6. Public Finance

The budget performance deteriorated slightly in 2012. This was mainly owed to soaring personnel expenditures which have a major share in primary expenditures as well as increases in health, pension and social benefit expenditures. In addition, the marked deceleration in tax revenues amid changing composition of growth as a result of balancing in the economic activity and the adverse base effect caused by the year-on-year decline in tax revenues collected as per the Law No. 6111 on the restructuring of public claims contributed to deterioration of the budget performance via revenues (Box 6.1). Nevertheless, tax hikes to motor vehicles, fuel and alcoholic beverages in accordance with fiscal measures adopted in September and the ongoing revival in the economic activity since November favorably affected budget revenues in the last quarter of the year.

According to the MTP which was announced to the public in October 2012, budget performance will improve slightly in 2013 and the ratio of public debt stock to GDP, which has been on a downward trend since 2010, will decline further (Table 6.1). The course of primary expenditures, in particular personnel and social security expenditures, will mainly determine the course of budget performance in 2013. Meanwhile, soaring tax revenues amid stronger domestic demand and tax regulations which were put into effect in September 2012 and at the onset of 2013 will also improve budget revenues. However, it should be emphasized that strengthening the fiscal framework by institutional and structural improvements envisaged in the MTP remains to be of utmost importance with regard to maintaining fiscal discipline on a permanent basis in the medium term.

Table 6.1.
Central Government Budget Balance and EU-Defined Debt Stock
(Percent of GDP)

	2009	2010	2011	2012*	2013**	2014**	2015**
Budget Revenues	22.5	23.1	22.8	22.9	23.6	23.1	22.6
Budget Expenditures	28.0	26.8	24.1	25.3	25.7	25.1	24.4
Budget Balance	**-5.5**	**-3.6**	**-1.3**	**-2.3**	**-2.2**	**-2.0**	**-1.8**
Budget Revenues (Program-Defined)	21.0	21.8	22.2	22.0	22.8	22.5	22.1
Primary Expenditures (Program-Defined)	22.5	22.2	20.9	21.9	22.3	21.9	21.4
Primary Balance (Program-Defined)	**-1.5**	**-0.5**	**1.3**	**0.2**	**0.5**	**0.6**	**0.7**
Public Sector General Balance	**-5.1**	**-2.3**	**-0.1**	**-1.7**	**-1.5**	**-1.1**	**-0.9**
EU-Defined Nominal Debt Stock	**46.1**	**42.4**	**39.2**	**36.5**	**35.0**	**33.0**	**31.0**

* Estimate.
** Target.
Source: MTP (2013-2015).

6.1. Budget Developments

Central government budget posted a deficit of TL 28.8 billion in 2012, while primary balance registered a surplus of TL 19.6 billion (Table 6.1.1). Both the budget balance and the primary balance displayed a year-on-year worsening in 2012, which was stronger-than-envisioned in the budget for 2012. Primary expenditures exceeded the initial allowance, thus playing a major role on the worsening of the budget performance. The slowdown in the economic activity and the adverse base effect caused by the year-on-year decline in tax revenues collected as per the Law No. 6111 on the restructuring of public claims restricted the increase in tax revenues. However, the target for tax revenues was met on the back of tax regulations which were put into effect in September 2012.

Table 6.1.1.
Central Government Budget Aggregates
(Billion TL)

	2011	2012	Rate of Increase (Percent)	Actual/Target (Percent)
Central Government Budget Expenditures	314.6	360.5	14.6	102.7
Interest Expenditures	42.2	48.4	14.6	96.4
Primary Expenditures	272.4	312.1	14.6	103.8
Central Government Budget Revenues	296.8	331.7	11.7	100.6
I. Tax Revenues	253.8	278.8	9.8	100.4
II. Non-Tax Revenues	32.7	41.5	26.8	94.3
Budget Balance	**-17.8**	**-28.8**	**-**	**136.4**
Primary Balance	**24.4**	**19.6**	**-19.7**	**67.3**

Source: Ministry of Finance.

