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September 2012
IMF Country Report No. 12/261

Turkey: Financial System Stability Assessment

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INTERNATIONAL MONETARY FUND

TURKEY

Financial System Stability Assessment

Prepared by the Monetary and Capital Markets and European Departments

Approved by José Viñals and Antonio Borges

November 15, 2011

This report summarizes the findings of the Financial Sector Assessment Program (FSAP) Update for Turkey. A joint IMF-World Bank mission visited Ankara and Istanbul March 23 to April 5, 2011. The team comprised Mark O'Brien (Mission Chief, IMF), Lalit Raina (Mission Chief, World Bank), Erlend Nier (Deputy Mission Chief, IMF), Carlos Pinerua (Deputy Mission Chief, World Bank), Gianluca Esposito, Francisco Figueroa, Heiko Hesse, Nadege Jassaud, Jay Surti, and Justin Tyson, (all IMF), Damodaran Krishnamurti, Eugene Gurenko, and Martin Melecky (all World Bank). A concluding meeting was held with the Treasury Undersecretary and heads of various Turkish agencies.

The main findings of the mission are as follows:

- In the context of wide current account deficits, rapid credit growth has led to increased macro-financial risks. The authorities, led by the CBRT, have responded, but important risks remain.
- Stress tests indicate that, while the banking system appears to have sufficient buffers to withstand a deep, but brief shock, the system could come under strain if a shock was protracted or buffers were eroded through further credit growth and reliance on short-term external funding.
- Advances in establishing a stronger macroprudential policy framework are being made to ensure timely and well-coordinated responses to emerging risks in future. A clearer separation of these arrangements from the crisis management framework would be useful.
- Banking and insurance supervision and regulation has been strengthened, but material gaps remain in implementation, including in supervision of key risks and consolidated supervision for banks, and the transparency of insurance supervision.
- Turkey has enhanced aspects of its AML/CFT legal and regulatory framework, but significant shortcomings remain, as highlighted in June 2011 by the FATF's inclusion of Turkey on a list of countries which have not made sufficient progress in addressing strategic AML/CFT deficiencies.

FSAP assessments are designed to assess the stability of the financial system as a whole and not that of individual institutions. They have been developed to help countries identify and remedy weaknesses in their financial sector structure, thereby enhancing their resilience to macroeconomic shocks and cross-border contagion. FSAP assessments do not cover risks that are specific to individual institutions such as asset quality, operational or legal risks, or fraud.

Contents Page

Glossary 3

Executive Summary 4

I. Stability Assessment 7
A. Structural Features of Turkey's Financial System 7
B. Recent Financial Sector Developments....10
C. The Current Conjuncture and Key Risks 12
D. Stress Tests....18
E. Policy Responses....26

II. Financial Sector Oversight....30
A. Macroprudential Policy Framework 30
B. Banking 32
C. Insurance 34
D. Anti-Money Laundering and Combating the Financing of Terrorism (AML/CFT)35

III. Crisis Management Framework....36
A. Bank Resolution Framework 37
B. Deposit Insurance....38
C. Systemic Liquidity 39

Tables

1. Key Recommendations....6
2. Turkey's Financial System Structure....8
3. Structural Indicators of Turkey's Banking Sector 8
4. Loan Portfolio Allocation and Their Changes by End-2010 9
5. Ownership Structure of the Non-Bank Specialized Lenders....9
6. Main Crisis-Related Measures Affecting the Financial Sector Prudential Framework.......11
7. Stress Tests for Banks....19
8. Impact of Sudden Stop on Banks' Capitalization....22
9. Impact of Boom-and-Bust on Banks' Capitalization....22
10. Recent Macroprudential Measures 27
11. Banking System at a Glance, 2005-11....41
12. Financial Soundness Indicators of the Non-Banking Sectors....42

Boxes
1. Tail Risks, Scenarios, and Stress Test Design....24

Appendices
1. Risk Assessment Matrix 43
2. Status of Main Recommendations from the 2007 FSAP 45

