, is another factor contributing to reduced exchange rate as well as interest rate risk born by banks.
- The NPL problem is being tackled on a voluntary basis, using the Istanbul Approach to *corporate debt restructuring*. Under this approach, debts are grouped into risk categories. Provision requirement is 100% for the riskiest group and gets lower for categories carrying lower risk. The debt rescheduled, is to be paid off in installments, over a period of five years. If during the first six months, debt repayments were on schedule, the provision requirement is lowered to that of the next risk group. For example, if the NPL were in the lowest risk group to start with, following the six months of on-schedule repayment, the provision requirement would be lifted altogether. Hence rescheduling of the debt under this approach provides cost advantage to the lender in connection to provision requirements, which is an expense item on the lender's balance sheet. As of September 2002, 169 firms had applied to have their debts

restructured under the Plan (BDDK (BRSA), 2002: 32). Share of NPLs in gross credits of the banking sector, went down from 24.7% in end-2001, to 21% in June 2002.

- Political uncertainty which started in May 2002; caused benchmark interest rate to rise by 21 percentage points, stock market index to decline by 18%, and TL losing value against the dollar by 15%, between end-May and end-June (Dollar rate climbed from TL 1.3 million in May, to TL1.65 million in end-June). The market turmoil resulting from political unrest also affected the private rollover ratio (estimated as the ratio of centered moving average of gross borrowing to gross redemption -including interest payments-) (Figure 12), as well as maturity of the debt instruments (Figure 6). The roll over ratio, which was 120% over January- April 2002, decreased to 90% over June-July, 2002. Similarly, average maturity of newly auctioned TL debt decreased from 10.5 months to 5.5 months over the same period. This was the outcome of Treasury temporarily shortening both the maturity and volume of borrowing in TLs, and financing the deficient part using its deposit buffer, or revenues raised through sale of FX denominated debt instruments, during the period characterized by political unrest. As market conditions improved, Treasury started to rebuild its deposit buffer by over-borrowing. On July 29, 2002 Parliament decided for an early election to be held on November 3, 2002. Expectations that political instability created by the 3-party coalition government would end, caused both the exchange rate and the bond rate to move back to their late June levels (TL1.65 million per dollar and 75%, respectively), by end-July 2002.
- Since the February 2002 crisis, both monetary and fiscal outturns remain on targets set by the Strengthened Program. The 2002 cumulative primary surplus of the consolidated public sector, however, was slightly below the 6.5% of GNP target, due to the effect of early elections held in November 2002 (Table 3).

Figure 12 - Domestic Borrowing and Redemption (2002)



Public Debt Stock

Large fiscal costs generated during the banking sector clean up, caused domestic debt-to-GNP ratio to increase from 29% in end-2000 to 68% by end-2001 and the public sector net debt stock-to-GNP ratio to increase from 57% to 93.5% over the same period. Public debt servicing became burdensome because of shortened maturity structure and continuing high real interest rates. These, coupled by 9.5% contraction of GNP in 2001, raised doubts about debt sustainability. 2002 displayed a slightly more

favorable picture; due to around 6.5% growth rate, the public net debt-to-GNP ratio, was down to 81.6%. Also, real appreciation of the Turkish Lira (TL) in 2002 reduced the real interest rate on foreign currency debt in TL terms. Even though both nominal and real interest rate of TL denominated domestic borrowing was still high (around 25% in real terms), the low (actually negative) TL-adjusted interest rate on foreign borrowing eased debt sustainability over the year 2002 (OECD, 2002: 144). The debt surge necessitated setting of an ambitious target for the primary surplus of 5.5% of GNP in 2001 and 6.5% of GNP in 2002 and 2003.

The Debt-Swap Operation

In the debt-swap operation of June 15, 2001, arranged by the Treasury with the private banks, the aim was to lengthen the term of the debt on a voluntary basis, to reduce real interest rate on Treasury borrowing and help banks close their short positions in FX. Short-maturity TL-denominated debt instruments were exchanged for 3 and 5-year maturity, FX-denominated paper. As a result of the debt swap, private banks' open position decreased from \$8.4 billion at end-2000 to \$1.5 billion at end-2001. The auction results yielded around 15% rate of return on the FX-denominated paper, sold at a discount. This was quite a high rate offered on a FX-indexed bond, considering the cost of FX credits, which at the time was in the vicinity of Libor plus 2-3 points. However, compared to the real rate of interest on TL-denominated bonds at the time, it still involved lower cost. At the end of the swap operation, around TL6.2 quadrillion worth of TL-denominated debt was converted into FX denominated debt, which corresponded to around one-fifth of the TL30 quadrillion worth outstanding government debt instruments in the market, prior to the swap.

