2. SAVING TRENDS IN TURKEY IN INTERNATIONAL COMPARISON

2.1 Total, Public and Private Saving

7. Total domestic saving in Turkey, which is the sum of public and private saving, has declined since 1988, after a sharp increase between 1980 and 1988 linked to policy-making uncertainties and high inflation. The decline thereafter was steady, reaching 12.7 percent in 2010, the lowest saving rate since 1980 and before then 1975 (Figure 1).

8. During the earlier period (1988-2001) the decline in the saving rate was driven by the public sector. Throughout the 1990s, the public deficit, which is the sum of the deficits of the consolidated budget, extra-budgetary and revolving funds, social security organizations, and state-owned enterprises (SOEs), rose. The ratio of the public deficit to GDP expanded from 5.5 percent in 1990 to 11.7 percent by the end of 1999. The ratio of public saving to gross national disposable income (GNDI), which was 2.6 percent in 1990, declined to -3.4 percent in 2000 and again to -7.2 percent in 2001.

9. During the later period (2001-2010), by contrast, the decline was driven by the fall in private saving which more than offset an increase in public sector saving. Private saving rates declined from an average of about 24 percent in 1991–2001 to 13.4 percent in 2005–10, eventually

8 There seems to be a break in the data in 2001. However, the short time series makes it difficult to econometrically test for a structural break.
pulling aggregate saving down to 16 percent. A range of factors explain the decline in private saving, particularly increased consumption driven by a rise in credit flows, in an environment of reduced interest rates and inflation. In parallel, however, public saving increased. In the aftermath of the 2001 crisis, fiscal policy was tightened to stabilize the public debt stock and a new framework for monetary and exchange rate policy was put in place. In contrast with past stabilization attempts, the focus was on improving public financial management and the budgetary system and attaining relatively high primary surplus targets. As public balances improved, the public saving rate increased substantially, from –7.2 percent in 2001 to over 4 percent in 2006, though a decline followed.

Box 1. Data on Savings in Turkey

This study uses the annual estimates for total domestic saving, private and public, produced by the Ministry of Development.* The Ministry of Development has revised the annual series for savings; the new series is used for the first time in this study.

A decomposition of private saving by households and by firms, however, is not available. Therefore, this study uses different data sources to analyze these subcomponents of private saving. For households, two main data sources are used. First, TurkStat generates household disposable income and consumption figures from the household budget survey (HBS). The study calculates household saving as a residual using these disposable income and consumption figures. Second, the survey of consumer finances, described in detail in Box 3, is used. For firms, two different data sources are used: (i) CBRT of the balance sheets of about 7,000 firms; and, (ii) Istanbul Stock Exchange (ISE) database.

10. Turkey’s domestic saving rates are comparable to those of Latin America but lower than in most other regions (Figure 3). The aggregate world saving rate was remarkably constant for the entire sample at about 19 percent of GNDI. Saving rates by region show substantial dispersion both over time and relative to other regions. Turkey’s saving rate is below most regions except Sub-Saharan Africa (SSA) but is comparable to that of Latin America and Carribean (LAC), where Chile is a good example of an economy that has succeeded in permanently increasing its saving rate. Chile’s saving rate rose from an average of 12 percent in the 1980s to 23 percent in the 1990s and then to 24 percent in the 2000s. In the 1980s and 1990s the median country in the Middle East and North Africa (MENA) region showed stable saving rates during the 1980s and 1990s, of about 21 percent of GNDI, but then increased to over 25 percent of GNDI during the 2000s. By contrast, the Europe and Central Asia (ECA) region showed declining national saving rates over time: from more than 25 percent of GNDI in the 1980s to 21 percent in the 1990s and 18 percent in the 2000s—between the 1980s and the 1990s there was a savings collapse in transition countries in Eastern Europe.

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* The Turkish Statistics Agency (TurkStat) currently does not produce savings data as a component of national accounts.

9 The world saving rate is computed as the median rate in a sample of 104 developing and developed countries. Saving rates by regions are also computed as the median rate of the countries in a given region.
11. Turkey’s average saving rate, though it has plunged in recent years, is still generally in line with rates in middle-income countries (Figure 4). High-income countries have the highest saving rates in the world. Moreover, the median non-OECD high-income country increased its saving rate significantly between the 1990s and the 2000s, from 23 percent of GNDI to 33 percent of GNDI. It should be noted, however, that the number of observations in this country group is relatively small. The saving rate in OECD high-income countries declined slightly, from 22 percent to 21 percent from the 1980s to the 1990s but increased to 23.5 percent in the 2000s. The median upper-middle-income and lower-middle-income countries have similar saving rates of somewhat less than 20 percent of GNDI. In the upper-middle-income countries the savings rate has decreased over time, as has Turkey’s. Finally, low-income countries have the lowest saving rates. Turkey’s saving rate is higher than the low-income group but lower than the OECD countries.