The central government budget deficit to GDP, which declined to 1.3 percent at end-2011, increased to 2 percent in 2012 due to the adverse effect of the balancing of the domestic and external demand on tax revenues and the acceleration of primary expenditures (Chart 6.1.1). Similarly, primary budget surplus to GDP also declined to 1.4 percent in 2012 from 1.9 percent in 2011. Central government primary expenditures to GDP, which increased markedly amid fiscal measures adopted to contain the adverse effects of the global crisis on the Turkish economy, followed a downward course in the subsequent years, yet re-surged in 2012. Having hit the recent-highs in the second quarter of 2011, central government budget revenues to GDP ratio has started to decline as of the second half of 2011 owing to the slowdown in tax revenues. Meanwhile, central government budget revenues to GDP edged up in the last quarter of 2012 due to tax regulations in September (Chart 6.1.2).

Chart 6.1.1.
Central Government Budget Balance
(Annualized, Percent of GDP)

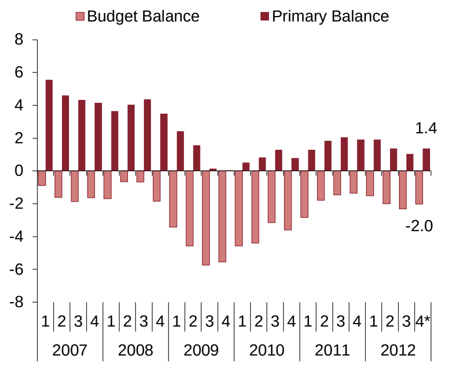
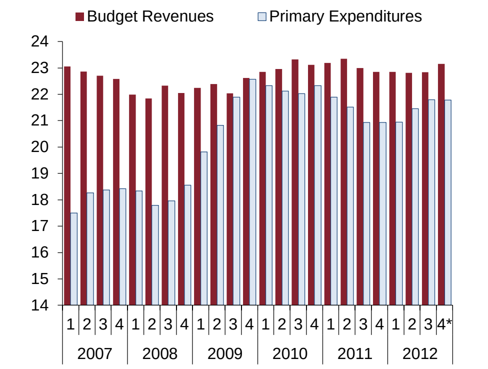


Chart 6.1.2.
Central Government Budget Revenues and Primary Expenditures
(Annualized, Percent of GDP)



* Estimate.
Source: Ministry of Finance.

Central government primary budget expenditures posted a year-on-year increase by 14.6 percent in 2012. Current transfers and personnel expenditures, major items in primary expenditures, soared by 17 percent and 18.6 percent, respectively; while purchases of goods and services fell by 0.9 (Table 6.1.2). The fall in purchases of goods and services was mainly led by the plunge in health expenditures, which was caused by the coverage of green card holders under the general health insurance scheme, the expenditures of which are included in current transfers. The increase of 20.5 percent in health, pension and social benefits were influential on the marked surge in current transfers. The SSI has showed a poor budget performance as of the onset of 2012 due to reduced revenues collected as per the Law No. 6111 on the restructuring of the premium liabilities as well as the transfer of health expenditures by green card holders to SSI at the beginning of 2012. Meanwhile, the prominent increase by 58.2 percent in the lending item was mainly driven by the soaring lending to SEE.