Composition of the Public Debt Stock

The provisional figures announced for the outstanding central government debt stock (consolidated budget based; involving general and annexed budget administrations only¹⁰) for December 2002, are as follows: The Central Government's total debt stock was TL 242.4 quadrillion; of which TL 149.9 quadrillion was domestic and TL 92.5 quadrillion was external. In dollar terms (exchange rate= TL1.635 million per dollar), the total was \$148.3 billion, of which \$91.7 billion was domestic and \$56.6 billion was external (The Undersecretariat of Treasury, 2003). Hence, external debt makes up 38% and the domestic debt makes up 62% of the total central government debt stock. 48% (\$27.3 billion) of the \$56.6 billion external debt was to international institutions, 52% (\$29.3 billion) to commercial banks (\$6.2 billion) and the bond market (\$23.1 billion). The stock figures mentioned are **gross** and they do not include Turkish Central Bank's debt and Treasury guaranteed debt.

Looking at the composition of the \$148.3 billion **central government total debt stock** by lenders, we see that 29% is to the market and 29% to the public sector; 20% is owed to the foreign markets against money collected via bond issue (16%) or other means (4%); 9% of the debt is owed to international institutions (\$13.3 billion) and the remaining 13% (\$19.9 billion) is owed to IMF.

Looking at the domestic debt stock alone, we see that of the TL149.9 quadrillion total, 52.8% represents Treasury's indebtedness toward other public institutions (18.8% to CBRT, 16.2% to State Banks, 7.4% to SDIF and 10.5% to other public institutions) and 47.2% represents Treasury's indebtedness toward the market.

32% of the domestic debt stock, is FX-related. This corresponds to approximately 20% (=32% \times 62%(share of domestic debt)) of the total stock. Hence 38% (share of external debt)+20%=58% of the total stock is FX-related (either FX denominated (11% of domestic debt stock) or FX-indexed (12% of domestic debt stock – IMF credit; Swap and other-). The other components of the total central government debt stock by instruments are; 15.5% fixed,

26.6% Floating Rate Notes (FRNs). Large weight of FX-related debt in the total stock increases vulnerability of the debt stock to exchange rate shocks.

Real Interest Rate on the Central Government Debt Stock

In the average the real interest rate on the FX-denominated debt stock is estimated to be 7% in TL terms. As of end-2002, the average real interest rate on the TL-denominated part of the debt stock was around 25% (knowing that 43% of government domestic debt stock is made of floating rate notes (FRNs), should the risk premium go down in time, these issues' real interest rate will automatically decline in line with the yield set at the 3-month reference auctions). The weighted average real interest rate on the total public debt stock as of December 2002 can be estimated as follows:

7% (real interest rate of FX-related debt stock) x 58% (share of FX-related debt in total debt stock)+25%(real interest rate of TL-denominated debt stock) x42% (share of TL-denominated debt in total debt stock)= 14.6%.

Sustainability of the Public Sector Debt Stock

Debt sustainability issue will be discussed against the background of the composition of the public debt stock, taking into consideration the weighted average real interest rate on the stock as of end-2002 and the primary surplus-to-GNP ratio estimated and targeted for 2003.

In discussing the debt sustainability issue, only the *net debt of the public sector*¹¹ should be considered. The change in public debt stock, expressed as a percentage of GNP, can be estimated as follows:

{Change in the public sector debt stock = operational deficit-seigniorage-growth effect}
(all expressed as percentage of GNP).

