TURKISH DEBT 1990-2002: HOW DID WE GET HERE?

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Preface

In the first year of Turkey's currency crisis, Turkish public debt increased from what was then a "reasonable" level, to one that was judged to be unsustainable by a wide array of observers. As we went to print in late 2004, public debt, as a percent of national income, had significantly fallen, thanks to fiscal austerity, strong growth, and appreciation of the lira, but it was still above its pre-currency crisis levels, and the debate on public debt lived on. How did Turkish debt increase in the 1990s, and in the immediate aftermath of the crisis? What were the key drivers of this build-up? What lessons were to be drawn from the experience? These are the questions that were being asked regarding the nature of this dramatic experience when the project first took off in early 2003, and are still a matter of great interest now.

In fact, debt dynamics was already worrisome before the currency crisis, and had been on a sharp upward trend since the early 1990s. We attempted to resolve whether debt accumulation was due to fiscal profligacy or rather high real interest rates. Interestingly, primary balances of the public sector, other than in the early 1990s, were not very large. This suggested to us two possible reasons for the increase in debt: concealed deficits and high real interest rates. Each of these explanations too, had it's own camp of adherents. The paper endeavored to decompose, as precisely as possible given the data limitations, the increase in the stock of debt into its most relevant components, namely primary deficits from each public sector component, concealed deficits, valuation effects, and real interest payments.

The project took off in late 2002/early 2003, under the leadership of Şerif Sayin, the Director of TESEV. Murat Űçer of Eurosource Turkey guided the project in its initial stages, suggesting, for instance, the study of both the micro and macro aspects of what we named in the paper "debt-generating processes", and provided feedback throughout. He also edited parts of the paper and contributed to the executive summary. Izak Atiyas of Sabanci University, one of our peer reviewers, made substantial contributions, in particular in the section on duty losses. He, along with Şerif Sayin, and most notably Ferhat Emil, author of the accompanying paper "Kamu Borcu Nasıl Oluştu ? Bu Noktaya Nasıl Gelindi ?" and TESEV program director, helped to interpret the initial results and to incorporate the relevant Turkish institutional aspects into the paper. Hakan Yilmaz, author of the accompanying paper and SPO expert, and Zafer Yukseler of the Central Bank of Turkey, one of our peer reviewers, also provided comments that helped clarify the nature of the Turkish data. We also received feedback from a number of colleagues, academics as well as market economists in a seminar held on the topic. Information for the project was obtained from published official and IMF sources, as well as in a series of meeting with various departments of the Treasury.

Executive Summary

1. The net debt of the *public sector* in Turkey grew at an astonishing rate from some 29% of GNP at end-1990 to 80% at end-2002. The debt of the Treasury, net of central government deposits similarly rose sharply from 29% in 1990 to 85% in 2002 (Table 1). Why public debt rose at such an astonishing pace is the central question that this *Report* seeks to answer.

2. Any attempt to tackle this question has to first begin with the formulation of a comprehensive public sector "deficit" series that can be readily linked to debt accumulation. This is done in Section I of the *Report*, which deals with the conceptual and data problems around the issue. Two sets of comprehensive deficit series are produced on Turkey, one by the State Planning Organization (SPO) and another by the International Monetary Fund (IMF), both on an annual basis. The deficit and debt figures used in this R*eport* correspond to those produced by the IMF, which are more comprehensive than the official statistics and exhibit to a large extent "stock-flow consistency", which is central to explaining the link between deficits and debt. The section includes a detailed discussion on the methodology as to how the IMF figures compare to publicly available official statistics as produced by the SPO as well as by other official agencies.

3. The IMF definition of the public sector balance covers the central government, extra-budgetary and revolving funds, local authorities, state economic enterprises, social security institutions, and "duty losses" at state banks. Differences with the SPO data include the inclusion of interest paid in the form of non-cash debt and duty losses at state banks.

4. The IMF definition of the public sector debt comprises the debt and deposits of the central government, extra-budgetary funds, local authorities, state economic enterprises, social security institutions, "duty losses" at state banks, and net assets of the Central Bank. The Treasury data available from the Treasury website covers only domestic and foreign debt of the central government and foreign debts of other levels of government.

5. This paper reconciles deficits and debt by taking into account a number of factors, such as one-time expenditures (notably bank restructuring costs and recapitalization of state banks), privatization revenues, revaluation of foreign exchange denominated debt and "in-kind foreign financing."

6. The *Report* attempts to capture what we call the 'debt-generating process (DGP)' from two angles: micro-economic processes and macro-economic ones. The former has to do with the so-called "primary" deficit of the various sub-sectors of the public sector, i.e. the difference between non-interest primary expenditures and revenues at each level of government, including the large amount of non-budgeted expenditures. The macro-economic angle has to do with the impact on debt of real interest rates, seigniorage revenues, growth, and valuation of foreign-exchange denominated debt.

7. On the micro side, which is discussed in Section II, for the 1991-2002 period as a whole, the primary deficit of the public sector was only 0.4% of GNP, according to the IMF definition, on average. While there were large primary deficits up to 1994, deficits were only moderate in 1994-1999, and there were primary surpluses thereafter. Years with IMF programs generally recorded primary surpluses (1994-95, 1998-2002), on average of over 2% of GNP (Table 7).

8. The reduction in the fiscal deficit since 1994, reflects improvements at the level of central government, extra-budgetary fund and state-owned enterprise level, which more than offset the increase in "duty losses" and the social security deficit during the second half of the 1990s. In 2000, duty losses were also brought under control, as market interest rates declined.

9. The IMF definition doesn't take into account all primary expenditures: notably, it excludes one-off expenditures such as those associated with the operations of the SDIF. It also is conservative when estimating the primary component of state bank duty losses (that is, the credit subsidy to farmers), as discussed in this report. Furthermore, the existence of withholding taxes and a retroactive tax on interest on government bonds for a number of years during the period has helped keep the primary deficit low, though conceptually one might argue that they should be treated as a negative interest item. Finally, the IMF figures, until 2003, do not capture "in-kind" foreign financing, a spending item which has gone unrecorded "above the line" (i.e. in the deficit) in the fiscal accounts.

10. Adjusting the IMF measure of the primary deficit for one-off expenditures, uncaptured primary expenditures of state banks, the withholding tax revenues on government bonds, and in-kind foreign financing we find that such an adjusted primary deficit was 2.7% of GNP on average, compared to the IMF deficit of 0.4% of GNP (Table 7).

11. The restructuring of the banks under the SDIF, a process that started in 1997, and culminated with the takeover of 8 banks in 2001 and Pamukbank in 2002, required some $21.7bn. The Treasury issued some $17bn in securities, excluding interest, by end-2002 (government securities issued to the SDIF minus those returned by the SDIF) and the SDIF contributed $4.7bn from its own funds. The cost of recapitalizing state banks was some TL3.5 quadrillion, or 2% of GNP, in 2001. On average for the period, recapitalization of banks added some 1.2% of GNP in expenditures per year.

12. The currency crises of 2000-01 contributed in a major way to these costs, by increasing banks' cost of funds, non-performing loans, and losses on open foreign exchange positions. Before the November crisis, estimated losses in the SDIF banks were $5bn. The cost of the crises to those banks and to other banks that were subsequently taken over by the SDIF then contributed $16.7bn, for a total of $21.7bn. For state banks, the stock of unpaid duty losses was some 12% of GNP at end-2001, but the high cost of overnight funding of state banks during and in the wake of the February crisis then added some 4.4% of GNP.

13. Losses of SDIF banks can be broken down into those that already appeared on the 'take-over' balance sheet of SDIF banks, i.e. as of the date of their take-over, and those losses that occurred while the banks were under SDIF management. Losses on the take-over balance sheets of the SDIF banks were some $17.3bn. Under SDIF management, losses then increased by some $4.4bn (the $21.7bn overall losses minus the $17.3bn take-over balance sheet). This mainly reflected the effect of depreciation given these banks' large open foreign exchange positions and the high cost of overnight borrowing until the May 2001 operation that eliminated their overnight borrowing. Unlike the losses incurred before their takeover, which can be sued for under Turkish law, these losses cannot be recovered, as they were incurred while the banks were under SDIF management.

14. NPLs to majority shareholders in turn directly account for over half of the losses on the take-over balance sheets. Turkish law provides several avenues of recovery, including (1) suing majority shareholders for all of the losses incurred by SDIF banks prior to their take-over; and (2) suing for the collateral underlying the receivables. It remains to be seen however how much in revenue will actually be collected. The dates when NPL were incurred and the sectors which benefited are not as yet known, though more information will be available following the sale of the NPL by the asset management company under the SDIF.

15. The primary component of duty losses in the IMF figures, calculated as the estimated credit subsidy to farmers, remained about constant around 1.3% of GNP annually during 1994-99. This figure does not, however, include operational losses of state banks, such as losses on account of non-performing loans to farmers. We approximate these operational losses as the difference between total duty losses, the credit subsidy to farmers, and estimated interest on the outstanding stock of unsecuritized duty losses. We find that this residual is large in 1999, a year characterized by election and earthquake related spending, when total duty losses reached 8.9% in 1999 against a calculated credit subsidy of only 1.2% and predicted interest (as calculated in this report) on unsecuritized duty losses of about 4.8% of GNP. There thus appears a residual reflecting operational losses of some 2.9% of GNP (Table 9), which needs to be added to the primary component of duty losses (over the period, this comes to 0.2% of GNP per year).

16. The withholding tax on interest on government bonds in place during 1996-99 and the retroactive tax on interest payments in place during 2000-02 yielded on average 0.5% over 1991-2002. We calculate an adjusted primary balance by deducting this amount from tax revenues (Table 14).

17. Finally, the existence of "in-kind" foreign financing (foreign financed projects) which are not recorded above the line as expenditures, was recently discovered, and its magnitude over the last 4 years according to Turkish Court of Accounts reports was 0.6%-0.8% of GNP. Over the 12-year period, this amounts to 0.2% of GNP per year. In reality, the amounts may have been

much larger, but historical data are not readily available to assess the true magnitude (the Ministry of Finance does have this information).

18. In Section III of the report, we explore the macro economic side of the problem. This is done on the basis of an analytical breakdown of the change in the stock of debt into adjusted primary deficit including one-off expenditures, privatization receipts, adjusted real interest payments, seignorage revenue, real growth, and exchange rate valuation effects. A number of conclusions emerge.

19. First, the contribution of real interest rates in excess to the growth rate was large, in particular since 1998. Based on the IMF definition of the primary balance, real interest payments were some 6.2% of GNP per year.

20. As already mentioned, there are reasons to believe the IMF overestimates interest payments: first, interest on government securities is taxed, but such taxes lead to higher interest rates on government debt as investors require a higher return. Taxes on interest on government securities therefore on balance tend to not have an impact on the overall deficit. But they inflate interest payments, revenues, and the primary balance. Second, the IMF implicitly includes operational losses in state banks as interest, because it calculates interest on non-securitized duty losses as the residual between overall duty losses and the credit subsidy to farmers. We adjust interest expenditures by excluding withholding taxes on interest on government securities and by excluding operational losses of state banks in 1999 and find that real interest payments remain large, at some 5.4% of GNP on average (compared to 6.2% unadjusted) (Table 14). This compares to a growth effect of 1.2% of GNP (Table 15), so that the excess of real interest payments over the growth effect was 4% of GNP. We thus confirm the common view that high real interest payments were a main reason for the instability of Turkish debt dynamics.

21. Second, excluding certain episodes of crisis (i.e. 1991, 1994-5, 1999, 2001-02), debt in fact did not rise. In the period, Turkey faced the Gulf crisis in 1991, the 1994 currency crisis, the fall-out from the Russian crisis in 1999, and the currency crisis of 2001. In these years, real interest payments tended to be higher than in other years, while there were also one-off costs of rehabilitating the banking sector and adverse revaluation effects on foreign debt (Table 15). Debt rose substantially during these episodes, and not in others. Turkey's experience is thus in line with the general experience of emerging markets where exchange rate and interest rate movements and bank recapitalization were the main impetus to rising debt (IMF, WEO, September 2003).

22. The 2001 crisis was by far the most costly of the crises. There was a quantum leap in net debt of 34 percent in GNP between 2000 and 2001. This reflected in part the mechanical effect on debt dynamics of real exchange rates and growth. As real exchange rates and growth recovered, debt then settled down to 80% in 2002, an increase of 21 percent over 2000. The main reasons for the increase was the high cost of financing the stock of unsecuritized duty losses of state banks (financed at very high overnight interest rates during the 2001

crisis) and the costs to the banking sector of the November and February crises, as discussed above.

23. Third, seignorage revenues contributed substantially in keeping the debt/GNP ratio down. Seignorage revenues were 1.7% of GNP a year on average; they declined from 1.8% of GNP to 0.9% of GNP over the period (Table 15). The paper evaluates the claim that money financing could have generated greater seignorage revenues, and finds that this is unlikely, given the low monetary base.

24. Finally, debt could have been contained if deficits at levels other than the central government could have been contained, ceteris paribus. For example, in the absence of state enterprise and social security deficits, which averaged about 3.8% of GNP (excluding duty losses and before transfers from the central government) during the period 1991-2002, debt would, ceteris paribus, have been about constant during the period (Table 15). If in addition duty losses could have been contained, debt would have declined over the period, ceteris paribus.

25. Overall, it can be argued that various inept governments over the years have contributed to debt accumulation through five main channels: (1) by maintaining a level of "core" expenditure over its revenue flow, or the so-called primary deficits; (2) by failing to reduce uncertainty and gain credibility, and therefore having to pay exorbitant real interest rates; (3) by contributing to currency crises through inept economic management; (4) by pursuing un-transparent financing of duty-losses pushing state banks to borrow overnight, and generating liquidity risks, which in the end materialized at a great cost; and (5) by creating contingent liabilities through forbearance and lax supervision of an unsound banking sector in an environment of macroeconomic stability, notably large open foreign exchange positions. Of these channels, the first has fallen in significance over time, while the other channels appear to have become more important over time.

26. Given its substantial importance in Turkey's debt build-up story, and critical role in future debt dynamics, a formal look at why real interest rates have been so high in Turkey, and why Turkey has been so crisis-prone, are perhaps the critical questions that need to be addressed going forward, as a follow-up research to this *Report*.

27. Going forward, we are currently in a situation where risks of deficits of extra-budgetary funds and state-owned enterprises, except in the energy sector, have been reduced sharply. Budgetary and extra-budgetary funds, which were a key source of loss of fiscal discipline in the 1990s, are now integrated fully into the consolidated budget, except for 5 funds, whose accounts need to be monitored carefully going forward. State-owned enterprises remain inefficient, however, and their profit-loss statements are closely related to a function of wage-agreements and developments in public sector prices, which continue to make them a source of risk in the future.

28. More worrisome is the situation in the energy-related state enterprises, owing to potentially very costly contingent liabilities stemming from long-term power purchase agreements signed by the state-owned electricity generation and transmission company (TEAS). While the BOT model has now been abandoned and no new applications are being considered, the World Bank estimates that the price-guarantees and take-or-pay guarantees under existing contracts could amount to $8-10bn just for the period through 2010. Losses at UEAS and TETTAS reflecting these guarantees have already occurred to date and are being financed by the budget.

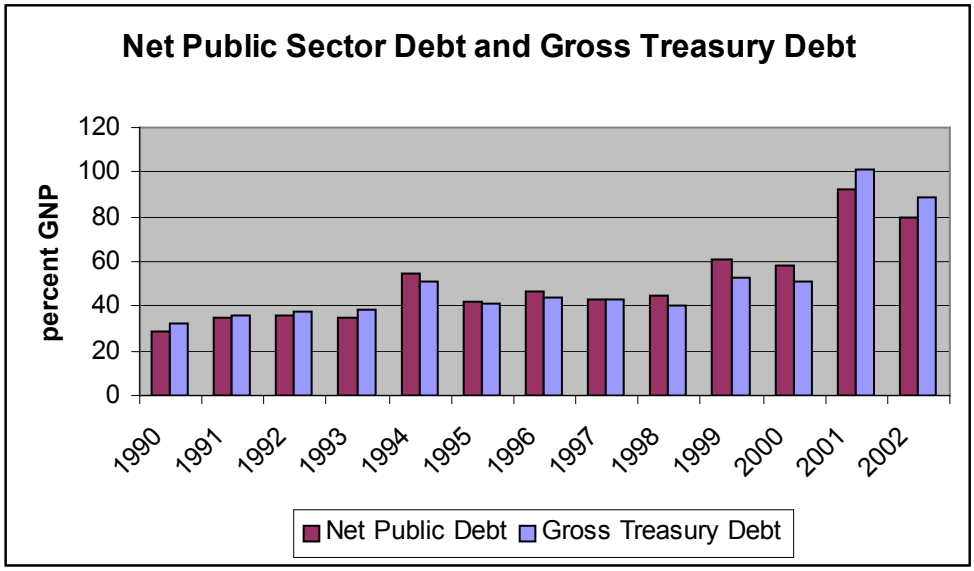
29. In the banking sector, the financial and operational restructuring of state banks has for the moment stemmed their drain of fiscal resources.

30. For the private banks, some risks remain. First, transparency of accounts and banking supervision are still lacking, as revealed by the Imarbank case. Second, under the Istanbul Approach, enterprise debts were restructured, which led to a reduction of provisioning for non-performing loans, and an increase in capital-adequacy ratios. The restructured loans may, however, become non-performing again in the future.

Introduction

This Report is an exploration into the nature and sources of debt accumulation in Turkey.

The net debt of the non-financial public sector in Turkey grew at an astonishing rate from some 29% of GNP in 1990 to 80% in 2002. The debt of the Treasury, or *central* government, net of central government deposits, similarly rose sharply from 29% in 1990 to 85% in 2002. The gross debt of the Treasury, notwithstanding the fact that it does not include local government, extrabudgetary funds, and state enterprise debt, was greater than net public sector debt, as Treasury debt held by the Central Bank, a very substantial amount in the wake of the 2002 crisis, disappears when Treasury debt is consolidated with Central Bank net assets.



At end-2002, domestic debt constituted 62% of total treasury debt and external debt 38%.[1] Most of the domestic debt is either floating rate, foreign exchange denominated, or foreign exchange indexed, a characteristic of Turkish debt since the 2002 devaluation. 40% of the Treasury's domestic debt is so-called "non-cash" debt, reflecting various operations throughout the 1990s and in particular in 2001 where the Treasury issued debt to recognize an outstanding liability, without raising funds in return.

The increase in Treasury debt is far from explained by an accumulation of deficits. The gap between the increase in Treasury debt and the central government deficits ("the consolidated budget") has been as high as 27% of GNP in 1994 and 38% in 2001 (Table 1). Explaining this inconsistency is a main aim of the report. As we document, the inconsistency reflects a large number of factors: hidden deficits, most notably "duty losses" in state banks and enterprises, valuation effects on foreign debt,

[1] The latter concept refers to funds raised abroad, not the residency of who holds the debt, and in fact, much of "foreign debt," notably Eurobonds, is locally held.

assumptions of foreign debts of local governments, extrabudgetary funds and SEEs, and the cost of the banking crisis in 2001-2.

Using IMF figures on net debt and deficits helps to substantially narrow the gap between the change in debt and flow deficits, though they remain large reflecting notably valuation effects on foreign debt and the cost of the banking crisis in 2001-02.

The Report is organized as follows. In Section I, we discuss conceptual and data issues, and lay out the details as to how to derive the IMF figures from publicly available official statistics. We also carry out stock-flow consistency exercises for official and IMF statistics. In Section II, we discuss the size and sources of primary deficits, measured comprehensively. In Section III we discuss deficits and debt in a macroeconomic framework, and demonstrate the critical role of real interest rates in the Turkish debt dynamics.

Conceptual and Data Issues

This section provides the preliminaries on debt and deficits, how they are linked, which measures should ideally be used, and how these measures are related to official statistics. Relevant references in this connection are, among others, the IMF's GFS methodology, the IMF's area department work on Turkey, Atiyas, et. al (1998), the Ad Hoc Committee on Restructuring of Public Finance Management and Fiscal Transparency, and Annual Programs of SPO.

In what follows, we explain in detail the debt concept used in this *Report* and how it is calculated with publicly available data. We then move to the flow side, and discuss the public sector borrowing requirement and primary balance concepts of the SPO and how they relate to IMF definitions of these concepts.

Net debt

Debt data should be as comprehensive as possible and calculated net of financial assets. Public sector debt represents a claim on the taxpayer in the future, at whatever level of government it occurs, be it central or local government or Central Bank. Thus, unsecuritized duty losses of state banks are a direct claim on the consolidated budget, and hence need to be included. Similarly, debts incurred by state economic enterprises and local governments are, even when they are not explicitly guaranteed, often paid by the state. The evolution in this broad measure of debt, i.e. changes in "stocks" can then be compared with a broad measure of the fiscal deficit, i.e. "flows".

To calculate net debt, financial assets, including deposits of all levels of government and central bank reserves need to be taken into account. This is necessary both to give a comprehensive picture of net debt and to ensure stock-flow consistency. Intra-governmental debt also needs to be eliminated, and this needs to be done at a broad level of the public sector, notably one that includes the Central Bank.