Table 6.1.2.
Central Government Primary Expenditures
(Billion TL)

	2011	2012	Rate of Increase (Percent)	Actual/Target (Percent)
Primary Expenditures	**272.4**	**312.1**	**14.6**	**103.8**
1. Personnel Expenditures	72.9	86.5	18.6	105.8
2. Government Premiums to SSI	12.8	14.7	14.6	103.1
3. Purchase of Goods and Services	32.8	32.5	-0.9	112.6
a) Defense and Security	10.0	10.9	9.2	104.4
b) Health Expenditures	5.4	0.5	-90.1	59.4
4. Current Transfers	110.5	129.3	17.0	99.3
a) Duty Losses	4.7	3.9	-17.5	89.9
b) Health, Pension and Social Benefits	52.8	63.7	20.5	92.1
c) Agricultural Support	7.0	7.6	8.5	105.2
d) Shares Reserved from Revenues	31.0	34.3	10.5	101.2
5. Capital Expenditures	30.9	34.2	10.6	122.5
6. Capital Transfers	6.7	6.0	-11.4	140.7
7. Lending	5.7	9.0	58.2	104.0

Source: Ministry of Finance.

The central government general budget revenues registered a year-on-year increase by 11.8 percent in 2012. Tax revenues went up by 9.8 percent in the said period, while non-tax revenues expanded by 26.8 percent amid the high profit transfer by the CBRT (Table 6.1.3). On the back of soaring firm profits owing to the high economic growth in 2011, corporate tax revenues expanded rapidly in the first half of 2012. On the other hand, corporate tax revenues decelerated in the following months amid soaring revenues led by the adverse base effect as per the Law No. 6111 which was put into effect in mid-2011 and displayed a moderate growth by 7.5 percent in 2012. Income tax revenues increased by 15.7 percent on account of the ongoing rise in registered employment. SCT revenues soared by 11.7 percent in 2012, while domestic VAT revenues posted a limited increase by 5.4 percent. The higher increase in SCT collection relative to VAT revenues was particularly attributed to the SCT rate hikes on tobacco products and alcoholic beverages. Meanwhile, VAT revenues on imports soared by a mere 2.7 percent amid the slowdown in imports.

Table 6.1.3.
Central Government General Budget Revenues
(Billion TL)

	2011	2012	Rate of Increase (Percent)	Actual/Target (Percent)
General Budget Revenues	**286.6**	**320.3**	**11.8**	**99.5**
I-Tax Revenues	**253.8**	**278.8**	**9.8**	**100.4**
Income Tax	48.8	56.5	15.7	105.0
Corporate Tax	27.0	29.0	7.5	106.9
Domestic VAT	30.0	31.6	5.4	94.0
SCT	64.2	71.7	11.7	101.6
VAT on Imports	48.7	50.0	2.7	92.7
II-Non-Tax Revenues	**32.7**	**41.5**	**26.8**	**94.3**
Enterprises and Property Revenues	9.1	14.0	54.2	151.3
Interests, Shares and Fines	19.7	22.6	14.4	103.1
Capital Revenues	2.5	2.0	-19.0	17.9

Source: Ministry of Finance.

Due to the balancing between domestic and external demand and base effect, growth of real tax revenues, which has been decelerating since the third quarter of 2011, posted negative values in the second and third quarters of 2012 after a 10-quarter period. In the last quarter of 2012, real tax revenues soared by a year-on-year 10.1 percent amid tax rate hikes in September and base effect (Chart 6.1.3). Consumption-based tax revenues, which are particularly affected adversely by the balancing between domestic and external demand, displayed an extremely negative performance in the first three quarters. On the other hand, they increased remarkably in the last quarter on the back of the base effect and the adopted tax measures. Accordingly, in the last quarter of

2012, SCT revenues, VAT revenues on imports and domestic VAT revenues increased by a year-on-year 15.1, 8.1 and 7.6 percent, respectively in real terms (Chart 6.1.4).