GLOSSARY

AML	Anti-Money Laundering
BCP	Basel Core Principles for Effective Banking Supervision
BRSA	Banking Regulation and Supervision Agency
CAR	Capital Adequacy Ratio
CBRT	Central Bank of the Republic of Turkey
CFT	Combating the Financing of Terrorism
CMB	Capital Markets Board
ELA	Emergency Liquidity Assistance
FATF	Financial Action Task Force
FIU	Financial Intelligence Unit
FSAP	Financial Sector Assessment Program
FSC	Financial Stability Committee
FX	Foreign exchange
GDI	General Directorate of Insurance
IAIS	International Association of Insurance Supervisors' Insurance Core Principles
ISB	Insurance Supervisory Board
MASAK	Financial Crimes Investigation Board
MoU	Memorandum of Understanding
NPLs	Non-Performing Loans
PEP	Politically Exposed Persons
RRs	Reserve Requirements
SDIF	Savings Deposit Insurance Fund
SME	Small and Medium Enterprise
SRCC	Systemic Risk Coordination Committee
STR	Suspicious Transaction Report
TL	Turkish Lira

Executive Summary

The Turkish financial system has weathered the 2008-09 global financial crisis relatively well. This was due to the significant capital buffers built up following the 2000-01 banking crisis, more effective fiscal and monetary management, strengthened banking regulation and supervision, and conservative banking practices. In addition, Turkey's resilience owed much to a rapid rebound in capital flows and real activity.

However, new macro-financial risks have emerged in recent years from domestic and international developments. Along with some other emerging market countries, Turkey experienced a credit boom in the period to mid-2011, accommodated by easy domestic policies and global monetary conditions, that led to large capital inflows and strong domestic demand, contributing to a sharp widening in the current account deficit and increases in short-term external debt.

Stress tests, based on end-2010 data, illustrate that the banking system could come under strain, especially if a macroeconomic shock was protracted or preceded by a sustained period of rapid credit growth. Sensitivity analysis by the major banks suggests limited vulnerability to higher interest rates or a deterioration in credit quality, and the team's top–down tests indicate that the system capital could weather a severe, albeit short-lived, macro-economic shock of the magnitude and duration that occurred in Turkey in 2008/9, although liquidity may be strained for a few banks. However, the system's capital buffers might be insufficient in the event of a protracted reduction in economic activity amidst a reversal of capital flows and mark-to-market losses, or if bank capital and credit quality were eroded by continued rapid loan growth. Some banks may face significant funding pressure under such a scenario.

Although recently slowing, loan growth was very rapid during the first half of 2011, further building vulnerabilities. While the Central Bank of the Republic of Turkey (CBRT) took action to stem rapid loan growth, prudential policy was tightened only with a lag, limiting the impact of the policy response. While household balance sheets appear healthy, the corporate sector's foreign exchange (FX) exposure is at a record high, bank capital buffers have narrowed, and, although deposits remain the main funding source, banks are increasingly reliant on short-term foreign funding. This underscores the critical importance of action to avoid a further erosion of capital buffers, to maintain and strengthen the stability of funding, to prevent a weakening of lending standards, and to monitor and respond to increases in FX mismatches.

Turkey's new macroprudential policy framework provides a basis for timely and coordinated responses to emerging risks. Turkey—like many of its G20 peers—is developing a macro-prudential framework for systemic risk monitoring and policy coordination. This reflects the post-crisis recognition of the need to supplement micro-prudential regulation frameworks with clearer mandates for monitoring and mitigating systemic risks. A Financial Stability Committee (FSC) was formed in mid-2011. The FSC

has been given both a financial sector systemic risk monitoring function and a crisis management function. Consideration could be given to separating the two functions more clearly, and ensuring a leading role of the CBRT in systemic risk monitoring and prevention.