The IMF (and since 2003 the Treasury) calculates a comprehensive net debt measure of the non-financial public sector and it is the increase in this debt figure, which this paper tries to explain. The data exclude debt of the financial public sector because of the complexity of estimating this component. Table 2 provides the net debt data on the basis of the IMF concept and Table 3 provides the template used by the IMF to derive the data. Table 4 provides the detailed calculations for 2000-2002 where we tried to replicate the IMF calculations, based on the template in Table 3.[2] The data necessary for the calculations is available publicly, except for those highlighted in Table 4.

The IMF calculations distinguish two main blocks: debt of the central government and the central bank and debt of other levels of government. Debt of the central government and of the central bank are taken together, because of the very large intra-governmental debt at this level, reflecting the holding of central government debt by the central bank, which washes out in a consolidation of central government debt and central bank net assets.[3] Put differently, central government debt may give a misleading picture of the size of debt when much of it is held by the central bank. The consolidation is especially important in 2001, when the central bank on-lent IMF support to the Treasury in return for government securities. The borrowing from the IMF showed up as foreign debt of the Central Bank and Treasury debt to the Central Bank. In 2002, the arrangement with the IMF was changed to a scheme of direct lending by the IMF to the Treasury. With the proceeds of the new borrowing, the Treasury repaid the CBT, which repaid the IMF.

Central government debt in Table 2 closely tracks the Treasury's official data, with a few exceptions, reflecting the fact that the IMF data incorporates unsecuritized duty losses of state banks during the 1990s, takes into account deposits of the central government, and makes certain adjustments for valuation, notably for revaluation of foreign-exchange linked debt issued in the 2001 swap exercise.[4]

Debt of *other levels of government* corresponds to the figures provided by the Turkish Treasury for external debt and deposits of the unemployment insurance fund (a component of net domestic debt), but IMF data are used for other components of domestic debt (net of deposits) at other levels of government.

How more precisely, are central bank net assets and central government debt derived? Table 4 provides more details for the last few years. Central bank net assets are the sum of net foreign assets (line 9), net claims on the central government (line 11), and

[2] The IMF net debt figures could be exactly replicated for 2000. For 2001, our calculation of net debt yields a smaller figure, reflecting the fact that the IMF data apparently include a contingency of TL 5.5 quadrillion. In the table the item "other liabilities" refers to minus "claims on other public sector".
[3] As an aside, the stock of government securities held by the central bank reflects past advances to the government and open market operations by which liquidity is injected into the banking system. The former reflects direct monetization of government debt and the latter indirect accommodation of deficits through open market purchases of government securities held by the banking system. Both lead to a reduction in net (non-monetary) debt outstanding. Foreign exchange purchases from non-residents also reduce net debt. These are all forms of seigniorage.
[4] In addition, in 2002, the IMF makes an adjustment for foreign exchange linked swapped paper, revaluing it at the end-period exchange rate, whereas the offical data reflect the book value at the exchange rate at issue.

net claims on banks (line 12). Net foreign assets in turn are foreign exchange reserves and gold minus central bank foreign exchange liabilities.

- Net claims on the central government are gross claims on the central government less deposits of the central government. This data is available from the IMF, but can also be calculated based on data on net claims of the public sector available from the central bank website minus deposits of other levels of government (line 16; based on IMF data).

- Net claims on the banking sector roughly correspond to open market operations. In years when the central bank funds the market by purchasing securities in repo operations, net claims have been positive. In 2002, reflecting the liquidity of the banking system, these have been negative.

- An adjustment is made to foreign exchange reserves to exclude the component corresponding to non-required foreign exchange reserves, thereby treating these as a form of debt (line 13). A similar adjustment is made for excess reserves on TL deposits (line 15). Thus, central bank net assets increase when required reserves increase, and don't change when excess required reserves increase.

Central government debt includes both debt to the central bank and debt to the market, and is net of central government deposits to the banking sector, including the central bank. Consolidating central bank and central government, all forms of credits from the central bank to the central government and deposits from the central government with the central bank offset each other.

Debt of the rest of the public sector consists of foreign and domestic debt of extra-budgetary funds, local governments, and state economic enterprises, taking into account deposits of public sector entities, of which the only noteworthy those of the unemployment insurance fund.

Summing these items, one obtains net public sector debt of the non-financial public sector. A breakdown of debt in foreign currency and domestic currency is also available. In recent years, these concepts have stopped tracking foreign and domestic debt itself, reflecting the shift to foreign-currency linked instruments after the 2001 devaluation. These figures are given in Table 4 below (line 73 and 74).

PSBR, Overall deficit, and Primary Balance

This paper adopts the IMF definition of the flow deficit, because of its comprehensiveness. The IMF flow deficit for the public sector takes the SPO public sector borrowing requirement (PSBR)[5] on a commitment basis as its point of departure with the following adjustments, which together tend to increase the PSBR.

- Inclusion of the flow of duty losses at state banks as part of the public sector deficit
- Inclusion of interest paid with securities in lieu of cash as part of interest expenditures
- Inclusion of central bank profits *not transferred* to the central government (as a negative interest item). Profits *transferred* to the central government *are* included as non-tax revenue in the official data.
- Exclusion of privatization revenues from revenues[6]
- Removal of profits/losses of financial state enterprises from the public sector balance
- Addition of "advances minus deferrals" in order to obtain a measure of the cash deficit.

It also makes the following adjustments that affect the primary balance and revenue and expenditures, but not the overall balance.

- Reclassification of profits transferred to the central government from non-tax revenue to interest expenditures (with a minus sign).
- Reclassification of interest revenue from non-tax revenue to interest expenditures (with a minus sign).[7]

The latter two adjustments lead to lower revenues, a lower primary balance and lower interest expenditures.

These adjustments are consistent with the recommended classification by the IMF's Government Financial Statistics, the reference in this area, and also closely correspond to the adjustments made by Atiyas, Gunduz, Emil, et. al. (1999). The IMF also makes a number of other adjustments to the balances of central government and extra-budgetary funds, for which the rationale is not known.[8] The IMF presents details on the adjustments it made in going from the SPOs PSBR to its measure of PSBR, for the period 1994-1999. These data are not publicly available, except from IMF published documents. Data were not available, even from the IMF, to make the calculations for 2000-02. Making information public on how these adjustment are

[5] SPO data are available http://www.dpt.gov.tr/dptweb/.
[6] We have used SPO figures on privatization revenues, from Table 5.17 of the Public Finance section of the Economic and Social Indicators (1950-2001) on http://www.dpt.gov.tr/dptweb/
[7] The figure for interest is nevertheless still misleading in some years. This is because it is artificially inflated by the existence of withholding tax on government bonds in 1997-98 and the retro-active taxation of bank profits in 2000. These are treated as revenues, rather than a reduction in interest payments. We make an adjustment for this below.
[8] In addition, there are some differences in the reported balances for social security, local governments and state economic enterprises.

made are an essential component to improving fiscal transparency, even if the adjustment have become smaller in recent years, reflecting the fact that duty losses at state banks have been eliminated and that the Treasury has started to make interest payments on non-cash debt in the form of cash, rather than paper.

Advances minus deferrals require some further explanation. These items are not included in the headline deficit figures reported by the Treasury and the SPO, which is in fact a "deficit on a commitment basis" rather than a cash deficit. This deficit measure records transactions only when goods and services for which there was a budgetary appropriation are delivered. Thus advances are not recorded when they correspond to payment in advance of the delivery of goods and services (e.g. to allow projects to start) or when there are payments without budgetary appropriation—which is only allowed for interest and social security payments.[9] E.g. in 2001, deferred payments of the Treasury were 4.1 quadrillion (which was unusually large), of which TL3.1 quadrillion were interest payments and TL0.9 quadrillion transfers to social security. Expenditures giving rise to deferred payments, on the other hand, are recorded.[10] Because the IMF traditionally estimates the cash deficit, it adds advances and removes deferrals from the fiscal balance.

Stock-Flow Consistency Between Deficits and Debt

Having defined debt and deficits, we are now ready to attempt to bring these together and check for "stock-flow" consistency. Stock flow consistency refers to the idea that, with a few adjustments, the stock of debt should reflect accumulated flow deficits. In many countries, such a consistency exercise shows large residuals, because of the existence of "hidden deficits." These deficits comprise activities unrecorded "above the line" (typically covering expenditures for which no budgetary appropriations exist) but giving rise to debt, and the revaluation of foreign debt in countries where the currency chronically depreciates. [11] Both of these create a gap between the accumulation of deficits and debt.

As can be seen from the list of adjustments to the PSBR made by the IMF given above, the IMF captures some of the hidden deficits excluded from the official data, notably flow of duty losses at state banks and interest paid as non-cash debt. Not all hidden deficits are covered, however. Some hidden deficits, notably those associated with bank-recapitalization, are omitted following standard practice,[12] but information can be obtained elsewhere on them. For others, information is more difficult to obtain. For example, as has recently been made public, some 0.6% of GNP in annual spending through foreign financed projects (so-called "in-kind foreign financing") have not been recorded as spending. These items are by their nature difficult to

[9] After 1997, advance payments that were of "paid but not appropriated character" were offset with a corresponding amount of additional appropriation provided for this purpose within the same year. However 4.1 quadrillion TL of expenditures of this nature were carried over from 2001 to 2002. This caused advances minus deferrals to increase by 2% of GDP in 2001 (Table 6).
[10] In the case of deferred payments, goods and services are delivered, payment orders are issued, and expenditure is recorded above the line. However, actual payment to the beneficiary is not executed due to lack of cash etc.
[11] See the paper by Kharas and Mishra (1999) on hidden deficits.
[12] See e.g. Daniel (1997), Table 1.

capture: there is no budget appropriation and no transaction occurs in Turkey. Yet they give rise to foreign debt and are thus a source of hidden deficit.

An exercise to check the consistency of stocks and flows is useful in two ways. First, it allows one to provide a comprehensive breakdown of the sources of debt accumulation, including both above the line deficits, below the line deficits, and revaluation of foreign exchange linked debt. Second, it affords a rough check of whether there are sizeable sources of hidden deficits outside of the known hidden deficits. A tricky part of this exercise is calculating the contribution of revaluation of foreign debt to the debt stock (see Box 2). To the extent this exercise is not accurate, any remaining residual may reflect errors in calculation rather than true hidden deficits.

For the IMF figures, we can decompose the change in debt as follows,

change in debt of the public sector = deficit of the public sector (IMF)
+ bank recapitalization
+ in-kind foreign financing
+ revaluation effect
- privatization revenues
- seignorage
+ residual

The first four items were already discussed above. Privatization revenues are deducted from the deficit, because the IMF excludes privatization revenues as part of government revenues in the first place—thereby creating a gap between accumulated deficits and debt. Seignorage revenues increase central bank net assets (and thus reduce overall net debt) and are thus also deducted. The explicit derivation of a stylized version of this equation, which fits with the concept of net public sector debt, the PSBR, and seignorage (defined as currency in circulation plus required reserves on TL deposits) is given in equation 5 in the appendix.

The equations above allow for a residual, which if there is one reflects uncaptured hidden deficits, miss-measurement of debt (net of financial assets), and errors in valuation.

For the authorities' figures, we can also carry out a consistency exercise. We can decompose the change in Treasury debt as:

change in debt of the central government = deficit of the central government
+ interest paid as non-cash debt
+extrabudgetary transfers in the form of issuance of non-cash debt (e.g. securitization of central bank valuation losses and state bank duty losses)
+ payments for guaranteed debt
+ bank recapitalization
+ in-kind foreign financing
+ revaluation effect

+ change in the stock of advances minus deferrals (central government)
+ residual

The deficit of the central government measures the deficit, on a commitment basis as reported by the SPO. An adjustment for privatization revenue is not necessary, because there revenues are reflected in the central government deficit. Interest paid as non-cash debt, extra-budgetary transfers in the form of securities (e.g. to state banks and the central bank), payments for guaranteed debt [13] (by state enterprises, local governments, extrabudgetary funds), securities issued for bank recapitalization are added, because, not being associated with budgetary appropriations, they are not included in the deficit reported by the SPO, yet are associated with an increase in Treasury debt. Revaluation of debt, as before, also needs to be added (Box 2).

The data necessary to make these adjustments is only relatively complete from 1993. In particular, information on interest paid as non-cash debt and certain types of extra-budgetary transfers (consolidation bonds issued to the central bank and state banks) is not available earlier, from official nor IMF sources (see Table 8). Data on payments for guaranteed debt are only available from 1992.

Another source of deficit not captured above the line in the headline figures of the SPO is the change in the stock of advances minus repayments. Advances, while not captured in the headline deficit figure, do affect debt. Deferred payments, on the other hand, affect the headline deficit but not the debt stock, since the latter refers exclusively to securities and bank debt and excludes arrears. For consistency between debts and deficits, the change in advances needs to be added to the deficit and the change in deferrals removed from the deficit. By the same token, debt does not include payments deferred to the "special accounting period"—the first month of the following year, but the deficit does.[14] In theory, as for deferrals, the change in payments made in the special accounting period should be added to the deficit for consistency between deficits and debt. However, data is not available to do this, so this item (which is probably small) is part of the residual.

[13] Some payments linked to guaranteed debt do appear "above the line" (i.e. in the deficit) as capital transfers to SEEs. This has been the case when the costs associated with price and input guarantees on BOT contracts were not directly invoiced but appeared as a loss on SEE balance sheets that was reimbursed by the Treasury. We include only the "below the line" payments as reported on the Treasury website.

[14] The use of a special accounting period is characteristic of so-called "modified cash" accounting.

Box 1. Known Hidden Deficits

IMF Data:
-bank recapitalization under deposit insurance
-foreign-financed projects (so-called "in-kind foreign financing)
-revaluation of foreign debt
-privatization revenues (hidden surplus)
-seignorage revenues (hidden surplus)

Official Data:
-interest paid as non-cash debt
-off-budget transfers:
    -extra-budgetary transfers through issuance of non-cash debt
    -payments by the Treasury of guaranteed debt (including BOT contracts)
-bank recapitalization under deposit insurance
-foreign-financed projects (so-called "in-kind foreign financing")
-revaluation of foreign debt
-change in the stock of advances minus deferrals

Note that off-budget transfers are not a hidden deficit in the IMF data because the IMF directly captures the source of the deficit as part of e.g. SEE or central bank losses.

A large residual between the sum of official and hidden deficits and the change in debt each year can point to remaining hidden deficits. The residual could also capture errors in revaluation on external debt (Box 2) or miss-measurement of the debt stock or financial assets. For years where information was not available on payments on interest paid as non-cash debt or guaranteed debt, these items are also part of the residual.

Box 2. Revaluation of Foreign Debt

The revaluation effect refers to the change in the TL value of outstanding foreign-exchange denominated debt. For example, if the USD-TL exchange rate rises from $1=TL1.5mn to $1=TL1.6mn, a $100mn debt outstanding increases in TL from TL150trillion to TL 160trillion. If the Euro-TL exchange rate rises from Euro1=TL1.6mn to Euro 1=TL1.7mn, a Euro 100mn debt increases in TL from TL 160 trillion to TL 170 trillion. Dollar and euro debt together increased by TL20 trillion in this example.

The revaluation effect can be decomposed into the effect of changes in the TL-USD exchange rate on the TL value of debt as if all debt were in USD and a cross-exchange rate effect.
Denoting debt as F and the exchange rate as E, we can express the total revaluation effect as

$$F\Delta E=F_1\ \Delta E_{1,TL} + F_2\ \Delta E_{2,TL} +\ldots +F_n\ \Delta E_{n,TL}$$

where F_i is debt denominated in currency i and $E_{i,TL}$ is the exchange rate of currency i in terms of Turkish lira.

$E_{i,TL}$ can be decomposed as $E_{i,TL}=E_{USD,TL}\ E_{i,USD}$

From this it follows that $\Delta\ E_{i,TL} = E_{USD,TL}\ \Delta\ E_{i,USD} + E'_{i,USD}\ \Delta\ E_{USD,TL}$ where ' denotes t+1.

Thus, $F\Delta E= \Sigma_i\ F_i\ (E_{USD,TL}\ \Delta\ E_{i,USD} + E'_{i,USD}\ \Delta\ E_{USD,TL})$

Expressing foreign debt in currency i as foreign debt in USD divided by the cross-exchange rate, $F_i = F_{i,USD}/E_{i,USD}$ we find

$$F\Delta E= \Sigma_i\ F_{i,USD}/E_{i,USD}\ (E_{USD,TL}\ \Delta\ E_{i,USD} + E'_{i,USD}\ \Delta\ E_{USD,TL})$$

Or

$$F\Delta E= \Sigma_i\ F_{i,USD}(E_{USD,TL}\ \Delta\ E_{i,USD}\ /E_{i,USD} + \Delta\ E_{USD,TL}\ E'_{i,USD}\ /E_{i,USD})$$

This can be broken into two components: the effect of the change in the USD-TL exchange rate multiplied by the dollar value of foreign debt, $F_{i,USD}\ \Delta\ E_{USD,TL}$, and a residual, which is the cross-exchange rate effect.

$$F\Delta E= \Sigma_i\ [F_{i,USD}\ \Delta\ E_{USD,TL} + F_{i,USD}\ (E_{USD,TL}\ \Delta\ E_{i,USD}\ /E_{i,USD} + \Delta\ E_{USD,TL}\ \Delta\ E_{i,USD}/E_{i,USD})]$$

Or

$$F\Delta E= \Sigma_i\ [F_{i,USD}\ \Delta\ E_{USD,TL} + E'_{USD,TL}\ F_{i,USD}\ \Delta\ E_{i,USD}\ /E_{i,USD}]$$

Both terms are easily derived from available data. The cross-exchange rate term is the current USD-TL exchange rate multiplied by predicted debt in dollars as a result purely of cross-exchange rate effects. The currency composition of public sector debt is known, so the latter can be easily derived. The cross-exchange rate effect of foreign exchange reserves cannot be calculated, however, as the exchange rate composition of foreign exchange reserves is confidential. Based on the fact that the central bank tries to hedge its cross-foreign exchange exposure on its debt through the composition of reserves, we assume that there are zero cross-exchange rate effects for central bank net assets. Thus, our measure of revaluation is an approximation only, which creates a possible residual between debt and accumulated deficits.

By assuming that revaluation applies to the previous year's stock of debt, we are also ignoring valuation effects on the flow of debt during the year. For example, if foreign debt increases mid-year and the currency depreciates thereafter, we would be underestimating the valuation effect. Further refinements are possible based on data recently made available by the Treasury on the quarterly public

sector external debt stock since 2001 if one assumes the currency composition remains unchanged during the year.

Table 5 provides our estimates of revaluation effects, based on a calculation explained in box 2.

Table 6 shows our attempted reconciliation of stocks and flows. It includes entries for known hidden deficits and valuation effects. The table also gives the residual between the change in debt and the predicted change in debt, based on all known sources of deficit and estimated revaluation of foreign exchange linked debt. The data refer to the change in debt, in TL, scaled by current GNP, not the change in debt/GNP ratio. This change would be positive for any nominal (TL) increase in debt and appears large for that reason (the change in debt/GNP ratio is much less).

The average annual change in debt is some 24% of GNP for both the IMF and Treasury data. For the IMF figures this can be broken down into a 14% average deficit, 11% revaluation effect on foreign-exchange denominated debt, other items of –0.5% zero (other hidden deficits corresponding to bank recapitalization and hidden in-kind foreign financing almost exactly offset the effect of seigniorage and privatization revenues) of zero, and a residual of –0.5%. For the Treasury figures we find a 9% PSBR on average, a 9% revaluation effect, 5% in hidden deficits (other than the revaluation effect), and a residual of 1.1% on average. For the Treasury, then, hidden deficits (other than the revaluation effect) were over half of deficits reported above the line.

The often negative residual based on the IMF concept means that in general a higher debt is predicted than actually observed/recorded by the IMF. It is large and negative in 1991-93, 1997 and 2000. It is large and positive in 1994, 1996, 2001, and 2002. For Treasury debt, this residual is on average positive—that is we would have expected smaller debt than actually observed/recorded. It is particularly large and positive in 1991-2, 1994, and 1996. It is negative in 2000 and 2001. This may mean that the Treasury issued securities, without a correspondingly large deficit being recorded.

The positive residual in 1994 for both the IMF and Treasury concepts probably reflects error in calculating the revaluation effect on foreign exchange denominated debt. The reason the revaluation effect is only an approximation is that we ignored revaluation of debt incurred *during* the year: we calculate revaluation as the change in the exchange rate multiplied by initial debt (box 2). Ignoring revaluation during the year would normally cause a positive residual (which could be sizeable), because debt and the exchange rate typically increase over time.[15] Issuing foreign currency debt just before a rapid depreciation of the exchange rate should cause a particularly large positive residual, a situation that probably occurred in 1994. This residual will tend to

[15] We also had to ignore any cross-exchange rate effect (i.e. the mechanical effect of changes in the value of the dollar vis-à-vis other reserve currencies) *on central bank net assets*, as data on the composition of central bank foreign reserves is confidential (box 2). In years where the central bank had a positive balance in non-USD currencies which depreciated vis a vis the USD, this would reduce the USD-value of central bank assets and lead to an increase in debt and a positive residual. This may have been the case for many years, given the strength of the dollar for much of the period.

be roughly equal for net debt and Treasury debt, given that Treasury debt accounts for the lion-share of public sector debt.