Chart 6.1.3.
Real Tax Revenues
(Annual Percent Change)

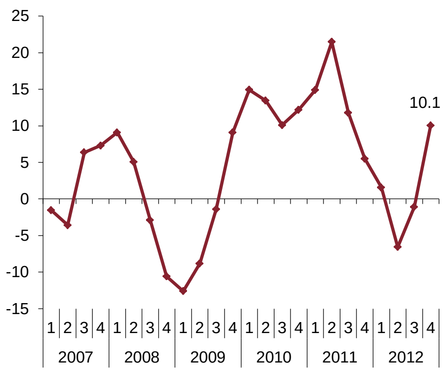
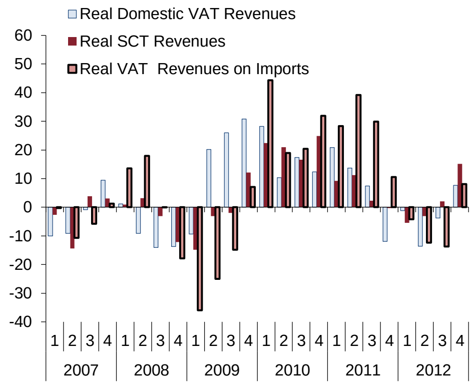


Chart 6.1.4.
Real VAT and SCT Revenues
(Annual Percent Change)



Source: Ministry of Finance.

6.2. Public Debt Stock Indicators

Public debt stock indicators improved further in 2012. Public debt ratios continued to decline; the real cost of borrowing stood low; the average maturity of the debt stock was extended; the share of interest and exchange rate-sensitive securities was reduced; and domestic debt rollover ratio was lowered.

A the end of the nine months in 2012, the ratio of total public net debt stock and EU-defined central government nominal debt stock to GDP were reduced by 4.4 and 2.7 percentage points from the year-end and reached 18 and 36.7 percent, respectively (Chart 6.2.1). Meanwhile, central government debt stock remained unchanged from 2011 (Chart 6.2.1).

Chart 6.2.1.
Public Debt Stock Indicators

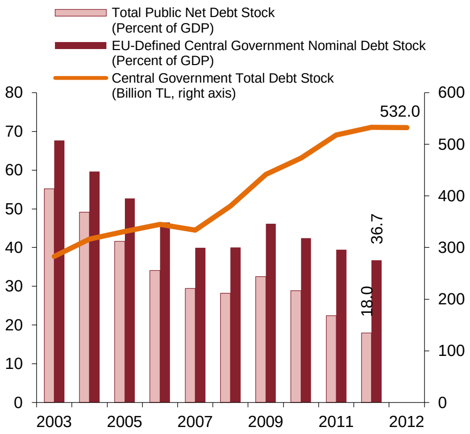
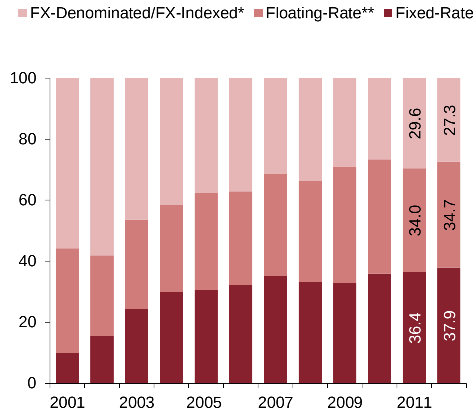


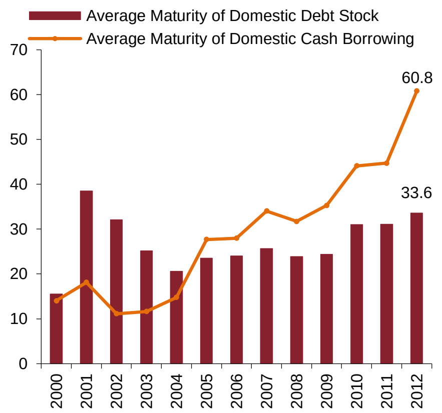
Chart 6.2.2.
Composition of the Central Government Debt Stock (Percent)



* FX-Denominated/FX-Indexed debt stock includes external debt stock and FX-denominated and FX-indexed domestic debt stock.
** Floating-Rate debt stock includes discounted securities with a maturity less than 1 year and GDBS with floating rates.
Source: Treasury.