Growth and inflation have a reducing effect on the debt stock-to-GNP ratio, while operational deficit has an increasing effect. Growth effect alone, can be expressed as follows:

$$[g / (1 + g)] b \tag{1}$$

where, b is the *public sector debt stock-to-GNP ratio* at the beginning of the period and g is the *growth rate*. The long-term *primary surplus-to-GNP ratio* that is necessary for the sustainability of the public sector debt stock under different “*real interest rate (r)-growth rate (g)-inflation rate (p)*” scenarios are estimated using a modified version of the approach suggested by the World Bank (2000:16-8, 121-124). For the derivation of the formulae, refer to the World Bank source mentioned.

$$s=[(r - g) / (1 + g)] b - [(p + g + p*g) / (1 + p + g + p*g)] m \tag{2}$$

Here m denotes reserve money-to-GNP ratio, which takes different values under different real interest rate-inflation rate combinations. “m” can be estimated using the following regression equation¹²:

$\ln m = f(r+p) = f(R)$ where R is the nominal interest rate. The equation estimated is as follows:

$$\ln m = -2.2555 - 0.6053 R$$

$$(-70.1004)(-10.7901)$$

$$R^2 = 0.81; \quad SSR = 0.2946; \quad DW\text{-statistic} = 1.6934$$

The term,

$$[(p + g + p*g) / (1 + p + g + p*g)] m$$

gives the seigniorage amount expressed as percent of GNP¹³. In end-2002 the *net consolidated public debt-to-GNP ratio* was 81.6% (provisional estimate). The primary surplus (as percent of GNP) required for sustainability of the debt ratio at this level or for lowering the ratio, is estimated using the *m* calculated at different nominal interest rates and the elements of the relevant scenario used, within the context of Equation 2. The results are given in Tables 4 and 5.

Actually, the large share of the FX-related debt in the total stock adds a fourth determinant to the debt sustainability issue, which must be incorporated into the analysis. If TL records a real appreciation against foreign currency (as it happened in 2002) *ceteris paribus* this would exert a downward pressure on the debt-to-GNP ratio. Whereas, TL's real depreciation against FX would cause the ratio to go up¹⁴. However, during the next couple of years, we expect no long-lasting real appreciation or depreciation of the TL. Hence the role of exchange rate movements is not considered in the present study.

Table 4- The Required Primary Surplus as percentage of GNP

Real GNP	Inflation Rate 20%						Inflation Rate 25%					
	Real Interest Rate						Real Interest Rate					
Growth	10%	11%	12%	13%	14%	15%	10%	11%	12%	13%	14%	15%
4%	2.98	3.76	4.56	5.36	6.15	6.96	2.77	3.56	4.36	5.15	5.95	6.74
5%	2.01	2.87	3.66	4.45	5.23	6.04	1.89	2.66	3.46	4.25	5.03	5.82
6%	1.22	1.99	2.77	3.56	4.34	5.13	1.02	1.80	2.58	3.36	4.14	4.93
7%	0.37	1.13	1.90	2.68	3.44	4.24	0.17	0.94	1.71	2.49	3.26	4.03

Source: Author's own calculations based on data from www.tcmb.gov.tr/evds and www.treasury.gov.tr/stat.

Table 5- The Required Primary Surplus as percentage of GNP

Real GNP	Inflation Rate 20%						Inflation Rate 25%					
	Real Interest Rate						Real Interest Rate					
Growth	15%	16%	17%	18%	19%	20%	15%	16%	17%	18%	19%	20%
4%	6.96	7.75	8.55	9.34	10.13	10.92	6.74	7.54	8.34	9.13	9.93	10.73
5%	6.04	6.82	7.61	8.39	9.18	9.97	5.82	6.61	7.41	8.19	8.98	9.78
6%	5.13	5.91	6.69	7.47	8.24	9.03	4.93	5.71	6.49	7.27	8.04	8.84
7%	4.24	5.01	5.79	6.56	7.33	8.10	4.03	4.81	5.60	6.37	7.15	7.92

Source: Author's own calculations based on data from www.tcmb.gov.tr/evds and www.treasury.gov.tr/stat.