For the IMF data, one can speculate as to the reasons for the often negative residuals:

- Large negative residuals in 1991-93: Large recorded deficits of the rest of the public sector are not consistent with the slow buildup of net public sector debt during this period. One may speculate on whether all debts of the rest of the public sector were recorded. For example, the Public Participation Fund—an extra-budgetary fund set up in the mid-1980s to finance infrastructure investments— financed itself in the first half of the 1990s debts through the issuance of "revenue sharing certificates" and through forced savings plans (ÇTTH) designed to raise funds from public and private employees. These debts, though sizeable, do not appear to have been recorded as part of the IMF data at all until 1996 when revenue sharing certificates were captured as part of debt of EBFs (see IMF, 2000, Table 55). [16]
- By the same token, this explains part of the large positive residual in the IMF data in 1996. Revenue sharing certificates started to be captured as part of the debt stock in that year causing a discontinuity in the data and a positive residual.
- Some SEEs have defaulted in the past on their bank debt (this was the case in the hazelnut industry), which de facto means that their debts fell, everything else constant, in those years. This effect is likely to have been small however,

For the Treasury data, one can note:

- Large positive residuals during 1991-92, possibly reflecting transfers below the line to the rest of the public sector that was running large deficits and valuation losses of the central bank (recall that we do not have data on extra-budgetary transfers and payments on guaranteed debt in 1991 nor data on consolidation bonds issued to the central bank and state banks in 1991-2 and set these equal to zero).
- A large positive residual in 1996, possibly reflecting the delayed effects on the debt stock of the transfer of the Public Participation Fund to the Treasury in 1995. The revenue certificates did not immediately become part of the debt stock: only as they matured were Treasury bonds issued.[17] The Treasury continued to use ÇTTH to invest in government Bonds until the scheme was abolished in 2003 completely. Thus there was an increase in debt without deficits and a positive residual.

[16] Another contribution to the negative residual in 1991-93 may be data-revisions. SPO data on the PSBR for 1991-93 are over 1% of GNP smaller than those reported by the IMF (see Table 6). It is difficult to be certain, however, as this difference may also reflect the adjustment made by the IMF for central bank losses (included in the PSBR), which were large in the early 1990s because the CBT had a short foreign exchange position. The other adjustments made by the IMF--interest paid as non-cash debt, duty losses of state banks, the surplus/deficit of state banks were insignificant.

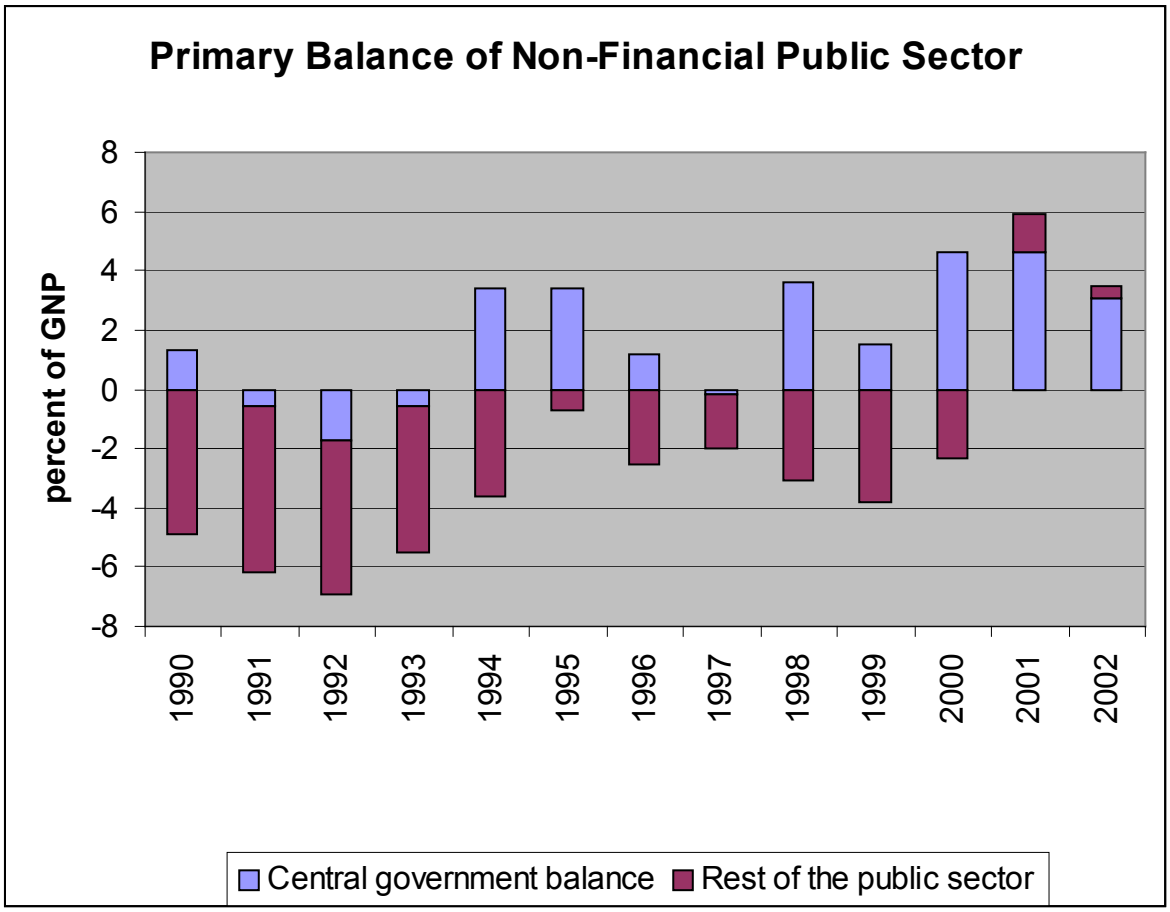
[17] In fact, the Treasury made transfers to the PPF since the early 1990s to help pay off the revenue sharing certificates, so this factor would cause a positive residual throughout the 1990s.

The negative residual both for the IMF and Treasury concepts in 2000 requires further explanation. [18]

[18] Possibly the debt figures used are too low. Recently posted data on the Treasury website show a large upward revision in the numbers for 2000, but the magnitude of the revision was so large that using this data there would be a large positive residual in 2000. We did not use the recent data pending clarification.

Debt-Generating Mechanism: Budgeted and Non-budgeted Activities

We next turn to the study of the components of the primary balance, or PSBR before interest payments. As noted, the IMF primary balance is defined at the non-financial public sector level, including extrabudgetary funds, local authorities, social security institutions, revolving funds, state enterprises and the credit component of duty losses of state banks. It thus is much more comprehensive than the consolidated budget, and as we will see, it is at these other levels of government that large primary deficits have occurred. The activities of other levels of government are financed by own revenues, revenue-sharing arrangements, and transfers, periodic payments of duty losses and debt issuance, much of which is ultimately assumed by the central government.



The IMF measure of primary deficit excludes however a number of activities that can be considered as primary expenditures, and an attempt is made here to include these. In particular, we make 4 adjustments.

- We treat bank recapitalization expenditures as part of primary expenditures. The IMF excludes these expenditures because of their non-recurring nature.
- We include "in-kind foreign financing", which is estimated at some 0.6% of GNP over the past few years, a type of expenditure which until recently was not captured by the IMF.
- We include our estimate of operational losses of state banks in the primary deficit. The IMF measure captures only the subsidized credit-component of duty losses, not operational losses, as discussed below.
- We exclude taxes on government interest from tax revenue and reclassify it as negative interest. Withholding taxes and a retroactive tax on interest on government bonds has helped keep the primary deficit low, though conceptually one might argue that they should be treated as a negative interest item.[19] On average for the period these taxes yielded 0.5% of GNP.

Table 7 provides an overview of the primary deficits of the public sector by administrative level (based on IMF data) as well as of various adjustments made to the IMF data discussed above.

The data are arranged both by primary balance by sector before transfers and balance by sector after transfers and with classification of non-appropriated duty losses under central government ("by area of responsibility"). For the data before transfers, we present both the IMF data and the adjustments made to this data. The data indicate that over the period, the non-financial public sector deficit according to IMF data was on average 0.4%. This reflected an average 1.8% primary *surplus* at the consolidated budget level and primary deficits at other levels of 2.7%. Taking into account the 4 adjustments mentioned above, the non-financial public sector primary deficit was 2.7%.

There was a sharp improvement in the primary public balances from 1994 onwards, with the adjusted primary deficit of the non-financial public sector declining from 6.3% during 1991-93 to 1.5% of GNP during 1994-2002. Most of the improvement appears to have reflected improvements of state enterprise finances and of central government finances.[20] The social security deficit before transfers and the primary component of duty losses, on the other hand, became larger, as did the adjustments we made to the IMF deficit, mainly on account of one-off expenditures and taxation on interest.

[19] Interest on government bonds and bills has from November 1996- mid-1998 been subject to a withholding tax of 12%. The withholding tax was worth about 2% of GNP at its peak in 1998. Then in late 1999, a retroactive tax on bank interest earnings from government bonds was introduced, with revenues of 1.3% of GNP in 2000.

[20] To ascertain this with certainty we would need to look at balances before transfers between levels of government, which could not be done because we could not obtain data on net transfers from the central government to other levels of government before 1994. However, the trends in the data after transfers are so clear that we can presume that balances also improved before transfers.

Using IMF data, it appears that in years with an IMF program—1994-5, 1998-02, there were generally primary surpluses, with the exception of 1998. In the years without IMF programs, there were without exception primary deficits, though these were substantially smaller in the second half of the 1990s than in the first half. [21] However, based on the adjusted primary balance calculated here, there was a large primary deficit in 1999 under the shadow-IMF program, reflecting operational losses of state banks, and a large deficit in 2001, reflecting bank recapitalization costs.

We now turn to the performance of individual sectors and details of our adjustments to the IMF primary balance.

Central government and Extra-budgetary Funds

Central government

The central government showed positive primary balances, as measured by the IMF, in most years, despite large transfers to other levels of government, notably to state economic enterprises and social security (first panel of table 7).[22] The central government concept of the IMF closely corresponds to the consolidated budget concept, which comprises 45 agencies with general budget and 65 (mostly universities) with annexed budget.[23] [24] IMF data indicate that there was a primary surplus of 1.9% on average over 1990-2002 at the level of central government.

By area of responsibility (i.e. before transfers to state enterprises and social security but including duty losses) and making the 4 adjustments described above (i.e. we assign the responsibility of operational losses of state banks in the election year of 1999 and bank recapitalization costs to the government), we find that the central government consolidated with extrabudgetary funds had a somewhat lower primary surplus (1%) (second panel of table 7).

Despite these large primary surpluses, Treasury debt grew rapidly on account of both budgetary and off-budget transfers, notably to state enterprises and social security institutions (Table 8). Off-budget transfers were of two types: (1) so-called "extra-budgetary transfers" in the form of issuance of non—cash debt, which could sometimes be discounted in the market; and (2) assumption of guaranteed debt of extra-budgetary funds, state economic enterprises, and local authorities.

- Budgetary transfers to SEEs and social security institutions were on average 2.7% during the 1991-2002. [25]

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[21] It should be noted that primary deficits for most of the period do not reflect low government revenues. Contrary to perception, government revenues are very high for a country of Turkey's income level. See the World Bank PEIR.

[22] For extrabudgetary funds, transfers wash out with reverse transfers by EBF to the budget. For local governments, there is only a reverse transfer to the budget.

[23] The latter finance their expenditures with own revenues.

[24] The Ministry of Finance provides the latest details on government revenues, expenditures, including interest and transfers. See www.maliye.gov.tr.

[25] For SEEs, Treasury data; for social security, Ministry of Finance data. Data were not available for 1990-1992. Note that data on transfers vary depending on the source. The IMF reports different numbers for transfers.

- Extra-budgetary transfers were over 2% per year on average during 1992-02 and largest in 1993-4 and 2001. In 1993, this reflected large transfers in the form of non-cash debt to the central bank, which had large valuation losses in the early 1990s, because of its short foreign exchange position and because it registered losses in open market operations. In 2001, this reflected the long-overdue securitization of state bank duty losses.
- Transfers in the form of assumption of debt service have fluctuated around a level below 1% of GNP on average during 1992-02 ($12bn over the period) [26] and as the result of the assumption of these debts by the central government, debt of other levels of government has remained broadly stable. The issue of guarantees in recent years has become subject to a budget ceiling of $500mn in the annual budget law. Excluding BOTs, guarantees issued were $558 in 2001 and $319 in 2002.[27]

Extrabudgetary funds

The category extrabudgetary funds covers budgetary and non-budgetary funds of line agencies, established to carry out specific functions.[28] They are funded with earmarked taxes and special purpose excise taxes, which go directly to the line agencies as special appropriations, some of which are clawed back by the central government. Only net appropriations to budgetary funds are included in the budget, whereas non-budgetary funds are off-budget all-together. Budgetary funds "are in" the budget but without full budgetary controls. Until recently there were 62 budgetary and 13 non-budgetary funds. These were reduced to 6 funds—the Support and Price Stabilization Fund, the Social Aid and Solidarity Incentive Fund, The Vocational Training Promotion Fund, Defense Industry Support Fund, the Privatization Fund under the IMF stabilization program.

Extrabudgetary funds are linked to the budget through a complicated web of transfers from and to the budget, to each other, and transfers from local authorities. Through 1994, their primary deficits as reported by the IMF have been large (1% of GNP on average), mainly on account of investment spending by the Public Participation Fund [29] and much of the resulting debt was assumed by the central government. Between 1992-1997, the central government paid $3.5bn on account of its guarantees on the debts of extrabudgetary funds, the lion-share reflecting payments for the Public

[26] Treasury data from http://www.treasury.gov.tr/english/kaf/TreGuaCommByBorrower(4).htm
The data for individual years is not available between 1992-96 from the website, but the IMF 1996 and 1997 REDs provide details.
[27] Treasury data from http://www.treasury.gov.tr/english/kaf/TreGuaCommByBorrower(4).htm

[28] Until 1999 there were 13 extrabudgetary funds, accounting for 15 percent of central government primary expenditure or about 3 percent of GNP, not subject to parliamentary review within the budget process. The central budget also incorporated a large number of so-called budgetary funds, such as the Mass Housing Fund, which in practice operated as off-budget institutions since the budget only accounted for the transfer of appropriations but not for their total revenue and expenditure. Since December 1999, a number of budgetary and extrabudgetary funds have been closed and taking stock of existing contingent liabilities while making this information publicly available. As part of the government's existing commitments, reiterated in the June 2000 LOI, 20 budgetary funds will be wound up by end-August, with a view to eliminating the remaining ones by mid-2001, and five extrabudgetary funds will be closed by February 2001.
[29] Data on transfers are not available prior to 1995, so the analysis here is only partial, awaiting further data.

Participation Fund. Since the mid-1990s, based on available data, EBF have run surpluses and made sizeable transfers to the budget. Payments for guaranteed debts by EBF also fell to $300mn over 1998-2002, and were negligeable starting in 2000.

State Economic Enterprises

The main factors affecting SEE profitability, and thus budgetary transfers and the need for debt assumption by the central government are public sector price adjustments and wages. [30] For many goods, public price adjustments are made periodically, generally with several years' interval, rather than being automatically linked to production costs. Gasoline prices are closely linked to world prices, but the same is not true for electricity.

Over the period SEE profitability has see-sawed reflecting these factors. From 1990 through 1994, SEE primary deficits were very large (table 7). [31] With real wage adjustment under the 1995 stabilization program, the primary deficit before budgetary transfers and excluding duty losses of SEEs then swung to a surplus of 0.8% of GNP in 1995. However, with wage increases in the following years and increases in agricultural support prices, deficits grew yet again, and the primary deficit before budgetary transfers and excluding duty losses again reached 1.1% by 1999. The impact of large public price increases at end-1999 was eroded in 2000, as prices were kept constant to assist in stabilizing inflation under the stabilization program, and the primary deficit rose to 2.7% of GNP in 2000. In 2001, primary deficit and transfers balanced each other out, but with no price adjustment in 2002, a small deficit again emerged.

In the mid-1990s loss-making enterprises were agricultural state enterprises and railways. Between 1994-99 losses (duty losses plus equity injections) for the main agricultural state economic enterprises (Caykur, Seker, Tekel, and TMO, the Soils Product Office) amounted to $6.2bn (World Bank 2000 CEM). The recent abolishment of price supports for agricultural products (mostly tobacco, cereals, and sugar beets), which imposed duty losses on agricultural SEEs, eliminated one source of deficit of SEEs.

Currently, loss making enterprises are hard coal, railways, and electricity distribution and generation. Profitable companies are Telecom; Tekel (because of special consumption tax and other taxes); the Tupras refinery; and Eti Holding (mining), which became newly profitable.

In 2000 and 2001, the reported loss for the electricity companies (TEAS, TETTAS, EUAS, TEIAS, and TEDAS) was around $1bn. In 2002, the sector reported profits of 100mn. These losses, however, greatly understate true losses, as the distribution company TEDAS failed to collect many of the electricity payments, and such losses from non-payment are recorded below the line, as financing. TEDAS on paper had zero losses on average over 2000-02, but in reality the loss was reportedly over $1.5bn in 2001 and over $700mn in the first half of 2002. These heavy losses reflect

[30] Wages and salaries constitute 16% of the cost of goods sold.
[31] After transfers they were on average 3.8% of GNP. Before transfers the primary deficit was presumably even larger, but the data is not available to calculate this.

theft (some 14% of energy purchased by TEDAS) and non-payment by individuals, public enterprises, government agencies, and municipalities, and provision of free energy for street lighting, mosques, etc. (some 5% of TEDAS purchases). The motivation for the privatization of TEDAS is to reduce these losses. TEAS and TETTAS losses reflect the cost of the BOT projects, on which more below. Losses of TETTAS were some $400m in 2002, and were projected to increase rapidly in 2003 reflecting the full year effect of losses on account of BOT projects which came on-stream only in the last two months of 2002. [32] The KAF unit in the Treasury responsible for monitoring all debts of municipalities and SEEs has projected that the electricity companies will require transfers in 2003, but this information is apparently this is not publicly available.

The financial relations between government and SEE are complex and unclear.[33] SEE deficits are paid for, often with a lag, through transfers from the budget and all sorts of offsets and arrears: payments of foreign debt of the enterprises by the Treasury, offsets and arrears in tax liabilities, arrears in social security contributions, and arrears to other state enterprises.[34] The Treasury assumed $2.4bn in SEE debt during 1992-2002, including for the national airline and energy enterprises.[35]

Contingent Liabilities arising from BOT contracts in the energy and water sector

Some 18 BOTs (Build-operate-transfer) are currently in operation, mainly in the energy sector.[36] The BOT contracts between private companies building the energy generation plants have take-or-pay provisions and stipulate price guarantees for electricity of between $6.5-11.8 cents per KW, depending on the contract, based on information provided to the World Bank by the Ministry of Energy and TEAS, the former electricity generation and transmission company which has been split into three companies per the Electricity Law of March 2001. [37] These contracts have received a Treasury guarantee. That is, if TEAS does not perform according to the contract, the Treasury is to make the payments on its behalf. Alternatively, it may anticipate difficulties, and make transfers to TEAS accordingly. As TEAS no longer operates, TETTAS, the new trading and contracting company, accrues the liabilities in its stead.

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[32]The KAF unit in the Treasury responsible for monitoring all debts of municipalities and SEEs has projected costs for payments on account of their guaranteed debt for 2003, but apparently this is not publicly available.

[33]IMF July 2000 Review of Fiscal Transparency.

[34]In 1999, for example, state-owned enterprises' duty losses amounted to about 1½ % of GNP, of which only a marginal share was appropriated for in the central government budget while about 1% of GNP was allowed to be offset against liabilities (on-lent or guaranteed credit) due to the central government. As of end-1999, the stock of unpaid duty losses due to nonfinancial state-owned enterprises for past quasi-fiscal activities amounted to some 2% of GNP, and as result, state-owned enterprises run arrears on their tax liabilities and social security contributions (IMF)

[35] Information provided on the Treasury website.

[36] In the BOT model, a private company builds and operates a plant and transfers ownership to the state after a pre-specified amount of time. In the BO model, which only applies to thermal power generation, no such transfer occurs.

[37] The March 2001 Electricity Law split TEAS into EUAS (electricity generation), TEIAS (electricity transmission) and TETTAS (a trading and contracting company, which in theory took over the energy contracts).

Because of the high price of electricity in some of the contracts, and the overcapacity in the sector at least for the moment,[38] these contracts are costing the TEAS successors, dearly. Some 30 contracts, already initialed by the Ministry of Energy, have been put on hold out of concern for their cost, but may yet become operational, while 250 pending applications apparently have no future.

Information on BOT guarantees is scant. Garanti Yatirim published a report in September 2002 detailing the 18 projects in operation and 29 projects "under Treasury guarantee"[39] and their capacity (p. 58-9 of the report), but the agreed purchase price is not known publicly. [40] The World Bank obtained some of this data in 1999 and the World Bank 2000 Country Economic Memorandum reported a calculation of projected costs from the 14 BOT contracts then in operation and 4 BOT projects coming on stream in the following 3-4 years. These costs were projected at $350mn per year in the initial years, and rapidly increasing thereafter. They would cost a cumulative $8-10bn just for the period through 2008 (guarantees are usually for 20-30 years). The assumption underlying these estimates is that retail prices will be US 7.2-7.5 cents/kwh, or the same as the 1999 retail prices in Turkey and also OECD prices. The calculations also used likely production volume as reported in the contracts. It assumed that the lower cost facilities would come on-stream earlier than the high-cost facilities. Finally, the calculations assumed that there would be no substantial excess supply (demand was assumed to grow at some 5.5% per year and production from current production capacity was assumed constant), which means they provide a lower bound for potential costs to the budget.