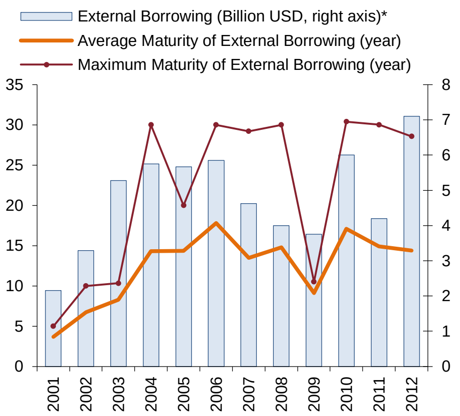
The Treasury has continued with its borrowing strategy to alleviate the sensitivity of the debt stock to liquidity, interest and exchange rate during 2012. Accordingly, the share of fixed-rate securities in the total debt stock picked up (Chart 6.2.2). The ratio of public deposits to average monthly debt service reached 308.6 percent. Term-to-maturity of the domestic debt stock hit 33.6 months amid the notable year-on-year increase in the average maturity of the domestic cash borrowing (Chart 6.2.3). External borrowing by bond issues amounted to USD 7.1 billion, with the average maturity remaining unchanged at 14.4 years since 2011 (Chart 6.2.4).

Chart 6.2.3.
Average Maturity of the Domestic Cash Borrowing and Term-to-Maturity of the Domestic Debt Stock (Month)



Source: Treasury.

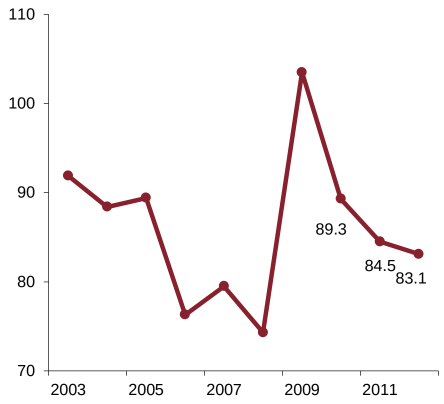
Chart 6.2.4.
Borrowing By Bond Issue



* Denotes total external borrowing for the relevant year.
Source: Treasury.

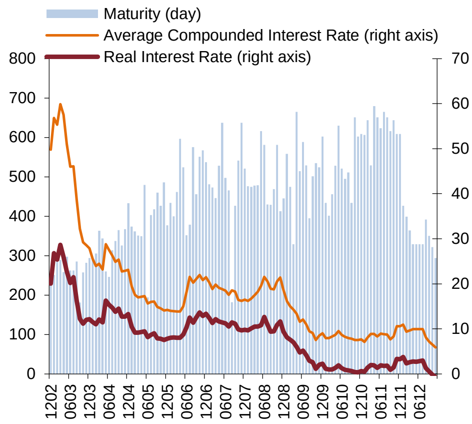
Domestic debt rollover ratio was realized as 83.1 percent in November 2012 (Chart 6.2.5). The average real interest rate at discount auctions, which slumped from the onset of 2009 to the beginning of 2011, continues to remain low (Chart 6.2.6).

Chart 6.2.5.
Total Domestic Debt Rollover Ratio
(Percent)



Source: Treasury, CBRT.

Chart 6.2.6.
Average Maturity of the Borrowing and Interest Rates at Discount Auctions



Box 6.1 The Sensitivity of Tax Revenues to Business Cycles in Turkey[1]

Tax revenues are significantly influenced by business cycles through automatic stabilizers. Hence, the size and the direction of the relation between tax revenues and business cycles, i.e. the sensitivity of the former to the latter is crucial in terms of the budget performance. Budget revenues and expenditures vary mainly due to the evolution of the business cycle or discretionary changes (decisions taken by public authorities). Public expenditures are mainly influenced by discretionary changes, while business cycles are more influential on revenues. Against this background, this analysis seeks to determine to what extent major tax revenue items in Turkey are affected by business cycles.[2]

Cyclical properties of the analyzed tax items are estimated through various statistical and econometrical techniques, and presented in Table 1.