Evaluation of the Results

Under the 20% inflation rate assumption, when the real interest rate falls below 15%, any growth rate used in the scenarios is sufficient for debt sustainability, since the primary surplus-to-GNP ratios required are all below the 6.5% target. 16-17% real interest rate cases necessitate growth rates as high as 6-7% to render the debt sustainable. In the case of 25% inflation assumption, 17% real interest rate scenario, at growth rates 6% or above, the primary surplus requirement is below the target. In the case of 25% inflation rate and 16% real interest rate scenario, growth rates 6% and above; and in the case of 25% inflation rate and 15% real interest rate scenario, growth rates 5% and above ensure debt sustainability, since then, the primary surplus requirement is below 6.5%. Actually 25% is the annual average inflation rate targeted for 2003, while 20% is the year-end target. Earlier, the weighted average real interest

rate of the end-2002 debt stock of the central government was estimated to be slightly below 15%. As the debt is rolled over, to maintain this or lower real average interest rate on the stock, the replacing issues should bear 15% or lower real interest rate in the average. If this is achieved, then in Turkey, the public debt sustainability issue will be no problem and in addition, the net public debt-to-GNP ratio can be expected to go down in the years to follow, provided that growth rate is at reasonable levels. It is this declining trend that is needed to satisfy the relaxed Maastricht criteria.

Conclusion

Continuity in the decisive implementation of the program and progress in structural reforms are the key factors essential for attaining the ultimate goal: a stable economy with mild inflation, growing on a stable growth path.

The requirements for debt sustainability are; achieving the targeted primary surplus, fiscal discipline, declining real interest rates and a stable exchange rate, all of which are closely tied to the success of the disinflation program. Estimation results show that if real interest rate is below 15%, under all inflation-growth scenarios assumed in the paper, net public debt-to-GNP ratio comes out to be sustainable. If the primary surplus-to-GNP ratio is kept at 6.5% target level, the debt ratio can even go down in time. A real interest rate below 15%, when weighted average interest rate for the stock as a whole is considered, is not a highly unrealistic assumption. The public net debt stock-to-GNP ratio is not sustainable under any growth condition, however, if the weighted average real interest rate of the stock is 18% or over.

In 2002, the undesirable effect of high real interest rates paid on TL denominated debt, was partially neutralized by the favorable effect of real appreciation of the TL. TL's appreciation over 2002, reduced cost of servicing the FX denominated debt. However, the debt sustainability issue still carries high degree of vulnerability toward interest rate as well as exchange rate shocks.

Prior to the crises; the risk born by the Turkish banks was amplified due to excessive connected lending, FX exposure, as well as large government debt instrument portfolio, which in the case of troubled banks, was mostly funded by short-term borrowing and open FX positions. The resulting maturity mismatch and short positions carried by banks made them highly vulnerable toward interest rate and exchange rate volatility. As a remedy, the rules on connected lending were tightened and the limit on loans to a *group of related parties* was decreased from 75 to 25% of capital. The increased share of FX related bonds in total borrowing of the Treasury, has also contributed to reduced exchange rate as well as interest rate risk born by banks. The exchange rate risk was in a way being passed on to the Treasury.

As soon as the environment becomes conducive, a shift to inflation targeting regime will appear on the agenda. A suitable environment will be created when inflation rate subsides to acceptable levels, the pressure of fiscal policy on monetary policy is reduced, the degree of pass-through between the exchange rate and the inflation rate weakens and the financial system has enough strength.

Once the stabilization effort achieves its targets, the next two problems that need immediate attention are correction of the highly inequitable distribution of income and lowering the unemployment rate. The wage increase introduced in 2003, which was proportionately at higher rates for low-income groups may be considered as a first step taken in the direction of improving income distribution. About the unemployment problem, we believe that the current unemployment in Turkey is in part technological in nature. This may affect the type of measure that needs to be taken in curing the problem.

As a final word, we wish to reemphasize the fact that in the next couple of years, the real interest rates, which in large part reflect risk premium, need to be lowered to 15% or lower in the average (weighted

average of TL and FX-denominated debt is implied). All it takes is a strong determination on behalf of the government about pursuing the present program, hence rebuilding the confidence in the economy as well as the government, to meet the aspirations of the people. Restructuring the composition of the public debt stock by substituting domestic debt by FX related debt, may also be a factor easing debt servicing, provided that there would be no significant real depreciation of the TL against FX. We hope the program's implementation will continue and its fruits be obtained, so that the title of the paper can be reworded as "A Success Story of a Stabilization Effort: Turkey".

*The author is affiliated with Middle East Technical University, Ankara, Turkey. She is grateful for the constructive comments of Prof. Merih Celasun in connection to debt sustainability analysis.