Financial sector regulation has been strengthened significantly since the 2007 FSAP, but material gaps still exist in some key areas of supervision. The BRSA moved quickly to promulgate the various sub-regulations needed to bring the new Banking Law into full effect. However, while implementation has improved, weaknesses exist in several areas, including oversight of market and liquidity risks, consolidated supervision, and supervision of banks' risk management techniques and models. The authorities have also undertaken a major overhaul of the insurance regulatory framework, but more can be done to achieve a fully transparent, consultative, and accountable supervision and regulation framework.

Reflecting the experience gained from the 2000–01 crisis, the Turkish banking resolution and deposit insurance frameworks are well designed. The Savings Deposit Insurance Fund has a broad menu of resolution tools available under the Banking Law to undertake least cost resolution including, mergers, insured deposit transfers, purchase and assumption transactions, and outright bank liquidation, while the deposit insurance framework in Turkey is in line with EU and international practices. The CBRT has a well-articulated framework for emergency liquidity provision, although scope for FX liquidity provision is constrained by limited official reserves.

Turkey has enhanced aspects of its Anti-Money Laundering and Combating the Financing of Terrorism (AML/CFT) legal and regulatory framework since the 2007 Financial Action Task Force (FATF) mutual evaluation. However, and as highlighted also by the FATF in June 2011 when it included Turkey on a list of countries which have not made sufficient progress in addressing strategic AML/CFT deficiencies, further progress is needed. The Turkish authorities still need to adopt a new Law adequately criminalizing terrorism. There are also some remaining shortcomings in the AML legal framework, and implementation and effectiveness issues surrounding the suspicious transaction reporting requirements and the supervision of financial institutions for compliance with AML/CFT requirements. The institutional supervisory framework also needs to be better integrated to incorporate individual sector supervisors' knowledge, experience, and perceived ML/TF risks.

Table 1. Key Recommendations

RECOMMENDATION	Priority	Timing
Overall financial sector oversight		
• Consider further prudential action to ensure strong capital positions and stability of funding.	High	Near term
• Ensure data are available to assess the risk from unhedged corporate net short FX positions and take corrective action as necessary.	High	Near term
• Consider further measures to address the risk of worsening lending standards in the consumer and SME segments.	Medium	Medium term
• Develop an approach to risk identification that combines the monitoring of key indicators with qualitative information. Better leverage the expert resources of the BRSA and CBRT by jointly developing databases and modeling frameworks for financial stability analysis.	Medium	Medium term
Macro-prudential policy framework		
• Ensure appropriate communication and accountability of the FSC and strengthen its mandate and powers through primary legislation.	Medium	Medium term
• Consider separating macroprudential policy and crisis management arrangements and ensuring a leading role of the CBRT in systemic risk monitoring and prevention.	Medium	Medium term
Micro-prudential regulation and supervision		
Banking		
• Review and revise key aspects of the supervisory and regulatory framework to bring it fully into line with the Basel framework, especially as regards the supervision of key risks and the definition of capital.	High	Near term
• Implement consolidated banking supervision and enhance the coverage of risks emanating from non-banking entities in the group.	High	Medium term
• Revise the Banking Law to enhance the operational and organizational autonomy of the BRSA for banking supervision.	Medium	Medium term
Insurance		
• Reform the current insurance regulation and supervision processes by making them more transparent, consultative, and accountable to the industry.	High	Near term
• Improve the "early warning" system for the required solvency margin.	High	Near term
• Transfer the responsibilities for insurance regulation and supervision to an independent integrated insurance supervisory body.	Medium	Medium term
AML/CFT regime		
• Adopt a new Law on Combating the Financing of Terrorism (CFT) to address the deficiencies identified by the FATF.	High	Near term
• Strengthen and integrate the institutional supervisory framework for AML/CFT to include participation of sector supervisors' within the monitoring, selection, planning and coordination of AML/CFT activities.	High	Near term
• Establish a definition for Politically Exposed Persons (PEP) and requirements for reporting entities in line with the FATF standard.	High	Near term