12. Turkey’s saving rates are far below those of high-growth countries. Figure 5 shows saving behavior in takeoff countries, transition countries, and China. Takeoff countries are defined as developing countries that achieved high and sustained growth rates in 1980–2008. China’s saving rate, which was already very high, increased substantially during that period, from an average of 36 percent for 1980–89 to 46 percent for 2000–2008. The median takeoff country shows large saving rates throughout the period, from 27

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10 The transition countries in our sample are Belarus, Bulgaria, Czech Republic, Estonia, Hungary, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia, Turkmenistan, Ukraine, and Uzbekistan.

11 The group of takeoff countries includes China (considered separately); Chile; Hong Kong, SAR China; Indonesia; Korea; Malaysia; Mauritius; Singapore; Taiwan, China; and Thailand.
percent in the 1980s to 31 percent in the 2000s. On the other hand, between the 1980s and the 1990s saving rates in transition countries collapsed with the onset of the economic transformation that started around 1990 in Eastern European countries. There are two possible explanations for the collapse: (a) the end of involuntary savings due to the movement from a centrally planned to a market economy (Denizer and Wolf, 2000), and (b) the decline in short-term income, especially in real terms, together with the prospects of future higher economic growth and the adjustment of consumer durables, which may have depressed the national saving rate (Schmidt-Hebbel and Servén, 1998).

2.2 Household Saving

13. The previous section gave a profile of aggregate saving rates (total, public and private). From a policy perspective, it is important to investigate trends in and determinants of the individual components of private saving; household and corporate saving. This section will lay out the profile of household saving, while the next section will focus on corporate saving.

14. TurkStat HBS establish a basis for calculating saving rates for households. Saving is commonly defined as the difference between income and consumption, denoted below by $S_1$. A broader definition of saving treats durable goods purchases as another form of saving and excludes them from total consumption, denoted as $S_2$. Conceptually, saving corresponds to postponement of consumption into the future, in other words, to a substitution of future for present consumption.

15. Household saving in Turkey declined between 2003 and 2008 (Figure 6). For both definitions of saving, Figures 6a and 6b provide both the mean (using household income as the weight) and the median for 2003 - 2008. Both show a decline in household saving by either definition, with
the decline in the mean more pronounced. A sharp decline in the mean savings rate is consistent with
the general drop in private saving in 2005. However, because the distribution is skewed, mean saving
rates may not reflect the central tendency well. Because median rates are more stable across different
definitions and years, they seem to be less influenced by outliers. According to $S_1$, where saving is the
difference between income and consumption, median savings are lowest in 2008 at 1.8 percent and
highest in 2004 at 8.0 percent. As expected, saving increases as the scope of saving is expanded. With
$S_2$, saving rates increase by more than 5 percentage points, which is the ratio of household durable
consumption to disposable income.\(^{14}\) Note that decreases in saving are not as pronounced when the
wider definition of saving is used. Figure 7, based on national accounts data, shows that consumption
of durables increased starting in 2003 while private saving declined.\(^{15}\) In fact, the decline in saving rates
that consider durable consumption to be part of saving was moderate in the 2000s (Figure 6).\(^{16}\)

16. **Higher-income groups in Turkey save more.** Figure 8 displays saving rates by income
quintile. While the lowest 20 percent group has dissavings, the saving rate for the highest group was
well above the average. The global crisis triggered a sharp reversal in the shift toward less dissaving
for the first quintile and improvement in the saving rates for the second and third quintiles as disposable
incomes shrank.

17. **In Turkey, saving increases with the age of the household head** (Figure 9).\(^{17}\) There were
not enough observations for the first age group to yield significant and stable rates. However, other
data point to a stable and increasing relationship between saving and the age of household head,
though there was a slight decrease in the saving rates of the elderly between 2004 and 2007. Thus, the
age profile for saving may be hump-shaped. However, findings from econometric estimations indicate
that, contrary to the life cycle theory, the pattern in Turkey is not hump-shaped—that is, savings do not
decline with age and dependency ratio, evidence of a bequest motive, or a selection bias in the data.
(Such a bias could arise if some elderly who had saved for retirement could afford to stay as household
heads while others move in with their children.) Studying age-saving profiles with cross-section data may
cause substantial bias due to cohort effects. Unfortunately, the data sets used in this study span too short
a period to allow for the study of cohort effects.

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14 There are significant differences between saving rates calculated here and those calculated from HBS headline figures on income and con-
sumption expenditures. The main reason is that this study adjusts HBS monthly consumption expenditures for inflation to match year-end
income.
15 Because the durable consumption to GDP ratio is not available in the new GDP series, the ratio from the old national income series is
reported here.
16 Using somewhat older data sets Denizer and Wolf (1998) calculate saving rates of 24.8 percent for Bulgaria, 11.2 percent for Hungary, and
16.5 percent for Poland. Kulikov, Paabut, and Staehr (2007) calculate saving rates between 5.6 percent and 15.1 percent for Estonia, and
17 The pattern of saving in Turkey across income groups, age groups and educational attainment groups is consistent with the world experience.
18. **Level of education is closely correlated with household saving in Turkey** (Figure 10). Saving rates steadily increase by the level of education. The largest group (roughly half) has five years of primary schooling and a relatively low saving rate of about 12 percent. On the other hand, the small group with graduate degrees (0.7 percent of the population) has a saving rate of close to 25 percent (Figure 10a). Education-savings profiles are more stable than age-savings profiles; at any given education level, the variance in saving rates from year to year is relatively small (Figure 10b). For a given education level, rates were almost identical in 2005, 2006 and 2007.