The Treasury has also calculated the likely cost of the BOT contracts. In 2002, it hired a UK consultancy to look at the BOT projects in detail and provide a formal calculation of contingent liabilities. Its calculation reportedly takes into account the very-low cost production of hydro-power, which keeps down the size of the contingent liability stemming state enterprises in the energy sector as a whole.[41] Reportedly the draft reports includes two demand scenarios: one with demand growing as in the OECD and one with demand growing at a higher rate. In the high demand scenario (a key factor, given the take or pay clauses in the contracts), there will not, in time,[42] be significant contingency liabilities to the budget even including the additional 30 contracts, taking into account the low cost of hydro-power electricity

[38] The margin of available electricity capacity over annual peak demand at end-2000 was approximately 60%. Given that a 25% buffer is necessary for security, to prevent blackouts, this implies overcapacity of some 35%. Increases in supply, given that 2 BOs (which were competitively tendered) will come onstream in November 2003 and given existing intergovernmental protocols committing to the construction of additional hydropower, will add to this excess capacity. Should demand grow rapidly, say at 15% a year, which is not unusual for a developing country, this excess capacity would be eliminated in time.

[39] Presumably this refers to the fact that a guarantee was being considered. No Treasury guarantee was in fact given for these projects.

[40] Under the IMF program, the government is henceforth committed to publishing the cost of contingent liabilities in the energy sector, but the details are not yet available.

[41] Apparently, there is a legal wrangle involving the Directorate General of State Waterworks, which was originally responsible for the hydroplants, and wanted to be compensated for their shift to TETTAS. The Electricity Law will have to be amended to so that the hydroplants can be legally transferred to TETTAS.

[42] As demand increases over time, losses will be eliminated.

generation. Thus, the key reasons for differences in results seem to be demand assumptions and how profits from existing hydro-power generation are treated.[43]

In our debt sustainability analysis, we use World Bank assumptions, given that in 2000-01, TEAS and its successors did in fact make large losses (see above), which apparently will be covered by transfers from the budget and because we are interested in the additional cost to the budget, above the existing baseline in which profits of hydropower generation are already incorporated, rather than the cost to the budget of energy production as a whole.

Regarding water, the Izmit water project, which involves a treasury purchasing and price guarantee, is estimated to cost $100-150mn yearly, as municipalities do not adjust prices and do not sell available water to other municipalities. It has already triggered a payment of $0.7bn by the Treasury.

Looking forward, the generation of contingent liabilities, beyond those already calculated by the World Bank, may be limited because henceforth, the Treasury needs an allocation in the budget before committing to any more guarantees and is required to calculate the contingent liability associated with each guarantee before signing any guarantee. On the other hand, the estimated cost of the guarantees depends on the assumptions made, notably for excess supply, and these may not always be realistic. Furthermore, the size of contingent liabilities is a function of retail prices of energy, and apparently in 2001-02, IMF and World Bank pressure was necessary to maintain these prices in dollar terms.

Social security and Revolving Funds

Primary deficits before transfers of the social security institutions, [44] which were small in the early 1990s, ballooned from the mid-decade onwards to reach some 3.6% in GNP in 1999, with deficits projected to rise to 4.4% by 2005, 7.6% by 2020, and 14% by 2050.[45] The 1999 social security reform was intended to arrest this adverse trend, by, inter alia, introducing a minimum retirement period, increasing the minimum contribution rate for pensions and introducing basing pensions on indexed lifetime earnings.[46] Savings would occur from the start, and would grow over time as grandfather clauses lost their impact. Subsequently the social security deficit before budgetary transfers fell somewhat to 2.5% and 2.9% respectively in 2000 and 2001 respectively. The outturn in 2002, a 4.1% of GNP deficit, mainly because of high health expenditures, was however disappointing.

In addition to the expenditures by the social security institutions, health expenditures are also carried out by the Social Aid and Solidarity Incentive Fund and by a number of revolving funds under the Ministry of Health. The latter generate off-budget

[43] On the supply side, the Treasury study takes into account increases in supply outside of the BOT schemes (see above footnote), whereas the World Bank study assumed constant capacity, apart from the BOT schemes, so the Treasury's estimate of losses is less conservative in this regard.
[44] Because of their inability to borrow, social security institutions do not run a primary deficit after transfers, except through arrears. Their deficit is financed by transfers from the central government.
[45] World Bank and authorities' projections as reported in Ch. 2 "The 1999 Social Security Reform" of the IMF 2000 RED.
[46] It also raised the lowest wage on which contributions and pensions can be based, but the net revenue impact of this measure was ambiguous.

revenues that are used to supplement salaries and pay for operations and maintenance,[47] but by their nature these do not generate any deficits.[48]

State bank duty losses

Starting in 1993, state banks started accruing duty losses, on account of credit subsidies to the agricultural sector, which were not appropriated in the budget and the bulk of which were not securitized until recently.

Duty losses can conceptually be broken down into three components:

- the credit subsidy component
- interest on the unsecuritized stock of duty losses outstanding, financed by state bank borrowing
- a residual, which reflects operational losses (notably delinquent interest) and activities mandated by the government.

The IMF includes the credit subsidy component as part of the primary deficit, and lumps interest and the residual together as part of interest.

The **credit subsidy** component, calculated by the IMF based on the difference between subsidized rates and t-bill rates, was around 1.3 percent of GNP, during 1994-99, the years where duty losses were important (tables 7 and 9). [49] During this period average subsidized interest rates were 53% for Ziraat, and minimum subsidized rates were 40% for Halk.[50] This compares to average T-bill rates of 124% over the same period (table 9). In 2000 and beyond, the credit subsidy was all but eliminated as market interest rates fell and subsidized credit rates were not lowered. The credit subsidy component represents government expenditures, hence the IMF includes it as part of the primary deficit.

The **interest component**, calculated here based on 3-month deposit interest rates and taking into account reserve requirements, is very large in the outer years (over 4% of GNP) reflecting the higher stock of unpaid duty losses. High interest rates also contributed, but as both deposit and overnight interest rates were substantially below treasury-bill rates until 2000, the strategy of pushing duty losses off-budget and financing them through deposits and overnight borrowing did help reduce the government's debt servicing costs. This of course all changed in 2000 and 2001, in early 2000 because of the sharp reduction in T-bill rates, and later because of the

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[47] World Bank PEIR.

[48] Such revolving funds are also important in education and forestry services. In addition, new forms of adaptation are reportedly emerging with activities that are no longer funded occurring by Foundations and Associations (own corporations), financed by new fees, such as fees for newly required files and documents. These may amount to 15 or 20% of other expenditures, calculated as the residual between projected spending for other expenditure, given population, and a case study of the Ankara Court (interview with Hakan Yilmaz).

[49] Under the system, state banks saw their mandate as lending at subsidized interest rates, and in many cases which rate was charged was at their own discretion. Some 35% of the population received loans of on average TL2bn.

[50] Data provided by the Treasury. Over 1995-98, credit subsidies constituted some 55% of the overall fiscal cost of support to the agricultural sector (estimated at $5bn), while budgeted input subsidies and unbudgeted price supports paid for by transfers to state agricultural enterprises constituted 28% of the total (World Bank 2000 CEM).

sharp increase in overnight rates in combination with large overnight borrowing by state banks.

The **residual** (the difference between total duty losses, the credit component and the interest component) is large in a few years (2.9% in 1999, 0.8% in 2000), pointing to the existence of operational losses (table 9). As noted, the residual is treated as interest rather than primary deficit by the IMF. However, because it is so large in 1999, we make an adjustment to the IMF primary deficit data to include the residual in 1999. Thus duty losses appear in table 8 as both the credit subsidy component and operational losses (the latter only in 1999).

The positive residual in 1999 reflect non-payment of interest, as well the taking over by the Treasury of bad loans to Agricultural Sales Cooperative Unions by allowing the bad loans to be treated as duty losses (World Bank 2000 CEM).[51] Non-payment of interest appears to have been encouraged in pre-election and post-earthquake times. The existence of such amnesties in 1999 is also indicated by the fact that the official cost of funds of Ziraat are unrealistically high in 1999 (see table 9). The cost of funds is calculated in practice as the interest rate necessary to make Ziraat's books balance; thus if borrowers are not paying interest, this causes the cost of funds of Ziraat to increase.

TL23 quadrillion of duty losses were securitized in 2001 in the aftermath of the devaluation. Until then, only TL 2.2 quadrillion in duty losses had been securitized during the 1990s. TL 15.2 quadrillion of the TL 23 quadrillion corresponded to duty losses incurred before 2001, and TL7.8 quadrillion to duty losses incurred through May 2001, if any, and accrued interest on the TL 15.2 quadrillion of unsecuritized duty losses. In addition TL 3.5 quadrillion in securities were issued to recapitalize the state banks in 2001, thereby provisioning for almost all subsidized credits (not commercial credits) outstanding at the time.

The November and February crises added inordinately to the stock of duty losses: the figure of TL7.8 quadrillion is a good approximation of the cost of the crisis, given that it is the sum of accrued interest on the unpaid stock of duty losses and flow duty losses, and that the latter were relatively small as market interest rates had fallen to about the level of the subsidized interest rates.[52] This high cost incurred during the

[51] In 1993, state banks were also mandated to make "payments for price differences" to farmers. Under this system, farmers receive the difference between the sales price obtained in the market and the official target price as a payment directly from Ziraat (World Bank 2000 CEM). After 1994, these payments for price differences were included in the budget, via the Support and Price Stabilization Fund.

[52] The World Bank has also estimated the cost of the crises to state banks at about $5 billion. The cost of the November crisis was particularly large for Halk, which had a higher cost of borrowing than Ziraat, given that it relied to a larger extent on overnight borrowing and a lesser extent on deposits.

crises illustrates how costly the combination of lack of fiscal transparency and macroeconomic volatility can be.

Resources Transferred for the Restructuring of State Banks

Duty Loss receivables of state banks from the Treasury began to generate in 1992 and reached TL 17,4 quadrillion as of end 2000. TL 2,2 quadrillion of this amount was securitized, while the remaining TL 15,2 quadrillion consisted of unsecuritized duty loss receivables. Unsecuritized duty loss receivables and all interest accrued on them were securitized in 2001 through granting special issue government bonds amounting to TL 23 quadrillion.
Also, within the year 2001, an additional support was given to state banks in order to strengthen their capitals. Specifically, in-cash capital injections were made, amounting to TL 217,6 trillion to Ziraat Bankasi in March, TL 67,2 trillion and TL 40,8 trillion in April respectively to Halk Bankasi and Emlak Bankasi. In addition, government securities were granted to Emlak Bankasi amounting TL 624 trillion and to Halk Bankasi amounting TL 900 trillion in May on their capital. The TL 1,7 quadrillion cost generated in July due to the transfer of Emlak Bankasi to Ziraat Bankasi was covered by giving-out special issue government bonds to Ziraat Bankasi.

The overall total resources transferred to the state banks with the aim of tying the duty loss receivables to securities and providing capital support amounted TL 28,7 quadrillion..[1]

(BRSA November 2002 Progress Report)

Resources Transferred to State Banks (TL Trillion)

	Inventory as of December 2000 (1)	Increase in year 2001 (net) (2)	Total (1)+(2)
Liability Generated from Duty Loss	**17.413**	**7.759**	**25.172**
-Tied to Securities	2.217	22.955	25.172
-Ziraat Bankasi	1.354	12.113	13.467
-Halk Bankasi	863	10.797	11.660
-Emlak Bank	0	45	45
-Unsecuritized	15.196	-15.196	0
Capital Support (Subordinated Debt)	**-**	**3.224**	**3.224**
-Ziraat Bankasi	-	1.700	1.700
-Halk Bankasi	-	900	900
-Emlak Bank	-	624	624
Capital Support (Cash Injection)	**-**	**326**	**326**
-Ziraat Bankasi	-	218	218
-Halk Bankasi	-	67	67
-Emlak Bank	-	41	41
Total	**17.413**	**11.309**	**28.722**

Resource: Treasury, BRSA, Joint Board of Directors of State Banks (JBDSB).

1. *While unsecuritized duty loss receivables amounting to TL 15,2 quadrillion as of end 2000 were not mentioned in debt stock data, the amount was included within debt stock in the publications of the International Monetary Fund. When evaluated from this view, the real increase in public debt stock within year 2001 due to the restructuring of state banks is approximately TL 11,3 quadrillion.*

(BRSA November 2002 Progress Report)

Box 3. What are "Duty Losses"?

Duty losses refer to losses incurred by state enterprises on account of a government mandate. For state banks, this mandate is mainly to provide low-interest rate credit to agriculture (Ziraat Bank) and artisans (Halk Bank). For state-enterprises, duty losses usually involve the provision of subsidized inputs (such as fertilizer) and purchases of outputs at above market prices. Duty losses have two components, a primary component and interest on the outstanding stock of duty losses. The outstanding stock of duty losses reflects the fact that, more often than not, duty losses are not paid for within the year that they accrue. As of end-2000, only TL 2.2 quadrillion in duty losses had been securitized.

State banks, then, had to find alternative ways of financing for the duty losses. For much of the 1990s, this financing took the form of foreign exchange and TL deposits at reasonable rates. Reflecting their increasing illiquidity, however, state banks gradually began to pay higher deposit interest rates than private commercial banks, and also to gradually turn to the interbank and repo market.

The size of duty losses is in practice calculated as the amount necessary to make state bank books balance. Thus, when loans become non-performing, this shows up as an increase in duty losses corresponding to the interest that is not being paid on the non-performing loans. In addition, loans explicitly taken over by the Treasury, usually following an amnesty that in turn follows some natural disaster, are part of duty losses. Agricultural Sales Cooperative Loans are an example of the loans that the Treasury has taken over.

To obtain a meaningful breakdown of duty losses, we decomposed the official duty losses into three components: a credit subsidy component (as calculated by the IMF), and interest component (which presumed all unsecuritized duty losses and flow duty losses during the year were financed with three month deposits) and a residual, corresponding to operational losses of state banks and duty losses other than the credit subsidy as well as errors in calculation. The true primary component associated with state bank quasi-fiscal activities is the sum of the first and third item.

While the perception is that duty losses include a large amount of operational losses (inefficiencies and non-performing loans), we found somewhat surprisingly and contrary to the general perception (table 9), that the residual between total duty losses and the sum of the subsidized credit component and the interest component was only large and positive in two years (1999 and 2000). In fact, in earlier years, operational losses appear to be negative. This reflects the fact that Ziraat's deposit interest rates were below average (table 9). The government used Ziraat to make payments on its behalf so that Ziraat received interest free funds (the "float"). This then helped offset operational losses due to Ziraat's inefficiencies.

Local authorities

Local authorities have had negative primary balances, which were small with the exception of a few years (1993:0.6%, 1998:0.4%, and 1999:0.8% of GNP), thanks to sizeable transfers from central government (some 2% of GNP on average, based on IMF data, not shown). These transfers took the form of (1) a share of centrally collected national and provincial taxes and (2) transfers to line agencies. [53] Local authorities have also made transfers to the central government, which have grown from 0.2 to 0.6% of GNP between 1994 and 2001, and have also made small transfers to extra-budgetary funds (data not shown in the table).

The central government has also guaranteed local authorities external debts and larger cities' debt to Iller Bank (which funds municipal investments) and has had to assume a large portion of this debt ($5.8bn between 1992-02).[54] Outstanding external guaranteed debt of municipalities is $1.5bn at end-2002. [55] The guarantees approved yearly for municipalities have fallen sharply and were $44mn in 2002.

Local authorities ability to borrow other than Iller Bank and from international financial institutions, with a state guarantee from the Treasury, is limited by its poor repayment record. Furthermore, since 1993, non-guaranteed foreign borrowing by municipalities has required pre-approval by the Treasury [56] and under the new Law on Regulating Public Finance and Debt management of March 2002 (the "Debt Law"), and its associated regulations, municipalities need to clear their outstanding obligations to the Treasury Guarantee Scheme and present feasibility studies justifying their proposed investments, in order to apply for a guarantee. Spending mandates are being devolved to local authorities, however, which may involve pressure to relax the limits on local authorities to borrow in the new Law.

In water supply and sanitation, the government was able to initate tariff reform, so that revenues now cover recurrent costs.[57]

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[53] World Bank, Turkey Municipal Sector Review (2002). This information is not clearly identified in the Ministry of Finance data. Transfers to line agencies were previously managed by extrabudgetary funds closed in 2002, the most important of which were the Municipal Fund, used to finance infrastructure projects, and the Local Authorities Fund (World Bank, Turkey Municipal Sector Review (2002)).

[54] As a result of not servicing their debt, municipalities accrued a debt to the state (namely to the Treasury Guarantee Scheme), which is mostly not being serviced. Iller bank can obtain debt-service payments in case municipalities default, by withholding transfers from the central government to the municipalities, which are effected through Iller Bank (World Bank, Turkey Municipal Sector Review (2002)).

[55] Public Debt Management Report, February 2004.

[56] Non-guaranteed debts are also an implicit contingent liability to the central government, given that it is likely to be compelled to assume these debts in the case of non-payment in order to preserve Turkey's reputation in international markets, as was the case for Ankara municipality in 1994.

[57] World Bank, PEIR.

Expenditures for bank recapitalization

This section covers payments made to recapitalize both state and SDIF banks, and thereby meet liabilities under deposit insurance [58] and also discusses contingent liabilities in this area for the future. We include recapitalization expenditures in our adjusted primary deficit measure (table 7). When classifying expenditures by area of responsibility, we group these expenditures under bank supervision. The expenditures referred to in this section refer solely to primary expenditures. Interest on the securities issued to cover this primary expenditure is not included.

State Banks

As note in the section on duty losses of state banks, TL 3.5 quadrillion in securities were issued to recapitalize the state banks in 2001. Through this recapitalization, almost all subsidized credits (not commercial credits) were provisioned for. The cost of this recapitalization does not reflect the cost to state banks of high interest payments on their overnight liabilities during the February crisis (recall that duty losses increased by TL7.8 quadrillion in the first 5 months of 2001). These were part of duty losses, and securities were issued to cover these losses separately.[59] We record the TL 3.5 quadrillion recapitalization under banking recapitalization and as the responsibility of banking supervision in table 7.

Looking forward, state banks are not likely to place a further burden on the budget. They are currently very well capitalized, with a capital-adequacy ratio of around 75 percent.[60] This reflects the fact that state banks were encouraged to write off all risky loans and to fully provision for them at the time of the recapitalization exercise. [61] [62] [63] Thus, Ziraat provisioned for an extra TL550 trillion (for agricultural loans, this meant 100% provisioning) and Halk for an extra TL900 trillion.

Furthermore, under the Law for the commercialization of state banks, state banks are supposed to operate like commercial banks.[64] The by-laws of state banks were

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[58] The term is used loosely here, as deposit insurance is in fact a liability of the SDIF. However, under the general guarantee issued after the November crisis, these liabilities are in fact the Treasury's liabilities.

[59] It is not quite clear how the IMF accounts for this TL7.8 quadrillion, i.e. what part is included in the primary deficit and in interest payments.

[60] Note that because government securities carry a zero risk weight (i.e. these assets are effectively not counted as part of assets) and because the loan portfolio has shrunk following the provisioning exercise, the capital-weighted asset ratio tends to underestimate risk, and in fact involves only little capital (approximately TL4 quadrillion).

[61] This reflected the fact that the aim of the recapitalization was to bring state banks in a situation where further recapitalization operations would not have to occur.

[62] Another reason for high recapitalization costs is that state banks had booked accounting losses through the first 4 months of 2001 by not recording accrued interest on CPI-indexed bonds in their books. The subsequent injection did not take into account this accrued interest.

[63] Recently there was concern in the press about $1.5bn in state bank loans to farmers, which were being restructured. This did not create a loss for state banks, as these loans were already 100% provisioned for.

[64] Nevertheless, Ziraat Bank and Halk Bank were required to extend an additional loan of at least TL1.5 quadrillion TL from their own resources to the agricultural sector, tradesmen and artisans, small and medium sized enterprises and exporters. These loans were to be extended in accordance with prudent banking procedures. (See Act No: 4743 published on January 31, 2002 regulations on state banks)

changed so that they could no longer give credits at rates lower than their cost of funding, in the absence of an explicit allocation in the budget.

Following the provisioning exercise, stated non-performing loans of state banks rose to TL 3.7 quadrillion [65] in September 2002 from TL 1 quadrillion at end-2000, while provisions for non-performing loans increased to TL 3 quadrillion in September 2002 from TL 0.3 quadrillion at end-2000.[66] [67]

Having written off much of their risky loans, state banks assets now consist mainly of floating rate government paper, with interest paid quarterly in cash. Together with the fact that state banks no longer borrow in the overnight market,[68] this means that state banks are now largely insulated from market risk. It also means, given that FRNs each quarter pay treasury rates plus 1 percent, that state banks are profitable. Their operational restructuring, involving a sharp reduction in the number of branches and employees by about half, has also contributed to their profitability. [69]

Could losses on account of agricultural loans resume in the future? While subsidized credit is no longer an option (unless there is a budgetary allocation), there is no reason to expect that new loans will not in due course also become non-performing. [70] However, the privatization of state banks is envisaged for the near future, under the Law on the Commercialization of State Banks.[71] It seems safe to conclude that state banks are no longer an important source of contingent liability to the budget.