I. STABILITY ASSESSMENT

A. Structural Features of Turkey's Financial System

1. **Turkey's financial system has deepened since the 2000-01 crisis, but banks still play a dominant role.** Banking system assets increased from 63 percent of GDP in 2005 to over 90 percent of GDP by August 2011. Despite a relatively large number and variety of non-bank financial institutions, the role of banks in the financial system, which was already significant, has increased (Table 2). Public banks continue to play an important role, with the largest bank being state-owned and the three state-owned banks in aggregate accounting for close to a third of total banking sector assets (Table 3). While foreign banks have been able to increase market share somewhat, this has been at the expense of other private banks.

2. **The structure of banks' balance sheets is changing, in turn changing the banks' risk profiles.** The resolution of the 2000–01 crisis left bank assets dominated by government securities. Rapid loan growth has reduced the share of government securities in total assets to 29 percent of total bank assets by end-2010, narrowing the scope to finance further loan growth in this way. With deposits growing much slower than loans, banks are increasingly relying on foreign funding, exposing them to liquidity risks. Moreover, while the largest proportion of loans (50 percent) is allocated to corporates (Table 4), banks have been growing loans to other sectors, especially households and SMEs, which are more profitable but also riskier.

3. **Some financial institutions exhibit complex group structures posing challenges for consolidated supervision.** There were three financial holding companies (as defined under the Turkish Banking Law) operating in Turkey as at end-2010.[1] However, three other financial groups operate in more than one financial subsector. Some banks have also developed significant ownership links with non-banks (Table 5).

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[1] In Turkey, a financial holding company is an institution whose all or majority of subsidiaries are credit institutions or financial institutions, provided that at least one of them is credit institution.

Table 2. Turkey's Financial System Structure

(TL billion)

Asset Size of the Financial Sector	2003	2004	2005	2006	2007	2008	2009	2010
Central Bank of Turkey	77	75	90	104	107	114	110	128
Banks	250	306	407	500	582	733	834	1007
Financial Leasing Companies	5	7	6	10	14	17	15	16
Factoring Companies	3	4	5	6	7	8	10	15
Consumer Finance Companies	1	2	3	3	4	5	5	6
Asset Management Companies	na	na	na	na	0	0	0	1
Pension and Insurance and Reinsurance Companies	8	10	15	19	23	28	33	37
of which Life and Pension Companies	3	4	6	7	10	12	16	18
of which Pension Investment Funds		0	1	3	5	6	9	12
Securities Companies	1	1	3	3	4	4	5	8
Securities Investment Trusts	0	0	1	1	1	1	1	1
Securities Mutual Funds	20	24	30	22	26	24	30	33
Real Estate Investment Trusts	1	1	2	3	4	4	5	17
Venture Capital Investment Trusts	0	0	0	0	0	0	0	0
Portfolio Management Companies	18	25	30	26	31	31	40	45
Total	**383**	**455**	**591**	**697**	**803**	**967**	**1088**	**1313**

Source: BRSA

Table 3. Structural Indicators of Turkey's Banking Sector

	2006	2007	2008	2009	2010
Total number of banks	50	50	49	49	49
Deposit banks	33	33	32	32	32
Participation banks	4	4	4	4	4
Investment and development banks	13	13	13	13	13
Concentration Indicators (Asset)					
Share of first 5 banks (Percent)	61	60	60	61	60
Share of first 10 banks (Percent)	84	83	83	83	83
Herfindahl Hirschman Index	911	879	886	913	898
Bank Ownership (Percent, Total Assets)					
State	31	30	31	32	32
Domestic Private	56	56	53	52.0	52
Foreign Private	13	14	17	16	17
Number of branches	7,302	8,122	9,304	9,581	10,066
Number of depositors (thousands)[1/]	70,613	70,234	66,664	66,917	47,252
Number of depositors (thousands)[2/]	1,003	1,210	1,408	1,973	2,113
Number of loan customers (thousands)	27,712	34,194	38,181	39,389	41,496
Number of credit card customers (thousands)	25,580	27,658	25,662	26,499	27,787

1/ For deposit banks.