Notes

1. Public Sector Borrowing Requirement (PSBR) (as % of GNP) of the consolidated public sector (excluding duty losses) which was below 10% between 1993-1998, peaked in 1999 and 2001, reaching 15.6 and 15.9% levels, respectively, and then decreased to 8% in 2002, thanks to the fiscal discipline enforced. Cost of fighting terrorism and the earthquake of 1999, were additional factors contributing to surging PSBR.

2. Share of NPLs in gross credit of the banking sector increased to 24.7% as of end-2001.

3. Program definition of NDA is obtained by adding credits obtained by the Treasury from the IMF in 2002, and TL equivalent of Treasury's foreign currency denominated debts with less than 1-year maturity from CBRT's NDA definition.

4. Deducting credits obtained by the Treasury from the IMF in 2002 and Treasury's foreign currency denominated debts with less than 1-year maturity, from Net International Reserve definition of the CBRT, the Program definition of NIR is obtained

5. CBRT used outright FX sale method until March 2001, after that, it switched to auction method.

6. "The Fund is supporting Turkey's economic program under a Stand-By Arrangement, covering 2002-2004 approved by the Executive Board on February 4, 2002. Total access under the arrangement is SDR 12.8 billion, of which 9.1 has been purchased so far. Next purchase SDR 867.6 million, is contingent on the completion of the 4th review. The World Bank supports Turkey under a Country Assistance Strategy envisaging lending of up to US\$6.2 billion during FY2001-03. Of this, the Bank has so far committed 4.5 billion." (IMF, 2002:4).

7. The "pass-through" percentage is estimated as "inflation rate/devaluation rate". For Mexico the "pass-through" was estimated as 56%, for Philippines 28%, for Thailand 27%, for Korea 20% and for Indonesia 33%. (Kochhar, Loungani and Stone, 1998: 24).

8. In estimations, monthly data pertaining to period 1999(12)-2002(10) are used. For RER, 1999(12) is chosen as the base period; WPI is used as the deflator and RER is that of the basket, which is composed of 0.5 US Dollar+0.5 Euro. Since the cross-rate between the Dollar and Euro has been volatile, TL's purchasing power against the basket instead of the dollar would be a better indicator of the RER performance.

9. Since both the level and the volatility of inflation at Turkey's trading partners is negligible, real exchange rate is obtained by simply deflating the nominal exchange rate by WPI, instead of using the conventional formula; $RER = ER_{nom} \times (P_f/P_d)$.

10. This part of the debt stock indicates direct indebtedness of the Treasury. SEE's and Central Bank's debts are excluded. As of end-2002, the Central Bank was not in a net-debtor position; and if SEEs are assumed to be able to pay their debts out of their earnings, the *central government net debt stock* is the part of the total debt stock that should be considered in connection to the debt sustainability issue.

11. Consolidated net public debt concept adjusts for the interest payments of various public sector entities to each other, for example between the Treasury and the CBRT. It also avoids double entry. Consolidated net public debt comprises all the major components of the public sector, namely the Central government, the CBRT, non-bank State Economic Enterprises, local governments, extra budgetary funds and the

unemployment insurance fund, where the assets and the deposits of these public units are netted out. In the past, many public sector entities received large amounts of external financing under Treasury's guarantee. These loans account for a significant portion of the central government's external debt. Adjustment for this too is made to get to net public debt, which is a more accurate measure to be used in connection to debt sustainability.

12. To be able to apply this formula, it was necessary that real income (y) elasticity of real reserve money (rrm) (deflated by WPI) be close to unity. The OLS estimation result given below, satisfies this condition. The reason why annual data over the period 1970-1999 was used is because the crises years could not be accepted as normal years.

$$\ln rrm = -2.1268 + 0.967 \ln y - 0.0057 R \quad (R \text{ is the nominal interest rate on time deposits})$$

$$(-3.7513) \quad (6.3432) \quad (-3.5370)$$

$$R\text{-Bar-Squared} = 0.76; \quad SSR = 0.02975; \quad DW\text{-statistics} = 1.676$$

¹³ The original seigniorage expression suggested by the World Bank (2000:16-18) was as follows:

$$[(p + g) / (1 + p + g)] m$$

This may be an acceptable approximation for the seigniorage term especially in low inflation cases.

¹⁴ The exchange rate effects may be explored more usefully in the analysis of year-to-year changes in debt-to-GNP ratios for finite time periods, rather than in the steady-state analysis.

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