SDIF banks

The bank-take over process that started in 1997 (see table 8), culminated in the issuance by the treasury of securities (a loan to the SDIF) of some $5bn in 2000, $11.9bn in 2001, and $1.8bn in 2002, for a total of $18.5bn.[72] Some $1.5bn in securities were paid back by the SDIF, so net issuance over the period was $17.1bn. These expenditures were recorded below the line in the fiscal accounts.

Over half of these securities were foreign exchange denominated, so as to close SDIF banks' open positions. The securities were mainly used to redeem deposits. Bad assets in the SDIF banks were taken over by an asset management company, bringing

[65] The loss due to the merger with Emlak Bankası, amounting to TL 1.9 quadrillion is included in this amount. TL 1.4 quadrillion was set aside to provision against this amount (BRSA Progress Report, November 2002). The remainder still needs to be provisioned for.
[66] BRSA Progress Report, November 2002.
[67] Reportedly, an amnesty was promised by all parties before the elections, and even good loans became non-performing.
[68] They are prohibited from doing so. Their initial large overnight borrowing was eliminated by selling part of the T-bills given by the Treasury to the CBT and using the proceeds to pay off state banks overnight liabilities.

[69] Corrected for inflation, profits of Ziraat and Halk were TL0.8 quadrillion in 2002 (BRSA Progress Report, April 2003).
[70] ASCU loans are the most problematic. Individual farmers and agricultural credit cooperatives have a good record of repayment (World Bank 2000 CEM), but this is reportedly because a good payment record ensures disbursement of larger loans in the future.
[71] The law envisaged privatization in 3 years, by November 2003, but with a possible extension of 18 months, by decree. It appears that Halk may be privatized by November 2003, but that Ziraat won't be privatized before 2004.
[72] The securities included both FRNs and FX-linked and denominated instruments.

capital in the banks to about zero, after which most of the banks in the SDIF portfolio were sold.

Table 10. Number of Banks Taken Over by the SDIF

	1997	1998	1999	2000	2001	2002	Total
Number of banks taken over	1	1	6	3	8	1	20

Source: Binay, Policy Issues and Lessons for Crisis Managements and Resolution in Turkey.

Six banks were taken over in December 1999, as prior actions for the new IMF program (table 10). An additional 2 banks were taken over in October 2000, and Demirbank was taken over after the November crisis. Within a few months of the devaluation, an additional 2 banks were taken over, followed by 6 more banks in the summer of 2001. Finally, a medium-sized bank (Pamukbank), with a $3.6bn loss on the date of take-over, was taken over in June 2002. All these banks, with the exception of Pamukbank and Bayindirbank, a transition bank, have been liquidated, merged, or sold.

The overall cost of bank restructuring was $21.7 bn (table 11), $17.1 bn of which borne by the Treasury by way of loans to the SDIF and $4.6bn of which borne by the SDIF.

The crisis contributed very much to the ultimate cost of recapitalization of banks, both by increasing the losses of banks under the fund already before the November crisis, which had large interest-sensitive short-term liabilities, and by increasing the number of banks under the fund (some 10 banks were taken over after the November crisis). Before the November crisis, the estimated cost of bank recapitalization was $5bn, as measured by the losses of SDIF banks, certified by the BRSA. By end-April 2001 the estimated cost had grown to an estimated $13.5 bn. The final cost, as noted, was $21.7bn.

An estimate of the cost of the crises to the SDIF is then the difference between this final cost and the initial estimated cost, or some $16.7bn.[73] Part of the reason the crisis was so costly was that SDIF banks were, like state banks, operating by borrowing large amounts overnight. If their liquidity problems had been resolved before the November crisis, the crises and their aftermaths would have been less costly.

[73] To the extent that capital was greater than zero before the crises, the losses were larger; but any such loss of capital affected shareholders of the banks, not the SDIF, which is only responsible for bringing capital to the zero mark. Similarly, in the absence of any collections of receivables from majority shareholders (approximately $1.3bn), the cost to the treasury of bank restructuring and our estimate of the cost of the crises, would have been higher.

Table 11. Resolution Cost of the SDIF Banks (USD Million)

Resources provided by the public sector (a-b)	**17.082**
a. Government Securities issued by the Treasury for the SDIF	18.547
b. Government Securities returned by the SDIF	1.465
Resources provided by the private sector (c+d)	**4.653**
c. Deposits made from the SDIF's own resources (*)	2.457
d. Capital support provided from the SDIF's own resources (*)	2.196
Total	**21.735**

Source: BRSA April 2003 Progress Report.
(*)An important part of the SDIF's income comes from insurance premiums collected from banks. The SDIF also generates income from fees, collections, bank sales and prescriptive deposits.

The losses of SDIF banks as of the date of their take-over was some $17.3 bn, of which receivables from majority shareholders (loans from their own banks and other Fund banks) amounted to $11bn, including accrued interest (table 13).[74] Table 13 provides details for the SDIF banks.

When NPL in SDIF banks were made, and which sector benefited, is as yet not known precisely, though data may become available on this subsequent to the sale of the non-performing assets in mid-2003. When this data becomes available, it may be possible to trace the cost of bank recapitalization in 2000-01 to the original dates that the bad loans were made, to provide a better sense of how government liabilities in fact increased over time.

As with state banks, an important portion of the resources provided by the Treasury were used for liquidation of short-term liabilities. The starred items in table 12 refer to the transfer or redemption at the SDIF banks of deposits.

Table 12: Special Issue Bonds Issued by the Treasury

	TL Trillion	USD Million
Transferred through banks sold*	2.259	1.387
Transferred due to the transfer of F/X liabilities* 1/	3.930	2.412
Transferred through deposit tenders*	4.897	3.006
Reimbursed to the Treasury	994	610
Redeemed before maturity*2/	6.466	3.969
Remained in the Fund Banks	3.294	2.022
Transferred for liquidation of short-term liabilities*	5.608	3.442
Redeemed at maturity*2/	40	25
TOTAL	**27.489**	**16.873**

Source: BRSA November 2002 Progress Report.
Note: bonds issued by the treasury do not correspond to those in Table 11 because Table 11 was obtained from the April 2003 BRSA report. The data in Table 12 were not available in the April 2003 report.
1/ FX deposits were transferred to Ziraat.
2/ Deposits were redeemed with these funds.

[74] BRSA April 2003 Progress Report. Accrued interest accounts for about half this figure.

Table 13: Takeover-Losses of the SDIF Banks and Funds used by the Majority Shareholders (*)

(USD Million)		Receivables from Majority Shareholders[1]		
BANK	Take-Over Loss	Funds used from Own Banks	Funds Used from other SDIF Banks [2]	Total
Banks taken over in accordance with Act Nr. 3182				
T.Ticaret B.[3]	777	56	0	56
BankEkspres[4]	435	311	111	422
Interbank	1.269	1.170	270	1.759
Banks taken over in accordance with Article 14/3 of the Act Nr. 4389				
Yasarbank [5]	1.149	103	41	144
Demirbank	648	58	52	110
Ulusal Bank	524	0	0	0
Tarisbank	74	0	0	0
Sitebank	53	7	0	7
Banks taken over in accordance with Article 14/3-4 of the Act Nr. 4389				
Egebank[4]	1.220	344	154	498
Yurtbank[4]	656	822	200	1.022
Esbank	1.113	478	192	657
Sumerbank[4]	470	293	66	359
Etibank	698	588	254	842
Bank Kapital	393	250	155	437
Iktisat Bankasi	1.954	879	43	922
Bayındırbank	116	95	66	161
EGS Bank	545	299	1	300
Kentbank[4]	681	251	36	287
Toprakbank	880	485	61	546
Pamukbank[6]	3.618	2.627	212	2.839
TOTAL	**17.273**	**9.116**	**1.914**	**11.030**

Source: BRSA Progress Report, April 2003.

Note: Data on majority shareholders given herein differs from those provided in the previous Progress Report. This arises from the fact that assessment results after the banks taken over by the SDIF differ from the data as of take-over date. Obviously, the data may change as lawsuits are finalized over time. Back to back loans extended by banks to majority shareholders of other banks are included in majority shareholder debt in the table. In-kind exposures are also included in the funds used by majority shareholders.

1. Execution-bankruptcy and personal responsibility proceedings are carried out in accordance with the Acts Nr. 6183 and Nr. 2004.

2. Funds used from other SDIF banks are taken into account as of the date of Notification Letter.

3. For some receivables, amounts recorded in the Liquidation Desk's files as of March 31, 2002 are taken into account.

4. Funds used by majority shareholders from their own banks are taken into account as of the date of Notification Letter.

5. The outstanding balance in the protocol signed on December 31, 2001 is taken into account for funds used by majority shareholders from their own banks and from other SDIF banks.

6. Figures set forth in the Agreement signed between Cukurova Group and the BRSA-SDIF on January 31, 2003 are taken into account.

Looking forward, given that the injection of Treasury paper was large and immunized Fund banks to market risks (being a combination of FRNs and FX-indexed and denominated paper; over half of the securities were in $ or euro), additional injections are unlikely.

To the contrary, to the extent that the SDIF is successful in selling SDIF bank assets and recovering funds from the SDIF bank majority shareholders, it will be able to pay back part of its debt to the Treasury. As noted, it has already repaid $1.5bn in securities. (the current SDIF debt to the Treasury is nevertheless $22.4bn, or somewhat more than the original amount of treasury securities issued ($21.7bn) reflecting interest accruals and foreign exchange differences which the SDIF owes on the original securities).

Some $1.2 billion in collections was realized from the receivables under follow-up. In addition to these mostly cash collections, repayment agreements, which spread payments in time, of the Fund receivables, amounting to $4bn, $140mn of which was collected as of the same date, were made. (BRSA April 2003 progress report)

In addition to the recovery process for non-performing loans, subsidiary sales have generated $220mn and sales of immovables $120mn (at sales prices well above the book value) (BRSA April 2003 Progress Report).

It is hard to gage how much additional collections will be. While the Law places the SDIF in a strong position, the process is being held up in the courts and the SDIF is bypassing the legal process by signing protocols in the belief that this is the most beneficial process. The SDIF has filed 7 "reimbursement and indemnification" suits under Article 14/4 of the Banks' Act against majority shareholders, accused to have misused their bank's resources for their own interests. The SDIF has also filed 73 lawsuits against majority shareholders for all receivables from majority shareholders under Law Nr.6183 (Procedures for Recovery of Public Receivables). The Banks Act provides for the personal liability of bank owners in case of bankruptcy, that is, there is unlimited liability of bank owners for their banks losses.[75] However, in practice it seems that bank owners' personal assets may not be seized. Because of delays and difficulties with the legal process, the SDIF has increasingly resorted to protocols, which schedule payments to the SDIF over time, with majority shareholders, as in the case of Pamukbank.

The SDIF has also filed 72 lawsuits against the ex-managers of the banks transferred to the SDIF, pursuant to article 17 of the Banks Act. Under the law, ex-managers are personally liable for losses incurred by the banks. In addition, Fund bank themselves, with the assistance of the Collection Department,[76] are suing for the collateral of the receivables, which is reportedly a multiple of the loan amount. However, freeing of collateral requires a complex legal procedure, which can take years.

The $4.4bn loss of SDIF banks after their take-over (the $21.7bn total cost, minus the $17.3bn take-over balance sheet) owing to their paying higher interest than the market

[75]According to the Banks Act the SDIF has to sue for losses on the take-over balance sheet, including accrued interest, using the Law 6183, and has the option to sue under the Execution and Bankruptcy law, for personal assets of majority shareholders.

[76]The banks themselves file loan lawsuits and the legal procedures for the transferred files are carried out by the Collection Department of the SDIF (BRSA Progress Report, November 2002).

and to the effect of the crisis through open foreign exchange positions and NPL, are not a claim and will never be recovered.

Overall, the sense is that the recovery rate will at most be 40-50%, a figure corresponding to the recovery rate in Korea, which had the highest recovery rate among countries with banking crises in recent years, reflecting the liquidity crisis nature of its banking crisis. Using more realistic figures, if the share of the take-over balance sheet which is recovered is 20-30%, an additional $1.6bn-$2.9bn in revenues will be transferred back to the treasury. The amount of collections will depend on how the legal wrangle over the amount of accrued interest for which bank owners are liable is resolved. Bank owners claim that interest on their non-performing loans accrued at unrealistic rates.

Contingent liabilities in the remainder of the private banking sector

With much of market risks having been transferred to the Treasury now that securities are either (1) auction linked or (2) foreign exchange linked, deposit insurance is a contingent liability whose probability of being triggered has been reduced. With the contribution of the debt swap in June 2001, open foreign exchange positions in the balance sheets were closed. The counterpart of this "Brazilization" of Turkish debt is of course that the Treasury itself is carrying the risks. Banks are also very liquid, so that liquidity risk is sharply reduced.[77] Credit risk has become more transparent after the audits of May 2002, which resulted in capital injections by owners. On the other hands, the discovery in mid-2003 of large-scale, successfully conceiled actions by Imarbank, [78] cast doubt on the transparency and supervision of the system, and raised the question of whether more lemon banks remain.

It should be noted, too, that for banks involved in the Istanbul approach (the joint restructuring of commercial loans by all its creditors), capital is lower than it appears, as provisions for non-performing loans were released, increasing measured capital, yet not all of the restructured loans will become performing.

[77]The counterpart of this is that banks are less profitable. Holding securities and financing them at the CBT would profitable, with funding costs below T-bill rates.

[78] Imarbank (i) vastly understated its deposits (a true total of US$5.5 billion in contrast to the balance sheet figure of US$550 million); (ii) paid only a fraction of its with-holding tax obligations; and (iii) sold some US$500 million in T-bills that it had never owned and was not licensed to sell (World Bank).

Debt-generating process: Macro-economic processes

In this section, we scale nominal debt by GNP, so as to obtain the debt-to-GNP ratio, which is the variable of ultimate interest. We then disaggregate the change in nominal debt to GNP into its meaningful analytical components. [79]

The standard formula bringing together these effects is

change in debt of the public sector = adjusted primary deficit
+ real interest payments
+ revaluation effect [80]
- seignorage
- growth effect
- privatization revenues

The primary deficit is the IMF primary deficit, with the 4 adjustments as discussed above (one-off expenditures, in-kind foreign financing, taxes on interest on government bonds, and operational losses of state banks). The IMF primary deficit in turn corresponds to the official primary deficit, with a few adjustments—it excludes interest receipts and profit transfers from the CBT and privatization revenues, and includes the credit subsidy component of state bank duty losses.

Real interest payments are obtained by deducting the GNP deflator multiplied by the previous year's debt/GNP ratio from total interest payments (see box 4). It should be noted that total interest payment are not easy to calculate, as they are not reported as part of the Treasury or SPO accounts. The Treasury provides the IMF data on this separately.[81] We used published IMF data on interest payments in our calculations (table 14).

After calculating the monetary correction, we make two adjustments to obtain adjusted real interest payments: we deduct taxes on interest on government bonds and operational losses of state banks in 1999 (table 14).

[79] This section is patterned on the work of the World Bank in Country Economic Memorandum, 2000, which provides a breakdown of debt accumulation into primary deficit, real interest payments, seignorage and a residual, which includes valuation effects. Here we go beyond this work by explicitly estimating valuation effects on foreign exchange denominated debt.
[80] Revaluation effect on external debt due to real exchange rate movements.
[81] Net interest payments are the sum of interest payments by the central government (on cash and non-cash debt), EBF, revolving funds, SEE, local authorities, interest on the stock of unpaid duty losses, all net of their interest receipts on deposits and net of central bank profits.

Box 4. Monetary Correction and Operational Balance

Calculating real interest payments is not a trivial exercise. Two methods exist in the literature (see Atiyas, et.al., 1999). The first is to estimate an average real interest rate based on auction data and apply it to the previous year's lira-denominated debt. The second is to calculate real interest payments as nominal interest payments minus a monetary correction. This last method is followed by the IMF. We also follow this method here.

The monetary correction in turn is calculated here as the previous year's lira-denominated debt multiplied by the December-over-December rate of GNP deflator. Our results differ somewhat from the IMF. It should be noted, however, that the monetary correction is not a source of residual, as the way in which we calculate real interest payments exactly corresponds to the way in which real interest payments enter into our equation for stock-flow consistency (see appendix). This can be easily checked by comparing the residuals from the nominal stock-flow exercise (where interest appears in nominal terms as part of the overall PSBR) and the change in GNP stock-flow exercise (where interest appears as real interest as a percent of GNP). The residuals are identical indicating that the monetary correction is not introducing any residual.

Valuation effects are calculated as described under "Conceptual and Data Issues" (box 2) except that the percent change in the exchange rate minus inflation is used in calculating the effect on debt expressed in US dollars rather than the nominal exchange rate (see Appendix, equation 5''). [82] Cross-exchange rate effects are calculated as before (box 2).

Seignorage is calculated as the change in high-powered money (using the IMF definition of seignorage as currency in circulation plus required bank reserves on TL deposits) over the previous year's GNP.

The growth effect is real GNP growth (scaled by 1 plus real GNP growth) multiplied by the previous year's GNP.

All variables are scaled by this year's GNP. The appendix provides the derivation of the equation above (equation 5' in the appendix), and shows how the concepts in the equation fit with the Turkish data.

Using this approach, debt accumulation since 1990 can be broken down as in table 15. Some points of interest, before delving into the details:

Total net debt increased by some 48% of GDP over the period, from 28.8% in 1990 to 79.9% in 2002. The years 1994, 1999 and 2001 stand out for large increases in debt, with increases of 19.2% of GNP, 16.5%, and 33.5% respectively.

Seignorage, Growth Effect, and Valuation Effect

Seignorage generated revenues of 20% of GNP over the period, helping to keep net debt down substantially as has also been noted elsewhere (table 15).[83] Growth also contributed significantly to keeping the debt/GNP ratio down overall, with a total growth effect of 15% of GNP (table 15). The effect of the many shocks to growth over the decade—the 1994 crisis, the 1999 recession in the aftermath of the Russian crisis, etc.— show clearly in the table above. Its most significant effects were during 2001 (it contributed 6.2% of GNP of the increase in debt) and 2002 (it contributed 5.6% of GNP to the decline in debt). The effect of the exchange rate relative to inflation on debt helped reduce debt slightly on balance. It also caused very large swings in the debt/GNP ratio around the years of crisis (1994-95; 2001-02). Thus, the impact of growth and valuation effects contributed to the shocking rise of debt in 2001, but as their impact was quickly reversed, the effect on debt was also unwound.

Here it is worthwhile to offer a comment. Faced with the recent boom in debt, commentators have suggested that it would have been preferable to monetize deficits or debt and thereby prevent its rapid accumulation. Revenues that can be obtained from seignorage are very limited in the Turkish case. This is because of the very low monetary base as a percent of GNP. Measured as the sum of currency and required reserves, the monetary base was 5.4% of GNP in 1990 and 3% of GNP in 2002. Seignorage revenues can only reach this amount at infinite inflation and if the real

[82] Depending on whether there is real depreciation or appreciation, the sign of this component may be positive or negative.
[83] IMF, RED, Inflation as a Fiscal Problem (1999). The figure refers to the sum of seignorage as a percent of GNP from 1991-02.

monetary base does not decline in response to higher inflation.[84] (actual seignorage revenues were 1.8% in 1991 and 0.9% of GNP in 2002, see Table 15). With a reduction in real money demand in response to higher inflation (given that higher inflation will translate into higher nominal interest rates), seignorage revenues would be smaller than this. How much smaller depends on the semi-elasticity of money demand vis a vis interest rates. This semi-elasticity for Turkey has been estimated at around -0.2-0.3—that is a one point change in interest rates has been estimated to cause a 0.2-0.3% decline in money demand (Metin, 1999; Civcir, 2003).

Let us now consider the effect on seignorage revenues of an increase in inflation of 100% compared to baseline. Assuming a constant semi-elasticity of money demand and assuming that interest rates rise one for one with inflation, inflation of 100% above the baseline will cause a decline in money demand of 20-30%. In 2002, for example, using the mid-point of this range (25%), this means that the monetary base would have been about 2.4% rather than the observed value of 3% of GNP, which would by itself have led to a reduction in seignorage revenues of 0.6% of GNP.[85] This reduction in real money demand needs to be compared with the increase nominal money demand resulting from higher prices. In 2002 for example, with inflation 100% higher, the rate of nominal GNP would have been 163% [86] instead of 56%. This would have translated into an inflation tax rate of 0.62 [87] instead of 0.36 [88] and thus a reduction in revenues on account of the increase in inflation tax of 26% (0.62-0.36). This would have just about offset the reduction in seignorage calculated earlier, for a very small net increase in seignorage. This exercise suggests that inflation of 100% over baseline would make almost no difference to seignorage revenues and therefore to debt dynamics.