2/ For participation banks.

Source: BRSA

Table 4. Loan Portfolio Allocation and Their Changes by End-2010 [1/]

Asset classes	Exposures (2010, EAD %)				Annual Credit growth in 2010 (%)			
	Min	Median	Max	All Banks	Min	Median	Max	All Banks
Corporates	30	45	54	42	24	32	78	36
SMEs (retail)	6	15	21	15	22	37	93	48
Mortgage loans	5	8	19	8	31	37	50	38
Credit Cards	1	6	21	6	8	33	44	18
Other Consumer Loans	6	10	15	10	22	37	57	40
Loans to public entities	0	10	36	15	-54	0	40	-17
Banks Loans	1	2	9	4	-81	-40	-10	-40

Source: Staff calculations based on BRSA data
1/ Largest nine banks.

Table 5. Ownership Structure of the Non-Bank Specialized Lenders

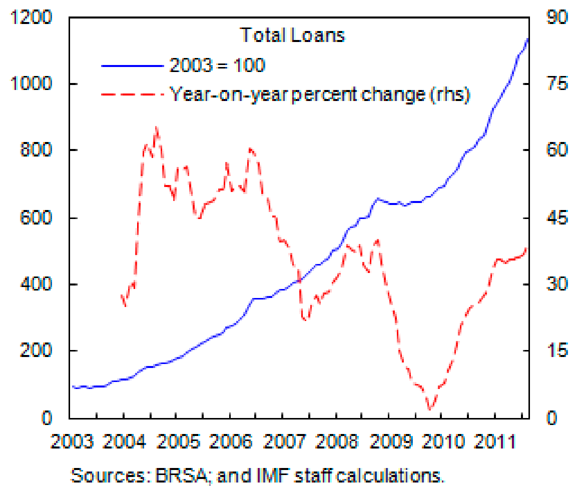
(in percent)

Owner\% Ownership of	Leasing Companies	Factoring Companies	Finance Companies
Banks	60.2	14.4	4.0
Insurance Companies	0.7	0.3	-
Holding Companies	4.9	20.7	26.9
Real Persons	1.0	44.7	-
Companies Incorporated Abroad	9.3	2.2	41.1

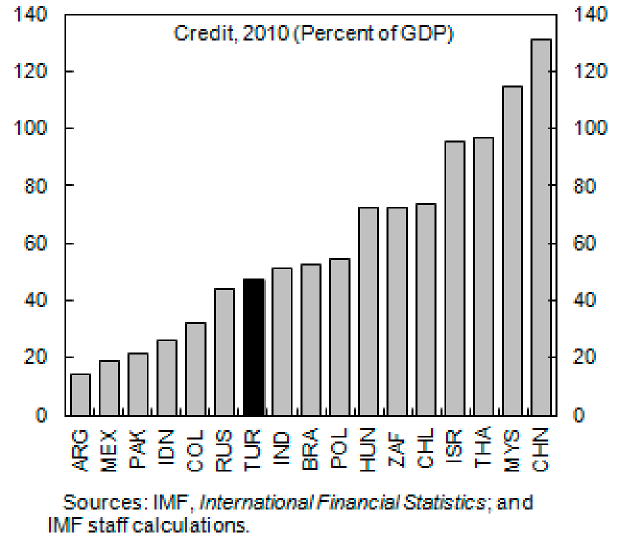
Note: March, 2011; Remaining shareholders are other financial firms and non-financial firms incorporated in Turkey.

B. Recent Financial Sector Developments

4. **Credit has expanded rapidly over the last eight years, albeit from a relatively low base.** Since 2003, loans from the banking sector have been growing at annual rate of just over 25 percent in real terms even when including the recent global turbulence. Nonetheless, Turkey is still relatively unbanked compared to other emerging market countries with a credit to GDP ratio below 50 percent.