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18 The educational attainment of the household head is measured by degree completion rather than years of schooling. The study assigns the minimum years of schooling required for completion to each individual and then averages household levels to calculate average years of schooling.

19 Education may be a proxy for income as well as for wealth.

20 This is the group that graduated from primary school before eight years of primary education were mandated in 1997.
2.3 Corporate Saving

19. Gross corporate savings are typically defined in national accounts as the sum of the undistributed profits of enterprises and the amortization of fixed capital. Net corporate savings in turn refer to undistributed profits—retained earnings (OECD, 2007). The definition refers to a specific enterprise, where net saving is defined as net profit (after tax and net interest payments) minus dividend payments (Figure 11). Few countries, mostly high-income, calculate economy-wide corporate saving figures in their national accounting systems; Turkey is not one of them.

Figure 11. Income Statement of a Typical Non-Financial Firm

Gross value added
- Wage payments
- Indirect taxes (net)
= Gross operational return
- Interest payments (net)
- Non-operational revenue
+ Other transfers (net)
= EBIT
- Direct taxes
= Net profit
- Dividend payments
= Retained earnings
+ Depreciation
= Gross saving
= Net lending
+ Net capital transfer
- Net capital expenditure
- Other investments

20. Two different data sets are used to investigate trends in corporate saving and its determinants. The corporate saving analysis is primarily based on the balance sheets and profit-loss accounts of nonfinancial firms listed on ISE. That data set covers about 170 firms that reported dividend payments continuously from 1996 through 2008. The analysis also uses a larger data set compiled by the CBRT that contains the balance sheets and profit-loss accounts of over 6,000 nonfinancial firms. Unlike the ISE data set, the CBRT balance sheet data set does not include information on dividend payments, so the analysis using the CBRT data is based on net profits rather than corporate savings.

21. It is also defined as the sum of net lending, gross fixed capital formation, and other capital expenditure, minus net capital transfers received.

22. Decomposing private savings in terms of corporate and household savings by using flows fund methodology was among the purpose of this study but it did not materialize due to the lack of data.

23. As a complementary analysis, the CBRT firm-level data set, the largest set available in Turkey on firm balance sheets, is used to analyze the determinants of investment and net profit margins. More than 6,000 firms employing more than 10 workers reported continuously for 2002–2007; the firms on average employ about 200 employees. The sample covers companies responsible for over 66 percent of total exports from Turkey and about 75 percent of employment (in firms with 10 or more employees) for 2002–2007.
21. Despite a decline in 2008, corporate saving rates and profit margins on average rose during the period, though private saving rates declined (Figure 12). Both ISE and CBRT data show that for 2002–2007, net profit margins (net profits as a share of net sales) increased. The saving rate (net profits minus dividends as a ratio of net sales) calculated as an average for ISE-quoted firms shows a pattern similar to net profit margins. Corporate saving rates are thus closely linked to profit margins. This relationship is implied by the relatively stable dividend payout ratios (dividend payments as a share of net profits). 24 A higher profit margin implies that more funds are available for investment and/or dividend payments.

![Figure 12. Net Profits and Saving Rates of Turkish Firms, 1996–2008](image1)

Source: ISE

Source: CBRT

22. However, ISE-listed nonfinancial firms have relatively low average savings compared to many other emerging countries (Figure 13). Their average saving rates are lower than in emerging market comparators like India, Malaysia, South Africa, Argentina, Brazil, Thailand, Mexico, Poland, and Hungary, though higher than Italy, Germany, and China. 25 Bayoumi et al (2010) suggest (consistent with these findings) that corporate savings of ISE-listed firms are also high with respect to high-income countries and China but low compared to emerging countries

![Figure 13. Mean and Median Saving Rates of Firms Selected Countries (2003–2009)](image2)

Source: Worldscope database

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24 Dividend payments by ISE-listed firms are the only information available on dividend payments in Turkey. Dividend payments as a percent of net profits (dividend payout ratios) are rather stable, which suggests that the share of corporate savings in net profit does not change significantly. The stable dividend payout ratios are mainly driven by manufacturing firms; the mean ratios of nonmanufacturing firms are more volatile. The gradual decline in dividend payout ratios from 2002 to 2007 was muted by a sharp rise in 2008 as the global crisis hit the corporate sector and profits plunged.

25 The comparison is carried out for 1,575 firms from 16 countries for 1998–2009 using the Worldscope database.