Primary Deficits, One-off Expenditures and Real Interest Payments

As noted under "Debt-generating Mechanism: Budgeted and Non-budgeted activities," the primary deficit of the public sector including one-off expenditures and taking into account in-kind foreign financing, taxes on interest on government bonds, and operational inefficiencies of state banks, was some 2.7% of GNP, compared to the IMF measure of primary deficits of 0.4% of GNP on average. If one believes that one-off expenditures should not be counted as part of the primary deficit, but makes the other adjustments (in-kind foreign financing, taxes on interest on government bonds, and operational inefficiencies of state banks), the primary deficit was 1.7 percent, compared to the 0.4% calculated by the IMF.

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[84] This follows from the decomposition of seignorage=$\Delta M/GNP=\Delta m+n/(1+n)\ m_{-1}$, where M is the monetary base, m is M/GNP, and n is the nominal growth rate. With infinite inflation n/(1+n) approaches 1, and if $\Delta m=0$, then $\Delta M/GNP=m_{-1}$

[85] 2.4=3/1.25. To be precise, the 25% reduction would have to be applied to the previous year monetary base rather than the current year as done here.

[86] Calculated as (1+g)(1+pi)-1 or (1+0.067)(1+.46+1) where 0.067 is the real growth in 2002 and 0.46 the original rate of inflation measured by the GNP deflator.

[87] The tax rate can be calculated as the rate of growth of nominal GNP divided by 1+ the rate of growth of nominal GNP—see e.g. the textbook of Sachs and Larrain, 1993). The figure 0.62 is obtained from 1.63/2.63, where 1.63 corresponds to GNP growth of 163%.

[88] The figure 0.36 equals 0.56/1.56 where 0.56 corresponds to GNP growth of 56%.

Real interest payments according to the IMF concept, which does not exclude from interest payments taxes on interest on government bonds and operational losses of state banks, were some 6.2% of GNP on average for the period. With the adjustments we make for interest on government bonds and operational losses of state banks, real interest payments were some 5.4% of GNP, or still very high. Adjusted real interest payments increased sharply from 1996 onwards. These payments were 3.3% of GNP during 1991-95 and 6.8% during 1996-02. Real interest payments are thus a main driver for the increase in public debt, pointing to the role of political and macro-economic uncertainty in debt dynamics. In fact, high real interest rates were the main motivation for switching to foreign debt under the 2000 IMF program.

A caveat to the finding of the dominant role of real interest payments should be noted at this stage. It should be noted that if there had not been primary deficits and the SEE and SSI level, debt would not have been roughly stable during the period (see simulation results in the above table 15). In addition to the effects of the primary balance itself on debt accumulation, this reflects the fact that real interest payments would have been commensurately lower, given that initial debt levels would have been lower. We can make an analogy with a snowball, which gets larger over time reflecting accumulated interest. In the absence of the original sin having to do with large deficits at SEE level in the early 1990s and if budgetary resources had not been sapped by SSI deficits, debt would in fact have remained stable.

What do we need to monitor?

Because the origin of most of the debt accumulation over the last decade lies in areas outside the budget, these are the areas that need most scrutiny going forward. Considerable progress has been made in the last few years, limiting sources of unbudgeted spending and contingent liabilities. The areas that need the most monitoring going forward are SEEs and guarantees under the BOT schemes.

- State banks have a sharply diminished role as sources of debt-creation since the outstanding stock of duty losses was securitized (the banks' capital adequacy ratio is now some 70 percent) and the annulment of a number of regulations (around 100 Council of Ministers' Decrees and/or Laws) allowing subsidized lending through state banks (creating duty losses). Since 2000, the budget includes an explicit (small) appropriation for the cost of credit subsidies extended by public banks.

- All but 1 of the budgetary and 5 of the extrabudgetary funds have been closed and their revenues are recorded under the budget.

- There are still some 3,000 revolving funds and agencies with special accounts, mainly concentrated in the health and education sectors, conducting off-budget operations amounting to more than 1 percent of GNP, but these have not been a source of deficit.

- Social security institutions' deficits initially fell after the social security reform of 1999, but are again on the rise, on account of health expenditures, and need to be followed.

- Local governments are not a source of large deficits as their borrowing capacity is limited both because of lack access to private financing and because of limits placed on their borrowing by the new "Debt Law." The flow of new treasury-guaranteed debt has been very low. The stock of Treasury-guaranteed debt outstanding is $1.5bn (at end-2002).

- Private banks also have a sharply diminished role since the take-over of banks by the SDIF and the recapitalization of a certain number of private banks, as well as owing to improved regulation and supervision and transparency in reporting (creating self-regulation). The Treasury is now taking on most of the market risk, as a large fraction of its debt is indexed to interest rates and the exchange rate. Thus losses owing to connected lending and large risky positions should be minimized going forward, though it should be noted that under the Istanbul Approach, loans have been rescheduled and provisions for non-performing loans freed up, so that capital-adequacy ratios may be misleadingly high. There may be additional problems hidden in bank balance sheets, as illustrated by the Imarbank case.

- Under the law, the SDIF can potentially recover several billion dollars from majority shareholders, but whether they will actually succeed in this is not

certain. More clarity and scrutiny in this area would probably contribute to a better outcome.

- SEEs, continue to be a source of direct and contingent liability to the Treasury. Currently, hard coal, railways, and the electricity distribution and generation companies are loss-making. Coal and railways can be expected to be permanently loss-making. Some traditionally loss-making enterprises have become profitable in recent years, reflecting administrative price increase and reform in the agricultural subsidy schemes. The continued profitability of the SEE sector, and of the electricity distribution company in particular, depends on maintaining their sales prices in real terms.

- The main contingent liability on the budget stems from long-term guarantees on BOT contracts in electricity and other infrastructure sectors. To date, 18 BOT projects have received Treasury guarantees. Trigger prices under the contracts are high, and the contracts also include take-or-pay clauses, which given the current oversupply of electricity, imply large likely costs to the electricity companies, and ultimately to the Treasury.

- Financial relations between SEEs and the Treasury are murky, with state bank losses being paid for through a number of transfers and offsets, most notably through the payment of the SEEs guaranteed debts by the Treasury ($3.4bn in external debts of SEEs are guaranteed by the Treasury) and offsets/arrears in social security contributions and taxes.

- Given the potential losses from BOT contracts and untransparent reporting and financing of losses in the energy sector, care is necessary to ensure that the energy sector does not become the next “state bank”.

Reporting requirements of the government

Data requirements fall in 4 rubrics:

(1) data necessary to calculate a comprehensive PSBR and primary balance of the public sector
(2) data necessary to monitor contingent liabilities and their cost to the budget
(3) data on intra-governmental transactions
(4) data necessary to calculate net debt of the public sector

(1) comprehensive PSBR and primary balance of the public sector

It is impossible based on publicly available data to derive the IMF measure of the *PSBR*. **Interest payments on non-cash debt**, **unpaid duty losses at state banks, and profits of the central bank** are the main adjustments which the IMF makes to the SPO data, but which are not provided by the Turkish authorities. [89] The IMF provides some information on these but only for 1994-1999. [90] Even for these years, possibly because of data revisions, IMF PSBR cannot be replicated from the SPO data.

To derive the components of the *primary balance* of the public sector, disaggregated data are required on interest payments and receipts of the public sector. The SPO publishes interest payments for the consolidated government level and for the public sector. However, data are not reported in any more disaggregated fashion, i.e. interest payments and receipts of state enterprises, local governments, and EBF are not reported separately, making it impossible to derive the primary balance at these levels of government.

A historical series on in-kind foreign financing is needed in order to improve the estimate of the PSBR.

(2) contingent and other liabilities

Payments for contingent liabilities as the result of a called guarantee are now reported by the Treasury. Information on loan guarantees is publicly available since late 1999. [91] Some information on the guarantees for BOT contracts has recently been made

[89] Data are available on privatization revenues from SPO, though it should be noted that the data reported in several tables do not accord with eachother. Similarly, the SPO data on the consolidated budget deficit provided in several places do not always accord with eachother or with the Treasury and Ministry of Finance figures.

[90] IMF 2000 Statistical Appendix. 2001 poses a particular problem, because of the large payments for accrued duty losses and recapitalization of state and SDIF banks. Interest on outstanding duty losses was some TL7.8 quadrillion, but it is not clear how much of this was recorded by the IMF above the line as interest.

[91] New guaranteed debts and payments undertaken for guarantees can be found on
http://www.treasury.gov.tr/english/kaf/TreGuaCommByBorrower(Detail)(5).htm
http://www.treasury.gov.tr/english/kaf/payments_160402.htm

available on the Treasury website. The information covers 16 projects and provides information on the nature and size of the project and the nature of the guarantee. It lacks however any **quantification** of the potential cost of the BOT contracts. In addition to this quantification, existing losses should also be clearly identified in state enterprise accounts.

For social security, it would be helpful if projected social security balances and **actuarial assumptions** underlying the projections could be published.

Twelve enterprises are monitored monthly under the IMF program, but the data is not publicly available. Details on losses in the energy sector are necessary, and the accounts to be made public need to clearly identify unpaid energy bills, so that true losses in the sector can be gaged.

(3) intra-governmental transactions and stock-flow consistency

Data on explicit tranfers from the budget to other administrative sectors is available from Ministry of Finance and Treasury published data, but the data do not match those of the IMF. Furthermore, data is not publicly available on **transfers to the budget by local governments, EBF, and revolving funds**, or, where available from the Ministry of Finance, they do not match those of the IMF. Also, data is not publicly available on **transfers between funds and local governments and among funds**.

Alternative means, other than explicit transfers, with which the central government finances other levels of government need to be clarified. This includes transfers through extrabudgetary funds to local governments, payments of guaranteed foreign debt by the Treasury on behalf of other levels of government (with a clarification of which part is covered under capital transfers above the line, and which part is recorded below the line), issuance of non-cash debt (only a fraction of which was recorded above the line under official duty losses) and offsetting of tax-liabilities and other offsets involving the social security institutions and state enterprises.[92]

This data will help reconcile stocks (debt) and flows (deficits). Currently there are large gaps between accumulated deficits and debt, pointing to hidden deficits in some years.

This information is also useful for the calculation of general government revenues and expenditures.

(4) net debt of the public sector

Most of the data required to calculate net debt of the public sector are publicly available from the Treasury or central bank website (central bank balance sheet and monetary survey), notably foreign debt of the central government and rest of the

[92] Some of the data is available from the IMF but not official sources, e.g. data on various categories of extra-budgetary transfers throughout the period and data on payments for guaranteed debt in the early 1990s.

public sector,[93] domestic debt of the central government and of the rest of the public sector, net foreign assets of the central bank, free reserves in TL, and deposits of the central government and rest of the public sector in the banking system. Data reported by the IMF and Treasury on deposits of central government and the rest of the public sector differ (and Treasury data for central government deposits differ from those reported in the Monetary Survey as well). For 2000, data on domestic debt of the central government reported in the net debt calculations differs from the IMF (and other Treasury data) as well. Data on domestic debt of the rest of the public sector is reported differently by the IMF and Treasury as well.

Not (easily) available are **net CBT claims on the central government**,[94] **gross CBT claims on banks, liabilities (mostly deposits) of the CBT to other public sector institutions**. The IMF publishes this information when it reports the CBT balance sheet, with the exception of free reserves in FX.

[93] Foreign debt of the rest of the public sector seems to be available to the IMF earlier than to the public.
[94] Net claims on the public sector are available from the CBT balance sheet.

Appendix. Debt Accounting and Debt Sustainability in Turkey: Methodology

Following Agenor and Montiel (1999; pp. 137-140 [95]), the change in debt of the public sector, *excluding* the central bank can be written as:

$$(1) \qquad \Delta L + \Delta B + \bar{E}\Delta F = PD + iB + i^*EF + (iL-PT)$$

Where L is net central bank claims on the government, B is the stock of domestic-currency-denominated interest-bearing public debt, F is the stock of foreign-currency-denominated interest-bearing public debt, PD is the nominal primary deficit, i the domestic interest rate (assumed without loss of generality to be equal for central bank claims on the government and private debt), i* the foreign interest rate, PT profit transfers by the central bank to the government, $\bar{E}$ is the nominal exchange rate at which new debt ΔF is contracted, and P the domestic price level. If foreign debt is contracted smoothly during the year, which we assume (assumption 1) $\bar{E}\Delta F$ is approximately equal to $(E+\Delta E/2)\Delta F$. All the stock variables refer to the previous year's end-period. The constraint shows how deficits lead to an accumulation of debt f the government with the central bank, or in private domestic and foreign debt. Implicitly, we assume that interest is paid within the year on the outstanding stock of debt the previous period (assumption 2).

To make the correspondence with net debt of the public sector, two adjustments are necessary. First, revaluation of foreign debt needs to be taken into account (i.e. the effect of changes in the exchange rate on debt expressed in domestic currency) to get to the total change in foreign debt ΔEF. Since $\Delta EF = E\Delta F+F\Delta E+\Delta F\Delta E = \bar{E}\Delta F+F\Delta E+\Delta F\Delta E/2$, this involves adding the term $(F\Delta E+\Delta F\Delta E/2)$ on both sides of equation (1). For simplicity of exposition we assume that $\Delta F\Delta E/2 =0$ (assumption 3). Second, net worth of the central bank needs to be taken into account, to come up with a measure of net debt. This is easily done by deducting from both sides the change in net worth of the central bank $\Delta\Omega$ (where Ω is net worth). Note that $\Delta\Omega$ is also equal to its retained profits.

$$(2) \qquad \Delta L + \Delta B + \Delta EF - \Delta\Omega = PD + iB + i^*EF + (iL-PT) + F\Delta E - \Delta\Omega$$

The change in net assets of the central bank can be decomposed as:

$$(3) \quad \Delta\Omega = \Delta L + \Delta C + \Delta ER - \Delta M$$

An alternative decomposition for the change in net assets, which equals retained profits, assuming the central bank has no operational costs, is:

$$(3') \quad \Delta\Omega = iL + iC + i^*ER + R\Delta E - PT$$

Equation (3) is a rearrangement of central bank balance sheet items $(L+C+ER=M+\Omega)$, where M is high-powered money, C is net claims on banks including open market

[95] See Agenor, Pierre-Richard and Peter J. Montiel, Development Macroeconomics, Second Edition (Princeton: Princeton University Press, 1999).

operations, R is net foreign exchange reserves, and as before L is claims on the government and Ω is net worth of the central bank. Equation (4) is a decomposition of central bank profits into interest on net claims on the government, net claims on the banking sector, and net foreign reserves, plus revaluation of foreign exchange reserves, minus profit transfers to the government. This corresponds to the way the central bank reports profits, excepting that reported profits do not include revaluation RΔE, whereas our definition of profits ΔΩ does include revaluation RΔE.

Substituting for ΔΩ on the left hand side of (2) using equation (3), we find:

$$(4)\ \Delta L + \Delta B + E\Delta F + F\Delta E - (\Delta L + \Delta C + \Delta ER - \Delta M) = PD + iB + i^*EF + (iL - PT) + F\Delta E - \Delta\Omega$$

Rearranging, and adding and substracting valuation on central bank foreign exchange reserves RΔE, which is not part of reported profits of the central bank, we obtain:

$$\mathbf{(5)\ (\Delta B + \Delta EF) - (\Delta C + \Delta ER) = PD - \Delta M + [i(B+L) + i^*EF - (\Delta\Omega + PT - R\Delta E)] + (F-R)\Delta E}$$

The equation is now set up in line with data availability. The left hand side of the equation corresponds to net debt of the public sector, as measured by the IMF, which measures debt at the consolidated non-financial public sector level. The right hand side of the equation requires as inputs the primary deficit, the change in high-powered money, interest payments on domestic and foreign debt (including to the central bank), net of central bank profits, revaluation of foreign debt, and total profits of the central bank. One detail worth mentioning is that the IMF excludes excess reserves from high-powered money, M, and correspondingly also deducts this item in its calculation of net claims on banks, C. **We use equation (5) when to provide a breakdown of the change in debt into its components, in nominal terms. That is, we use the equation to check for stock-flow consistency in nominal terms.**

To investigate the role of growth, real interest rates and the real exchange rate, we need to scale (5) by GNP (current period). We use a simple trick to simplify the calculations.

$$(a)\ \Delta D/GNP = \Delta\,(D/GNP) + nD/GNP$$

where D is either L, B, EF, C, or ER and n is the nominal growth rate of GNP, and GNP refers to current year GNP.

Using (a) in (5) we obtain

$$\Delta\,((B+EF-C-ER)/GNP) = PD/GNP - \Delta M/GNP + [i(B+L) + i^*EF - (\Delta\Omega + PT - R\Delta E)]/GNP + (F-R)\Delta E/GNP - n\,(B+EF-C-ER)/GNP$$

Using $n = \pi + g(1+\pi)$ and $GNP = (1+n)GNP_{-1}$, where π is the GNP deflator and g the real growth rate, we obtain:

$$\Delta\,((B+EF-C-ER)/GNP) = PD/GNP - \Delta M/GNP$$

$$+ [i(B+L) + i^*EF – (\Delta\Omega+PT- R\Delta E)]/GNP$$
$$+ (F-R)\Delta E/GNP$$
$$– \quad (\pi + g(1+ \pi))(B+EF-C-ER)/GNP$$

Re-grouping terms involving π and g, while separating the effect of inflation on net domestic (B-C) and foreign E(F-R) debt,

$$\Delta ((B+EF-C-ER)/GNP)=$$
$$PD/GNP – \Delta M/GNP$$
$$+ [i(B+L) + i^*EF – (\Delta\Omega+PT- R\Delta E)]/GNP - \pi (B-C)/GNP$$
$$+[(EF-ER)\Delta E/E]/GNP - \pi (EF-ER)/GNP$$
$$– \quad (g(1+ \pi))(B+EF-C-ER)/GNP$$

Finally, using $GNP=(1+g)(1+ \pi)GNP_{-1}$

$$\textbf{(5')} \quad \textbf{Δ ((B+EF-C-ER)/GNP)=}$$
$$\textbf{PD/GNP – ΔM/GNP +}$$
$$\textbf{[i(B+L) + i*EF – (ΔΩ+PT- RΔE)]/GNP – [π (B-C)]/GNP}$$
$$\textbf{+[(ΔE/E – π)(EF-ER)]/GNP}$$
$$\textbf{- (g/(1+ g))(B+EF-C-ER)/GNP}_{\textbf{-1}}$$

This formulation matches the data, and **we use equation (5') when we decompose debt as a percent of GNP into its components.** The term on the left hand side is the change in net debt, as published by the IMF. Primary deficits and seignorage as percent of current year GNP are easily calculated. The first term in square brackets on the right hand side is nominal interest payments of the government, net of total central bank profits (excluding valuation gains), and corresponds to the data for net interest as reported by the IMF. The second term in square brackets is the so-called "monetary correction" and is easily calculated by applying the current year GNP deflator to the previous period net domestic debt. The third term in square brackets is the valuation effect on net external debt and is calculated taking into account cross-exchange rate effects (see below). The final term is the growth effect, and applies to overall net debt.

The above framework can also be used to study debt sustainability. We use equation (3') to substitute for central bank profits and then eliminate terms involving iL.

Thus we obtain

$$\Delta ((B+EF-C-ER)/GNP)=$$
$$PD/GNP – \Delta M/GNP$$
$$+ [(i-\pi)/[(1+g)(1+\pi)] (B-C)/ GNP_{-1}$$
$$+[i^* + \Delta E/E_{-1}- \pi]/(1+n) * (EF - ER))/GNP_{-1}$$
$$- [g/(1+g) (B-C+ EF - ER)/GNP_{-1}]$$

and using the definition of i implicit in $(1+i)=(1+r)(1+ \pi)$, where r is the ex post real interest rate, we obtain

$$(5'') \quad \Delta ((B+EF-C-ER)/GNP)=$$
$$PD/GNP - \Delta M/GNP$$
$$+ r/[(1+g) (B-C)/ GNP_{-1}$$
$$+[(i^*+ \Delta E/E_{-1} -\pi)/(1+n)]^*E(F - R))/GNP_{-1}$$
$$- [g/(1+g) (B-C+ EF - ER)/GNP_{-1}]$$

In equation (5'') domestic interest is net interest, excluding that of the central government paid to the central bank, and foreign interest (including valuation) is calculated on net foreign debt (net of foreign exchange reserves of the central bank). The growth effect is calculated on overall net debt. We use equation 5'' when we examine debt sustainability.

Cross-exchange rate effects

The above derivations presume all foreign debt is denominated in a single foreign currency, implicitly the dollar, as foreign debt is expressed in dollars in the data. In Box 2 we explain how to precisely take into account valuation and cross-exchange rate effects.

Annex: Terminology

Advances: these are of two types: (1) payments before the delivery of goods and services to allow contractors to start the work, for example a construction project. They are not recorded as expenditures (above the line) but are shown as an provisional payment (cash) which will be counted towards as an expenditure (above the line) once the delivery of goods and services are completed. After the goods and services are delivered, a governent expenditure is recorded (above the line). (2) "Paid but not appropriated expenditures" such as expenditures on interest and social security which have to be paid even there is no appropriation left. They are also recorded as provisional items (cash – not above the line) until their appropriations are topped up later. When the additional appropriations are made available , they are recorded as above the line expenditures .

Consolidated budget=budgetary central government consolidated with annexed budgets

Consolidated central government=consolidated budget consolidated with extra-budgetary funds and revolving funds

Contingent liabilities: liabilities which may or may not materialize. State bank duty losses are a direct liability, not a contingent liability.