Sources: BRSA; and IMF staff calculations.



Sources: IMF, *International Financial Statistics*; and IMF staff calculations.

5. **A decade of reforms, the buildup of regulatory buffers, significant policy action and a rapid growth rebound helped contain the fallout from the global crisis.** Following the restructuring and recapitalization of the banking sector after the 2000-01 crisis, the supervisory framework was modernized through passage of a banking law in 2005 and the BRSA reorganized. By end- 2007 (i.e., just prior to the international financial crisis) the system wide official CAR was 19 percent (albeit with differences between banks), gross NPLs were 3.5 percent of loans, and profits were robust. The CBRT engaged in unprecedented monetary easing during the crisis, and although no direct public financial support was provided, amendments were made to prudential regulations aiming at preserving banks' earnings and capital adequacy while maintaining credit (Table 6).

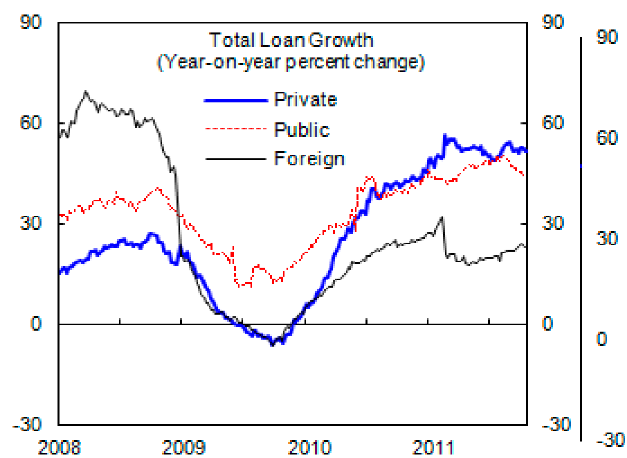
Table 6. Main Crisis-Related Measures Affecting the Financial Sector Prudential Framework

Measure	Description	Adoption Date
Reclassification of banks' holdings of government securities	Allowed banks to reclassify on a one-time basis their available-for-sale securities to hold-to-maturity status, or fair value through profit or loss, consistent with changes in international accounting standards, therebyavoiding the need for mark-to-market pricing and recording capital write-downs when securities prices fall.	October 2008
Dividend policy	Requires banks to seek approval from the BRSA before distributing dividends. The maximum dividend payout for CAR> 18 percent is 20 percent, for 16 percent<CAR<14 percent is 15 percent and for 13 percent< CAR<16 percent is 10 percent.	October 2008; extended in 2010 for 2009 profits; and again in 2011
Reclassification of restructured loans	Allows banks to reclassify loans from “less than 90 days overdue” to “performing” if: (i) the debtor falls behind because of a “temporary liquidity crunch”; (ii) the loans are restructured; and (iii) a minimum of 3 installment payments—amounting to at least 15 percent of the restructured loan—are subsequently paid; TL 11 billion in loans (about 3 percent of total loans) were restructured under this provision through March 2010 1/	January 2009; extended in March 2010 for another year
FX liquidity requirements	FX-indexed assets and liabilities could be counted toward the FX liquidity requiredment with a coefficient of 45 percent, allowing banks to achieve the required ratio more easily. Coefficient on some government securities items raised .	January 2009; still in effect
Restrictions on FX lending	Allows non FX-earnings companies to borrow in FX from local banks (previously, only FX-earning companies could borrow FX), provided FX loan amount is greater than US$5 million and maturity date is longer than a year; bans consumers from taking out FX-linked loans	June 2009
General provisioning on new loans	Allows banks with CARs above 16 percent (nearly all banks) to lower their general provisioning rate from one to zero percent for cash loans other than credit cards until March 2011; this provisioning rate had been increased from 0.5 to 1.0 percent as a measure under the last SBA	March 2010, effective till March 2011

Source: Turkish authorities; and IMF staff

1/ However, in some banks, up to 20 percent of loans benefited from restructuring.