Table 1. Cyclical Properties of Tax Revenues

	GDP	Total Tax Revenues (TTR)	Income Tax Revenues (ITR)	Corporate Tax Revenues (CTR)	Domestic VAT Revenues (DVATR)	SCT Revenues (SCTR)	VAT Revenues on Imports (VATRI)
Volatility	0.017	0.025	0.024	0.132	0.039	0.043	0.060
Relative Volatility	1.000	1.451	1.349	7.574	2.245	2.479	3.460
Cyclicality	-	Procyclical	Procyclical	Procyclical	Procyclical	Procyclical	Procyclical
Autocorrelation (t,t-1)	0.38	0.434	-0.091	-0.279	0.238	0.031	0.424
Elasticity	-	1.18	0.94	1.21	0.73	1.14	1.49
Granger-Causality	-	TTR → GDP	GDP → ITR ITR→ GDP	No Granger causality	GDP → DVATR DVATR → GDP	SCTR → GDP	GDP → VATRI VATRI → GDP

Main findings of the analysis can be summarized as below:

- Tax revenues are more volatile than the real GDP. This indicates that fluctuations in tax revenues outweigh the volatility in business cycles.

[1] For technical details, see Çulha (2012).
[2] The analysis is conducted for 2002QI-2012Q2 period using quarterly data on real GDP and tax revenue items in Table 1.

- Tax revenues are procyclical, i.e. tax revenues and real GDP move in the same direction. Accordingly, tax revenues decline during contractionary periods and rise during expansionary periods.

- Income tax revenues, a major direct tax item which accounts for about 20 percent of the total tax revenues have a relatively low autocorrelation coefficient. On the other hand, its coefficient of elasticity is close to unity, thus indicating that increases in national income bring proportional increases in income tax revenues. Meanwhile, corporate tax revenues, another direct tax item, have a relatively higher coefficient of autocorrelation and elasticity. This indicates that corporate tax revenues are more sensitive to changes in real GDP.

- VAT revenues on imports, an indirect tax item, have a relatively high autocorrelation coefficient, while SCT revenues have a low autocorrelation coefficient. The overall elasticity of the indirect tax revenues to real GDP is 1.16, implying that indirect tax revenues, which account for about 2/3's of the total tax revenues, are significantly influenced by changes in the economic activity.

- Granger-causality analysis indicates a uni-directional causality from total tax and SCT revenues to real GDP and a bi-directional causality between income tax revenues, domestic VAT revenues as well as VAT revenues on imports and real GDP. Meanwhile, no Granger-causality has been detected between corporate tax revenues and real GDP. Granger-causality tests and cross correlation coefficients both imply that SCT revenues lead business cycle. As for the relation between tax revenue items and real GDP, both analyses imply a contemporaneous relationship. In other words, tax revenues tend to contract (expand) in periods of contraction (expansion) in real GDP.

In sum, all the tax revenue items are procyclical in Turkey, i.e. they move in the same direction with the real GDP and are significantly affected by business cycles. The elasticity coefficient of total tax revenues is close to 1.2, while VAT revenues on imports have the highest elasticity coefficient. The statistical analysis of tax revenues show that corporate tax and indirect tax revenues are relatively more influenced by business cycles than income tax revenues. Moreover, tax revenue items, indirect taxes in particular, are more volatile than real GDP. This can mainly be attributed to frequent amendments to tax regulations. Furthermore, tax revenue items and real GDP appear to have a contemporaneous relationship in general, i.e. cyclical phases of the relevant terms coincide.

REFERENCES

Çulha, A., 2012, Türkiye'de Vergi Gelirlerinin İktisadi Döngülere Duyarlılığı (in Turkish), CBRT Economic Notes No. 12/34.