Extrabudgetary funds encompass activities of budgetary and non-budgetary funds. Only net appropriations to budgetary funds are included in the budget, whereas non-budgetary funds are off-budget all-together. Budgetary funds "are in" the budget but without full budgetary controls.

General government=consolidated central government + social security + unemployment insurance + local government

Hidden deficits in general are deficits not captured in the reported figures. These include state bank duty losses, interest paid with non-cash debt, the increase in foreign debt in local currency resulting from exchange rate depreciation, "in-kind foreign financing." These sources of deficits are captured in the report, but it is possible that there are remaining hidden deficits.

Modified cash accounting: in this system, an expenditure of the previous year paid in cash during the first month of the current year is recorded as an expenditure (above the line) of the previous year. In contrast, in pure cash accounting, the expenditures paid in cash are recorded as the expenditures of the year when the actual cash payment is made regardless of the budget year which said expenditure is actually related to.

Net debt of the non-financial public sector=Gross Public debt – Net assets of the Central Bank

Non-financial public sector= general government + state enterprises + quasi-fiscal activities of state banks

Operational balance=Primary balance+real component of interest rates

Primary balance=Non-interest balance

Public sector borrowing requirement=public sector deficit. Does not strictly correspond to net borrowing as it may be financed by seignorage revenues and deferred payments. Turkish data refer to the borrowing requirement of the overall public sector up to 2000 and to the borrowing requirement of the non-financial public sector after 2000. IMF data to the borrowing requirement of the non-financial public sector.

Revolving funds= funds associated with central agencies which finance their expenditures with own sources of revenues

Seignorage=financing as the result of the increase in high-powered money.

State bank duty losses=losses incurred as the result of a government mandate

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Tables

Table 1. Stock Flow Consistency between Deficits and Debt

(percent of current year GNP) a/

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Gross central government debt, net of deposits (Table 6) 1/	28.9	33.1	35.1	36.6	49.3	39.4	41.4	39.2	38.0	49.7	48.5	98.0	85.3
Change in central government debt as % current GNP		**15.6**	**17.2**	**17.6**	**30.9**	**16.5**	**22.5**	**18.2**	**16.5**	**23.7**	**17.5**	**63.5**	**22.3**
PSBR central government (commitment basis, SPO) 2/	3.0	5.3	4.3	6.7	3.9	4.0	8.3	7.6	7.3	11.9	10.9	17.4	14.9
Difference 3/		10.3	12.9	10.9	27.0	12.5	14.2	10.5	9.2	11.8	6.6	46.1	7.4
Net Debt (IMF) 4/	28.8	35.2	35.7	35.1	54.3	42.1	46.5	42.9	44.5	61.0	58.4	91.9	79.9
Change in debt as % current GNP		**17.4**	**15.5**	**15.4**	**36.3**	**15.2**	**24.4**	**19.2**	**20.9**	**30.6**	**20.4**	**50.4**	**20.9**
PSBR (IMF) 5/	7.7	11.3	12.4	13.0	9.1	5.2	13.1	13.1	15.5	23.5	18.9	21.1	12.3
Difference 3/		6.0	3.1	2.4	27.2	10.0	11.3	6.1	5.4	7.1	1.5	29.3	8.6

Sources: Treasury, SPO, IMF, own calculations.

a/ The change in debt corresponds to the change in TL since the previous year, divided by current year GNP, not the change in the debt to GNP ratio

1/ Gross central government debt reported by the Treasury minus deposits of the central government with the central bank and banking system reported in the CBT Monetary Survey. See Table 6.

2/ May 2004 website.

3/ Difference between actual debt/GNP and predicated debt/GNP. A positive figure probably reflects a hidden deficit or revaluation effects which was not captured.
A negative effect may point to overestimated deficits or insufficiently comprehensive debt data. See text.

4/ See Tables 2-4.

5/ Corresponds to minus the overall deficit. Excludes privatization revenues and includes central bank profits.

PSBR data for 1990-93 calculated as the sum of the primary deficit and interest payments from IMF Staff Country Report 00/14 (2000), "Inflation as a Fiscal Problem", Tables 1 and 7;
1994-98 data from Statistical Appendix in Staff Country Report 00/14, Table 59;
1999-2002 is again the sum of primary balance (Table 6) and interest payments (Table 2) from IMF Staff Country Report 03/324 (2003). For 1999, 1.2% of GNP is added to the PSBR for the primary component of duty losses.

Table 2. Consolidated Net Debt of the Public Sector

(percent of GNP)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Net debt of the public sector 1/ 2/	**28.8**	**35.2**	**35.7**	**35.1**	**54.3**	**42.1**	**46.5**	**42.9**	**44.5**	**61.0**	**58.4**	**91.9**	**79.9**
Central Government plus Central Bank	**23.5**	**28.5**	**30.2**	**30.7**	**45.3**	**35.1**	**39.5**	**37.5**	**38.9**	**48.9**	**51.9**	**87.4**	**77.6**
Central Bank net assets (incl govt debt held by the CBT)	8.3	7	7.2	8.1	7.2	8.3	8.5	10.9	9.6	11.6	8.8	12.0	8.5
Central Government 3/	31.8	35.5	37.4	38.8	52.5	43.4	48.0	48.4	48.5	60.5	60.7	99.4	86.1
Rest of the public sector	**5.2**	**6.7**	**5.6**	**4.4**	**9.0**	**6.9**	**7.0**	**5.4**	**5.5**	**9.1**	**6.5**	**4.5**	**2.3**
Foreign debt	5.0	6.0	6.0	5.7	8.9	7.1	6.5	5.9	6.0	6.7	3.4	4.8	3.5
Net domestic debt	0.2	0.7	-0.4	-1.3	0.1	-0.2	0.5	-0.5	-0.5	2.4	3.1	-0.3	-1.2
Memorandum items:													
Central Government, Treasury data 4/	32.2	35.5	37.6	38.4	50.6	41.6	44.3	43.3	40.6	53.2	50.7	100.8	88.3
Net debt of the public sector as reported by the IMF 5/	28.8	35.2	35.7	35.1	44.7	41.3	46.5	42.9	44.5	61.0	57.7	94.0	80.0
Net debt of the public sector as reported by the Treasury 6/											57.4	90.9	78.6
Central Government debt held by the CBT	8.3	7.2	5.9	7	8.5	7	5.5	3.2	1.6	1.2	0.3	17.1	9.2

Sources: IMF and own calculations.
1/ IMF data on the components of debt for 1990-1999, adjusted in 1994-5 by using the actual exchange rate rather than the adjusted program exchange rate (which was used by the IMF).
2000-02 data from Table 4. IMF data for 1990-98 from IMF Staff Country Report 00/14, "Inflation as a Fiscal Problem", Table 6. For 1999, from IMF Staff Country Report 03/324, Table 2.
2/ Final data for the components is not publicly available for 1999, hence the total exceeds the sum of the parts.
3/ IMF concept. Including unsecuritized duty losses and adjustment for valuation of foreign-exchange linked swapped debt in 2001-02. Net of deposits.
4/ Treasury website for 1990-2002. Data is different from those above based on the IMF concepts
because they exclude unsecuritized duty losses and do not include valuation of foreign-exchange linked swapped debt or net out deposits.
5/ IMF data for 1990-98 from IMF Staff Country Report 00/14, "Inflation as a Fiscal Problem", Table 6. For 1999-2002, from IMF Staff Country Report 03/324, Table 2.
6/ Treasury Public Debt Management Report (February 2004).

Table 3 - Turkey: Consolidated Net Debt of the Public Sector
(In trillions of Turkish Lira)

ITEM	ROW #	FORMULA
A. Central Government and Central Bank	**7**	**=R17-R8**
Central Bank Assets (net)	**8**	**=R9+R11+R12+R13+R15+R16**
NFA	**9**	
[in million of U.S. dollars]	**10**	
Net claims on the central gvt	**11**	*INPUT*
Claims on banks	**12**	*Source: CBT balance sheet*
Less: Free reserves in FX	**13**	
[in million of U.S. dollars]	**14**	
Less: Free reserves in Lira	**15**	
Less: Other liabilities	**16**	
Central Government	**17**	**=R18+R20**
External	**18**	*INPUT*
[in million of U.S. dollars]	**19**	*INPUT*
Net domestic	**20**	**=R21+R23+R38+R39+R40+R41-R43**
Debt sold at auction	**21**	*INPUT*
of which: fx linked	**22**	*INPUT*
Securities for bank recapitalization	**23**	**=R24+R30**
Lira securities	**24**	**=SUM(R25:R29)**
SDIF	**25**	*INPUT*
Ziraat	**26**	*INPUT*
Halk	**27**	*INPUT*
Emlak	**28**	*INPUT*
Contigency	**29**	*INPUT*
Foreign exchange securities	**30**	**=R32+R34+R36**
[in million of U.S. dollars]	**31**	**=R33+R35+R37**
SDIF	**32**	*INPUT*
[in million of U.S. dollars]	**33**	*INPUT*
Ziraat	**34**	*INPUT*
[in million of U.S. dollars]	**35**	*INPUT*
Halk	**36**	*INPUT*
[in million of U.S. dollars]	**37**	*INPUT*
Debt held by the CBT	**38**	*INPUT*
Debt taken over from the PPF	**39**	*INPUT*
Other	**40**	*INPUT*
CBT credit	**41**	*INPUT*
[in million of U.S. dollars]	**42**	*INPUT*
Less: Deposits	**43**	*INPUT*
	44	
B. Rest of the Public Sector	**45**	**=R47+R56**
	46	
Foreign debt	**47**	
	48	
Total (in millions of U.S. dollars)	**49**	**=SUM(R50:R52)**
EBFs	**50**	*INPUT*
Local authorities	**51**	*INPUT*
SEEs	**52**	*INPUT*
Guaranteed	**53**	*INPUT*
Other	**54**	*INPUT*
	55	
Net Domestic debt	**56**	**=R57+R58**
Unemployment insurance fund	**57**	*INPUT*
Other	**58**	*INPUT*
	68	
C. Net Debt of the Public Sector	**69**	**=R7+R45**
Net external	**70**	**=R47+R18-R9**
Net domestic	**71**	**=R69-R70**
	72	
FX indexed net debt	**73**	**=R70+R30+R13+R22**
Lira denominated net debt	**74**	**=R69-R73**
	75	
	76	
Memorandum item:	**77**	
Gross Debt of the Central Government	**78**	**=+R20+R43**

Table 4 - Turkey: Consolidated Net Debt of the Non-Financial Public Sector
(In trillions of Turkish Lira)

ITEM	ROW #	2,000	2,001	2,002
A. Central Government and Central Bank	7	**65,177**	**154,299**	**213,464**
Central Bank Assets (net)	8	**11,023**	**21,093**	**23,426**
NFA (CBT) 1/	9	7,600	-2,400	13,660
Net claims on the central gvt (IMF)	11	*400*	30,100.0	25,400
Other net domestic assets		*3,023*	*-6,607*	*-15,634*
Claims on banks 2/ (CBT)	12	*5,700*	-494	-9,316
Less: Free reserves in FX (CBT)	13	-1,766	-4,220	-3,280
Less: Free reserves in Lira (CBT)	15	-611	-893	-2,038
Less: Other liabilities 3/ 4/ (IMF)	16	-300	-1,000	-1,000
Central Government	17	**76,200**	**175,392**	**236,889**
External (TRE)	18	27,288	55,935	93,111
[in million of U.S. dollars]	19	40,524	38,762	56,829
Net domestic (IMF concept)	20	**48,912**	**119,457**	**143,778**
Debt sold at auction (TRE)	21	29,674	46,860	81,771
of which: revaluation of FX-linked debt (IMF adjustment) 5/ (IMF)			2,200	2,200
of which: fx-linked (TRE)	22	1,959	15,415	24,628
Securities for bank recapitalization and unsecuritized duty losses 5/	23	**21,947**	**63,597**	**60,599**
Lira securities (TRE)	24	**20,143**	**49,513**	**46,734**
Foreign exchange securities (TRE)	30	**1,805**	**14,084**	**13,865**
CBT credit (TRE)	41	*0*	13,900	9,700
Less: Deposits (CBT Monetary Survey)	43	*-2,709*	-4,900	-8,291
o/w budgetary institution deposits with CBT	44	-1,148	-2,705.0	-4,281
B. Rest of the Public Sector	45	**8,182**	**7,973**	**6,311**
	46			
Foreign debt	47	*4,296*	*8,455*	*9,565*
	48			
Total (in millions of U.S. dollars) (TRE)	49	**6,379**	**5,859**	**5,838**
EBFs	50	591	560	655
Local authorities	51	2,258	1,840	1,601
SEEs (excluding financial sector) 4/	52	3,530	3,459	3,582
	55			
Net Domestic debt	56	**3,886**	**-482**	**-3,254**
Unemployment insurance fund (TRE)	57	*-362*	-2,182	-4,954
Other (IMF) 4/	58	*4,248*	1,700	1,700
	68			
C. Net Debt of the Public Sector	69	**73,358**	**162,272**	**219,775**
IMF		**72,500**	**167,700**	**225,500**
%GNP		**58.4**	**91.9**	**79.9**
Net external	70	**23,984**	**66,790**	**89,016**
IMF		**23,235**	**66,600**	**93,500**
%GNP		**19.1**	**37.8**	**32.4**
Net domestic	71	**49,375**	**95,482**	**130,758**
IMF		**49,234**	**101,100**	**132,000**
%GNP		**39.3**	**54.1**	**47.5**
	72			
FX indexed net debt	73	**25,982**	**102,724**	**133,794**
%GNP		**20.7**	**58.2**	**48.7**
Lira denominated net debt	74	**47,377**	**59,548**	**85,981**
%GNP	75	**37.7**	**33.7**	**31.3**
	76			
Memorandum item:	77			
Gross Debt of the Central Government 3/	78	**78,909**	**180,292**	**245,181**

1/ NFA IMF definition (foreign assets minus liabilities to non-residents).
2/ Credits to the banking sector plus injections through open market operations.
3/ Liabilities (mostly deposits) to other public sector institutions.
4/ IMF and the Treasury's Public Sector Debt Management Report report different data.
5/ Includes unsecuritized duty losses and revaluation of fx-linked debt (IMF adjustments).
Hightlighted items are obtained from the IMF for 2000-01 and estimated for 2002.

Table 5. Valuation Effects on Foreign-exchange Denominated Government Debt

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Revaluation of government debt in nominal terms, percent of current year GNP (equation 5, annex) for use in Table 6												
Central government debt (Treasury)												
Effect of the depreciation of the TL 1/	8.0	7.9	7.6	17.5	8.8	9.7	10.7	6.4	9.4	3.6	18	3
Cross-exchange rate effect (%GNP) 2/	0.1	-0.4	0.1	2.1	0.5	-1.4	-1.6	1.1	-0.7	-0.9	-1.2	1.7
Total	**8.10**	**7.50**	**7.69**	**19.54**	**9.34**	**8.23**	**9.15**	**7.41**	**8.70**	**2.70**	**16.43**	**4.50**
Net public sector debt (IMF)												
Effect of the depreciation of the TL 1/	10.5	10.5	9.6	21.9	11.8	11.9	12.0	6.5	10.1	3.1	16.83	5.06
Cross-exchange rate effect (%GNP) 2/	0.1	-0.6	0.1	2.5	0.6	-1.7	-1.8	1.2	-0.8	-1.0	-1.3	1.9
Total	**10.6**	**9.9**	**9.7**	**24.4**	**12.5**	**10.2**	**10.2**	**7.7**	**9.3**	**2.0**	**15.5**	**6.9**
Contribution to the change in debt/GNP ratio, percent of current year GNP (equation 5', annex) for use in Table 15												
Revaluation of net public sector debt 3/	1.8	0.8	0.2	7.7	(5.6)	(0.3)	1.2	(2.7)	2.3	(3.3)	8.7	(12.2)
Cross-exchange rate effect (%GNP)	0.1	-0.6	0.1	2.5	0.6	-1.7	-1.8	1.2	-0.8	-1.0	-1.3	1.9
Total	**1.9**	**0.2**	**0.3**	**10.2**	**(4.9)**	**(2.0)**	**(0.6)**	**(1.5)**	**1.5**	**(4.4)**	**7.3**	**(10.4)**
Memorandum items												
Public net foreign exchange indexed debt, %GNP 4/	26.6	25.1	25.7	40.3	29.9	26.1	22.5	20.4	20.1	20.7	58.2	48.7
Public net foreign exchange indexed debt, bn USD	33.2	32.3	35.5	40.8	38.3	36.3	32.2	34.8	29.1	38.6	71.2	81.7
Gross central government external debt, bn USD 5/	25.1	25.8	28.3	30.4	31.1	32.3	31.4	32.3	34.6	40.5	38.8	56.8
Exchange rate	5080	8564	14473	38457	61208	107775	205245	313475	541401	673385	1443039	1638443
Exchange rate depreciation	0.73	0.69	0.69	1.66	0.59	0.76	0.90	0.53	0.73	0.24	1.14	0.14
GNP deflator growth	0.61	0.63	0.67	1.07	0.87	0.78	0.81	0.75	0.56	0.51	0.55	0.46
GNP (TL billion)	634,393	1,103,605	1,997,323	3,887,903	7,854,887	14,978,067	29,393,262	53,518,332	78,282,967	125,596,129	176,483,953	275,000,000

1/ Calculated as the change in the exchange rate, multiplied by previous period debt in dollars, and divided by current year GNP.
2/ The change in the value of foreign debt on account of changes in the exchange rate of other foreign currencies vis a vis the USD.
Based on data provided by the Treasury on the foreign exchange composition of foreign debt. Composition of foreign exchange reserves of CBT is not available.
3/ Calculated as previous period foreign exchange linked debt, in TL, mutliplied by the difference between the percent change in the exchange rate and growth in the GNP deflator, expressed as a percent of current GNP.
4/ Source: Table 2.
5/ Source: Treasury website.

Table 6. Stock Flow Consistency between Deficits and Debt

(percent of current year GNP) a/

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Average 1991-02
Gross central government debt (TRE), net of deposits (%GNP)	28.9	33.1	35.1	36.6	49.3	39.4	41.4	39.2	38.0	49.7	48.5	98.0	85.3	
Gross central government debt (TRE) (TL trillion)	127	225	415	767	1969	3264	6628	12738	21750	41650	63625	177939	242749	
Central government deposits (CBT Monetary Survey) (TL trill)	13	16	28	37	53	166	434	1206	1398	2760	2709	4900	8291	
Change in central government debt minus deposits as a percent of current year GNP		**15.6**	**17.2**	**17.6**	**30.9**	**16.5**	**22.5**	**18.2**	**16.5**	**23.7**	**17.5**	**63.5**	**22.3**	23.5
PSBR central government (commitment basis, SPO)	3.0	5.3	4.3	6.7	3.9	4.0	8.3	7.6	7.3	11.9	10.9	17.4	14.9	8.5
Known hidden deficits	0.1	8.1	9.9	10.6	21.9	11.6	11.8	12.1	9.4	11.5	8.5	44.4	6.9	13.9
Extrabudgetary transfers (bonds) (see Table 8) 1/			1.3	3.2	1.5	0.5	1.3	0.6	0.1	0.8	1.2	13.0	0.0	2.0
Payments for guaranteed debt (see Table 8)			0.0	0.1	0.8	1.5	0.9	1.2	0.7	0.8	0.6	1.1	0.7	0.7
Recapitalization of private and state banks (BRSA)	0	0	0	0	0	0	0	0	0	0	2.7	11.7	0.2	1.2
Interest paid as non-cash debt 2/				0	0.1	0.5	1.1	1.2	0.9	0.7	0.7	0.0	0	0.4
Hidden in-kind expenses, financed from abroad 3/										0.6	0.6	0.7	0.8	0.2
Revaluation on external debt 4/		8	8	8	20	9	8	9	7	9	3	16	4	9.1
Advances-deferred payments 5/	0.1	0.0	1.1	-0.4	0.0	-0.3	0.2	-0.1	0.2	0.0	-0.1	1.5	0.7	0.2
Predicted change in debt		**13**	**14**	**17**	**26**	**16**	**20**	**20**	**17**	**23**	**19**	**62**	**22**	
Residual 6/		2.2	3.0	0.4	5.1	0.8	2.4	-1.6	-0.2	0.3	-1.8	1.7	0.5	1.1
Net Debt (IMF)	28.8	35.2	35.7	35.1	54.3	42.1	46.5	42.9	44.5	61.0	58.4	91.9	79.9	
Change in debt as % current GNP		**17.4**	**15.5**	**15.4**	**36.3**	**15.2**	**24.4**	**19.2**	**20.9**	**30.6**	**20.4**	**50.4**	**20.9**	23.9
PSBR (IMF) 7/	7.7	11.3	12.4	13.0	9.1	5.2	13.1	13.1	15.5	23.5	18.9	21.1	12.3	14.0
Known hidden deficits	0.0	10.6	9.9	9.7	24.4	12.5	10.2	10.2	7.7	9.9	5.3	28.0	8.1	12.2
Recapitalization of private and state banks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	11.7	0.2	1.2
Hidden in-kind expenses, financed from abroad 3/										0.6	0.6	0.7	0.8	0.2
Revaluation on external debt 4/		11	10	10	24	12	10	10	8	9	2	15	7	10.7
Seignorage		-1.8	-2.1	-1.9	-2.0	-1.8	-1.6	-1.8	-1.7	-1.8	-1.4	-1.0	-0.9	-1.7
Privatization revenues (SPO)	0.0	-0.1	-0.1	-0.1	-0.1	-0.3	-0.3	-0.2	-0.1	0.0	-1.0	0.0	-0.4	-0.2
Predicted change in debt		**20**	**20**	**21**	**31**	**16**	**21**	**21**	**21**	**32**	**22**	**48**	**19**	
Residual 6/		-2.8	-4.7	-5.4	4.9	-0.4	3.0	-2.1	-0.4	-1.1	-1.4	2.2	1.9	-0.5
Difference in residual		5.0	7.7	5.7	0.1	1.3	-0.6	0.5	0.3	1.4	-0.5	-0.6	-1.3	1.6
memo item: PSBR as reported by SPO 8/	7.4	10.2	10.6	12.0	7.9	5.0	8.6	7.7	9.4	15.5	11.8	16.4	12.8	10.6

Sources: Treasury, SPO, MOF, BRSA, IMF, own calculations

a/ The change in debt corresponds to the change in TL since the previous year, divided by current year GNP, not the change in the debt to GNP ratio

1/ Based on IMF RED, 1997 and 1998 for data through 1996. Data provided by the Treasury and on the BRSA website thereafter.

2/ Based on IMF RED, 1997 and 1998 for data through 1996 and IMF Staff Country Report 00/14 for 1997-99. For 2000 we used interest paid on non-cash debt as reported by the Treasury.

3/ Compiled from data from the Turkish Court of Accounts Treasury Report.

3/ As derived in Table 5.

4/ This item refers to the change in the stock of advances minus repayments as reported on the Treasury website, but adjusted for TL 0.9 quadrillion in advances to SSI in 2001 (I.e. 2001 figures were adjusted downwards and 2002 figures upwards), given that SPO retroactively adjusted the PSBR to include the TL 0.9 quadrillion.

5/ Corresponds to non-cash debt issued to the CBT for valuation losses. In the early 1990s the CBT had a short foreign exchange position, and hence valuation losses.

6/ Difference between actual debt/GNP and predicted debt/GNP. A positive figure reflects a hidden deficit, a hidden asset (e.g. government deposits), or underestimated revaluation effect. A negative effect may point to debt default of public sector entities or revaluation effects which were overestimated.

7/ Corresponds to minus the overall deficit. Excludes privatization revenues and includes central bank profits. See Table 1 for sources.

8/ May 2004 website.

Table 7. Primary Balance of the Non-Financial Public Sector
(percent of GNP)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Average 1991-02
Primary Balance of Nonfinancial public sector, adjusted	**-3.6**	**-6.2**	**-7.0**	**-5.6**	**1.0**	**3.9**	**-1.5**	**-3.3**	**-1.1**	**-6.2**	**-1.6**	**-7.2**	**2.9**	-2.7
Nonfinancial public sector, IMF 1/	**-3.6**	**-6.2**	**-7**	**-5.6**	**1.0**	**3.9**	**-1.3**	**-2.0**	**0.8**	**-1.4**	**3.0**	**5.5**	**4.0**	-0.4
Central government, IMF 1/ 2/	**1.3**	**-0.6**	**-1.7**	**-0.6**	**3.5**	**3.4**	**1.3**	**-0.2**	**3.4**	**2.5**	**4.6**	**4.8**	**2.4**	1.9
Rest of the public sector, IMF 1/	**-4.9**	**-5.6**	**-5.3**	**-5**	**-2.5**	**0.5**	**-2.6**	**-1.8**	**-2.6**	**-3.9**	**-1.6**	**0.7**	**1.6**	-2.3
State economic enterprises	-4.2	-4	-4	-1.9	-0.3	1.3	-0.1	-0.4	-1.1	-1.2	-1.5	0.1	1.1	-1.0
Social security institutions and revolving funds	0	-0.3	-0.3	-0.6	-0.6	-0.7	-0.2	0	0	-0.1	0.1	0	0.1	-0.2
Unemployment insurance fund	0	0	0	0	0	0	0	0	0	0	0.3	0.6	0.4	0.1
Credit component of state banks duty losses	0	0	0	-0.3	-1.1	-0.8	-1.9	-1.4	-1.2	-1.2	0	0	0	-0.7
Extrabudgetary funds	-0.6	-1	-0.8	-1.5	-1.5	-0.6	-0.2	0.1	0	-0.5	-0.2	0.1	-0.1	-0.5
Local authorities	-0.1	-0.3	-0.1	-0.6	1	1.3	-0.1	-0.1	-0.4	-0.8	-0.2	0.1	0.1	0.0
Adjustments to IMF concept	**0**	**0**	**0**	**0**	**0**	**0**	**-0.2**	**-1.3**	**-1.9**	**-4.8**	**-4.6**	**-12.7**	**-1.1**	-2.2
Bank recapitalization (minus)	0	0	0	0	0	0	0	0	0	0	-2.7	-11.7	-0.2	-1.2
Severance pay (minus)	0	0	0	0	0	0	0	0	0	0	0.0	-0.1	-0.1	0.0
In-kind foreign financing (minus)	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6	-0.6	-0.7	-0.8	-0.2
Operational losses of state banks (minus)	0	0	0	0	0	0	0	0	0	-2.9	0	0	0	-0.2
Taxes on interest on government bonds (minus)	0	0	0	0	0	0	-0.2	-1.3	-1.9	-1.3	-1.3	-0.2	0.0	-0.5
By area of responsibility 3/ 4/	**-3.6**	**-6.2**	**-6.9**	**-5.5**	**1.0**	**3.9**	**-1.4**	**-3.3**	**-1.2**	**-6.1**	**-1.5**	**-7.0**	**2.9**	-2.6
Central government, EBF, duty losses, state bank operational losses and bank recapitalization 4/	1.3	0.6	-1.4	-0.8	1.9	3.8	1.4	0.0	2.6	-0.6	2.7	-3.6	5.4	1.0
State economic enterprises 5/	-4.5	-5.9	-4.7	-2.8	-0.3	0.9	-0.3	-0.6	-0.9	-1.1	-1.7	-0.2	0.3	-1.5
Social security institutions and revolving funds 5/	-0.3	-0.6	-0.7	-1.3	-1.6	-2.1	-2.4	-2.6	-2.6	-3.6	-2.5	-3.9	-3.3	-2.3
Unemployment Insurance Fund and Local Authorities	-0.1	-0.3	-0.1	-0.6	1	1.3	-0.1	-0.1	-0.4	-0.8	0.1	0.7	0.5	0.1
Memo items:														
Budgetary Transfers to SEEs	0.3	1.9	0.7	1.3	0.5	0.6	0.3	0.4	0.3	0.5	0.7	0.6	0.8	0.7
Budgetary Transfers to Social security institutions 6/	0.3	0.3	0.4	0.7	1.0	1.4	2.2	2.6	2.6	3.5	2.6	3.9	3.4	2.0
Appropriated duty losses of SEEs				-0.2	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	-0.1	-0.3	-0.1
Non-appropriated duty losses of SEEs 7/				-0.4	-0.5	-0.2	-0.1	-0.2	-0.5	-0.6	-0.5	-0.4	-0.1	-0.3
Transfers from extrabudgetary funds to the budget 8/						1.2	0.9	0.8	0.7	1.0	0.8	1.0		0.5
SDIF bank recapitalization											2.7	9.6	0.2	1.0
State bank recapitalization 9/												2.1		0.2

Source: IMF, BRSA, Treasury, MOF, calculations of taxes on interest and operational losses of state banks in this report.
1/ IMF Inflation As A Fiscal Problem (2000), table 1 for data through 1993; IMF Staff Country Report No.00/14 (2000), Table 60 for data through 1998 and 1999 details for the rest of the public sector. IMF Staff Country Report 3/324 (October 2003), Table 2 for 1999 totals and central government, and Table 6 for 2000-02. The credit component of duty losses for 1999 appeared to have been excluded from IMF data in its 2003 report and was added to the total public sector deficit.
2/ Excluding privatization revenues, transfers from the CBT, interest receipts, and recapitalization costs
3/ Before transfers and attributing duty losses to the central government.
4/ Primary balance of central government (IMFconcept) before budgetary transfers to state enterprises and social security minus non-appropriated duty losses of state enterprises and state banks (credit component) minus operational losses of state banks plus primary balance of extrabudgetary funds minus bank recapitalization minus in-kind foreign financing minus taxes on interest on government bonds.
5/ Primary balance of state enterprises before transfers from the central government minus non-appropriated duty losses.
6/ MOF data (detail 2 for expenditures), adjusted for 900 trillion in transfers in the form of advances in 2001 which were recorded below the line. Thus we adjusted transfers upward by 900 trillion in 2001 and downward in 2002.
7/ Non-appropriated duty losses calculated as total duty losses (reported in the SEE accounts on the Treasury website) minus appropriated duty losses (reported in the MOF budgetary accounts).
8/ IMF Statistical Annex (2002), table 57.
9/ Refers exclusively to recapitalization and not to securitization of duty losses.

Table 8. Sources of central government debt accumulation

(percent of GNP)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Budget deficit													
Central Government PSBR (SPO)	3.0	5.3	4.3	6.7	3.9	4.0	8.3	7.6	7.3	11.9	10.9	17.4	14.9
Transfers to Social security institutions 0/	0.3	0.3	0.4	0.7	1.0	1.4	2.2	2.6	2.6	3.5	2.6	3.4	3.7
Transfers to SEEs	0.3	1.9	0.7	1.3	0.5	0.6	0.3	0.4	0.3	0.5	0.7	0.6	0.8
Off-budget Transfers													
Extra-budgetary transfers 1/			1.3	3.2	1.5	0.5	1.3	0.6	0.1	0.8	1.2	13.0	0.0
Transfers to social security institutions				0.0	0.0	0.0	0.1	0.0					
Transfers to state economic enterprises				0.7	0.4	0.1	0.1	0.0					
Transfers to state banks				0.3	0.4	0.0	0.0	0.0					
Transfers to support price stabilization fund				0.0	0.0	0.2	0.3	0.0					
Consolidation bonds issued to Central Bank			0.5	1.7	0.1	0.3	0.4	0.0					
Consolidation bonds issued to Ziraat Bank			0.8	0.4	0.7	0.0	0.3	0.6	0.1	0.8	1.2	13.0	0.0
Consolidation bonds issued to other banks			0.0	0.0	0.0	0.0	0.0	0.0					
Debt servicing of guaranteed debt 3/			0.0	0.1	0.8	1.5	0.9	1.2	0.7	0.8	0.6	1.1	0.7
BO(T) contracts 4/			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1
Guaranteed debts of EBFs			0.0	0.0	0.4	1.1	0.5	0.6	0.1	0.1	0.0	0.0	0.0
Guaranteed debts of SEEs			0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.2	0.2	0.4	0.2
Guaranteed debts of Municipalities			0.0	0.0	0.1	0.3	0.3	0.6	0.4	0.4	0.2	0.5	0.3
Deposit insurance (SDIF banks) 2/													
SDIF banks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	9.7	0.2
State banks												2	
Memorandum item:													
Central Govt Gross debt (TRE) 5/	32.2	35.5	37.6	38.4	50.6	41.6	44.3	43.3	40.6	53.2	50.7	100.8	88.3
o/w non-cash debt 6/	0.9	1.5	4.1	5.9	5.3	5.2	5.7	4.4	3.9	3.5	5.6	36.4	22.0
Unsecuritized state bank duty losses 6/				0.7	1.8	2.1	4.2	5.2	7.5	13.3	12.0	0.0	0.0

Sources: IMF, BRSA, SPO, Treasury, MOF

0/ See footnote 5 in Table 7.

1/ IMF sources, see Table 6. Consists of bonds issued to SSIs, SEEs, and EBF. These institutions discount these bonds to raise funds to close their financing gap. Excludes interest on non-cash debt.

2/ For 2002, calculated as issuance of securities ($1.8bn) minus total repayments by SDIF ($1.5bn).

3/ Includes T. Development Bank, annexed budget. 92-96 data from IMF RED, 1997, Table A21 and RED, 1998, Table 84. Data starting in 1997 are from the Treasury website.

4/ Municipality of Izmit

5/ Treasury website for 1990-1999 and Public Debt Management Report for 2000-02. Excludes unsecuritized duty losses and revaluation of fx-linked debt in the swap operation.

6/ Data provided by the Treasury.

Table 9. Derivation of the Interest Cost on the Stock of Unpaid Duty Losses of Ziraat and Halk and Residual

	1993	1994	1995	1996	1997	1998	1999	2000	end-April 2001
In Trillion TL									
Unpaid stock of duty losses (Treasury)	13	71	168	631	1522	4000	10410	15092	22922
Flow paid duty losses		-	-	-	186	67	593	1553	22910
Flow total duty loss (Treasury)	13	58	97	463	1077	2545	7003	6235	7831
Credit subsidy component of duty losses (IMF) 1/	6	43	63	285	412	642	939	0	0
Interest component based on cost of 3 month deposits 2/	2	33	85	273	723	1605	3795	5207	3914
In % of GNP									
Unpaid stock of duty losses (Treasury)	0.7	1.8	2.1	4.2	5.2	7.5	13.3	12.0	0.0
Flow paid duty losses					0.6	0.1	0.8	1.2	13.0
Flow total duty loss (Treasury)	0.7	1.5	1.2	3.1	3.7	4.8	8.9	5.0	4.4
Credit subsidy component of duty losses (IMF)	0.3	1.1	0.8	1.9	1.4	1.2	1.2	0	0
Interest component based on cost of 3 month deposits 2/	0.1	0.8	1.1	1.8	2.5	3.0	4.8	4.1	
residual %GNP based on cost of 3 month deposits 2/	0.3	-0.5	-0.6	-0.6	-0.2	0.6	2.9	0.8	
Memorandum items									
Cost of funds Ziraat	88.6	88.6	83.5	91.5	94.2	106.5	125.0	59.2	
Overnight rates	63.3	149.9	81.2	80.8	73.5	78.1	74.5	74.3	115.1
3-month deposit rates	64.6	88.0	76.0	80.7	79.5	80.1	78.4	47.1	74.7
Ziraat cost of TL deposits				61	62.6	64.5	75.3	37.1	
Halk cost of TL deposits		79.4	76.2	83.6	83.4	86.8	86	51.2	
T-bill auction interest rates (annual average)	87.5	158.1	124.2	132.2	106.8	115.5	104.6	36.2	99.6
Subsidized interest rate Ziraat		46.5	46.5	46.5	55.0	63.0	61.0	42.0	
Reserve requirement on sight deposits		16.0	16.9	13.3	8.0	8.0	7.7	5.8	4.0
Reserve requirement on 3-month time deposits		7.5	8.4	8.3	8.0	8.0	7.7	5.8	4.0
Reserve requirement on FX deposits of over 1 month maturity		11.5	12.4	11.9	11.0	11.0	11.0	11.0	11.0

Source: Duty losses and cost of funds of Ziraat and Halk provided by the Treasury. 3-month T-bill rates and reserve requirements, Eurosource database.
1/ calculated by the IMF based on the subsidized rate and the T-bill rate.
2/ calculated as the initial stock of unpaid duty losses outstanding plus half the credit component during the year outstanding multiplied by the cost of 3-month deposits and divided by 1 minus the reserve requirement.

Table 14. Monetary Correction and Tax Correction of Interest Payments

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	1991-2002
In trillion TL														
Net interest payments (IMF) 1/	16	33	60	148	392	712	1786	3245	8687	17301	27506	46945	44825	
Monetary correction 2/		13	35	79	201	474	748	2482	4482	7255	16290	26213	27578	
Lira denominated net debt (trill TL)	22	55	117	188	544	958	3056	5996	12898	32018	47377	59548	85981	
Inflation rate (GNP deflator)		0.61	0.63	0.67	1.07	0.87	0.78	0.81	0.75	0.56	0.51	0.55	0.46	
Real interest payments	16	19	25	69	190	237	1038	764	4205	10045	11216	20732	17247	
Withholding tax 3/							36	389	1,042	1038	0	0	0	
Retroactive tax 4/										0	1641	382	41	
As a percent of GNP														
Net interest payments	4.1	5.1	5.4	7.4	10.1	9.1	11.9	11.0	16.2	22.1	21.9	26.6	16.3	
Monetary correction		2.1	3.1	3.9	5.2	6.0	5.0	8.4	8.4	9.3	13.0	14.9	10.0	
Real interest payments		3.0	2.3	3.5	4.9	3.0	6.9	2.6	7.9	12.8	8.9	11.7	6.3	6.2
Tax correction	0.00	0.0	0.0	0.0	0.0	0.0	0.2	1.3	1.9	1.3	1.3	0.2	0.0	0.5
Operational losses state banks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.90	0.00	0.00	0.00	0.2
Real interest payments, excl. taxes and operational losses of state banks		3.0	2.3	3.5	4.9	3.0	6.7	1.3	5.9	8.6	7.6	11.5	6.3	5.4
Memorandum item														
Net domestic debt	22	55	117	188	544	958	3056	5996	12898	32018	49234	95482	130758	

1/ "Inflation as a Fiscal Problem" for 1990-94; Staff Country Report 00/14, Table 59 for 1995-98; IMF Staff Country Report 03/324, Table 2 for 1999-2002.
2/ Inflation rate multiplied by the previous period lira denominated debt.
3/ A withholding tax of 12% was in effect on goverment bills and bonds during November 1, 1996-mid-1999. A retroactive tax on interest on government bonds was introduced at end-1999.

Table 15. Net Debt of the Consolidated Public Sector, 1990-2002

(percent of GNP)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Average 1991-2002
Net domestic debt	5.6	8.6	10.6	9.4	14.0	12.2	20.4	20.4	24.1	40.9	39.2	54.1	43.7	
Net external debt	23.20	26.6	25.1	25.7	40.3	29.9	26.1	22.5	20.4	20.1	19.2	37.8	36.1	
Total debt (IMF concept)	28.8	35.2	35.7	35.1	54.3	42.1	46.5	42.9	44.5	61.0	58.4	91.9	79.8	
Change in Net Debt/GNP ratio		**6.4**	**0.5**	**-0.6**	**19.2**	**-12.3**	**4.4**	**-3.6**	**1.6**	**16.5**	**-2.6**	**33.5**	**-12.1**	**4.3**
Primary balance, adjusted a/	-3.6	-6.2	-7.0	-5.6	1.0	3.9	-1.5	-3.3	-1.1	-6.2	-1.6	-7.2	2.9	-2.7
o/w bank recapitalization and severance pay											-2.7	-11.8	-0.3	
Minus: Real interest payments/gnp, adjusted b/		-3.0	-2.3	-3.5	-4.9	-3.0	-6.7	-1.3	-5.9	-8.6	-7.6	-11.5	-6.3	-5.4
Plus: Seignorage		1.8	2.1	1.9	2.0	1.8	1.6	1.8	1.7	1.8	1.4	1.0	0.9	1.7
Plus: Growth Effect		0.1	2.1	2.7	-2.3	4.0	2.8	3.6	1.7	-3.0	3.6	-6.2	5.6	1.2
Plus: Privatization Receipts (SPO) 1/		0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.1	0.0	1.0	0.0	0.4	0.2
Minus: Revaluation effect 2/		(1.89)	(0.22)	(0.34)	(10.20)	4.95	1.99	0.58	1.54	(1.48)	4.35	(7.34)	10.4	0.2
Predicted change in debt 3/		**9.2**	**5.2**	**4.8**	**14.3**	**-11.9**	**1.6**	**-1.5**	**2.0**	**17.6**	**-1.2**	**31.3**	**-13.9**	**4.8**
Residual 4/		-2.8	-4.7	-5.4	5.0	-0.4	2.9	-2.1	-0.4	-1.1	-1.4	2.2	1.7	-0.5
Simulation results														
Simulated debt with zero SEE and SSI deficits	28.8	35.2	35.7	30.9	46.1	33.6	34.8	28.5	25.2	31.1	23.9	39.2	27.9	
Memorandum items														
Residual in nominals 5/		-2.8	-4.7	-5.4	4.9	-0.4	3.0	-2.1	-0.4	-1.1	-1.4	2.2	1.7	-0.6
Operational balance (adjusted 6/)	-3.6	-9.2	-9.3	-9.1	-3.9	0.9	-8.2	-4.6	-7.1	-14.8	-9.2	-18.8	-3.4	-8.8

a/ As derived in Table 7 based on adjustments to IMF data.
1/ 2002 data from the IMF.
2/ Effect of the difference between depreciation and inflation on net debt/GNP. Cross exchange rate effects are included, except for those on central bank net foreign assets. A minus sign leads to an increase in debt.
3/ Minus the sum of the above components
4/ Difference between actual debt/GNP and predicted debt/GNP.
Positve residuals could reflect hidden deficits or uncaptured revaluation effect. Negative residuals could reflect overestimated deficits, overestimated revaluation or unrecorded debts or defaults by public sector entities.
5/ Difference between nominal actual and predicted debt, expressed as a percentage of GNP, from Table 6.
6/ Includes one-off expenditures for bank recapitalization and severance pay, in-kind foreign financing, operational losses of state banks and tax component of interest payments. See Table 7.