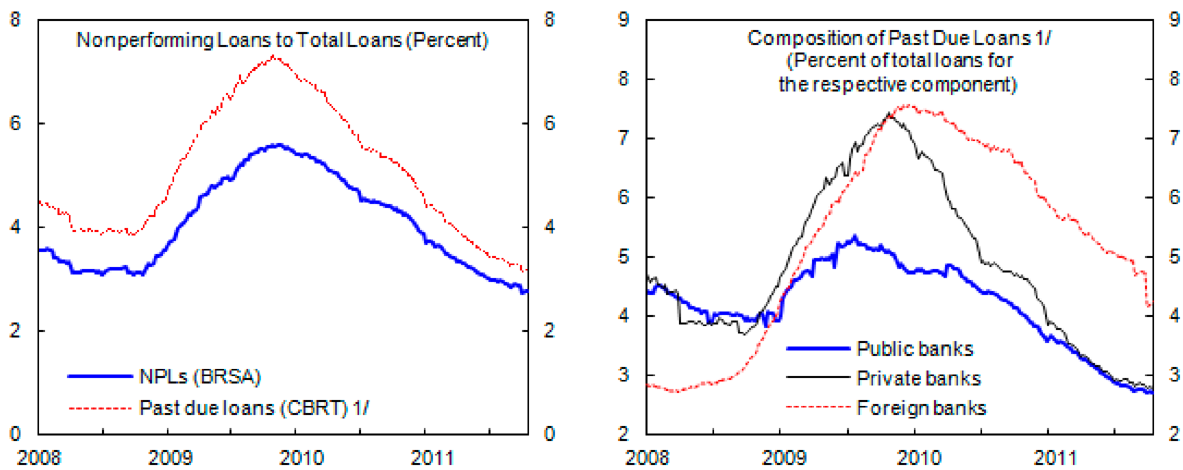
6. **Bank lending initially contracted sharply during the crisis, rebounded strongly beginning in mid-2009 and only recently eased**. The loan contraction was sharpest in foreign and private banks, as state-owned banks continued lending (mainly in Lira) and gained market share. The subsequent rebound in lending reflected the effects of the economic recovery on loan demand, healthy private balance sheets, and lower borrowing costs on loan demand, as well as the effects on supply of a reflow of international capital and strong growth in



Sources: CBRT; and IMF staff calculations.

residents' deposits. During 2010 Q4–2011 Q2, loans to the private sector grew at an annualized rate of around 40 percent, driven in part by easy global monetary conditions, large capital inflows and strong domestic demand, which contributed to the widening in the current account deficit.

7. **While the deterioration in NPLs during the crisis was most marked in manufacturing (SME) and consumer loans, loan performance substantially improved in the post-crisis economic rebound**. NPL increases were much more moderate in state-owned banks, whose borrowers largely consist of public servants, state-owned companies, and sectors benefiting from government interest rate subsidies. NPLs benefited from changes in loan classification and some banks have also sold NPLs to asset management companies. Moreover, in one case, NPLs were ceded by the banking entity to other entities belonging to the same owner. The system average NPL ratio rose in 2009, but fell back to a level just under 4 percent by end-2010 and is now at an historical low of 2.8 percent. However, shortcomings in asset classification and provisioning requirements mean that actual NPLs could be somewhat higher.[2]



Sources: CBRT; BRSA; and IMF staff calculations.
1/ Past due loans based on CBRT data does not include loans extended by branches abroad.

C. The Current Conjuncture and Key Risks

8. **The strong post-crisis recovery of the Turkish economy has been accompanied by an externally financed demand boom, presenting a very challenging macro-financial environment**. Import intensive, credit-dependent domestic demand is being supported by low-cost foreign financing and an overvalued real exchange rate, and the current account

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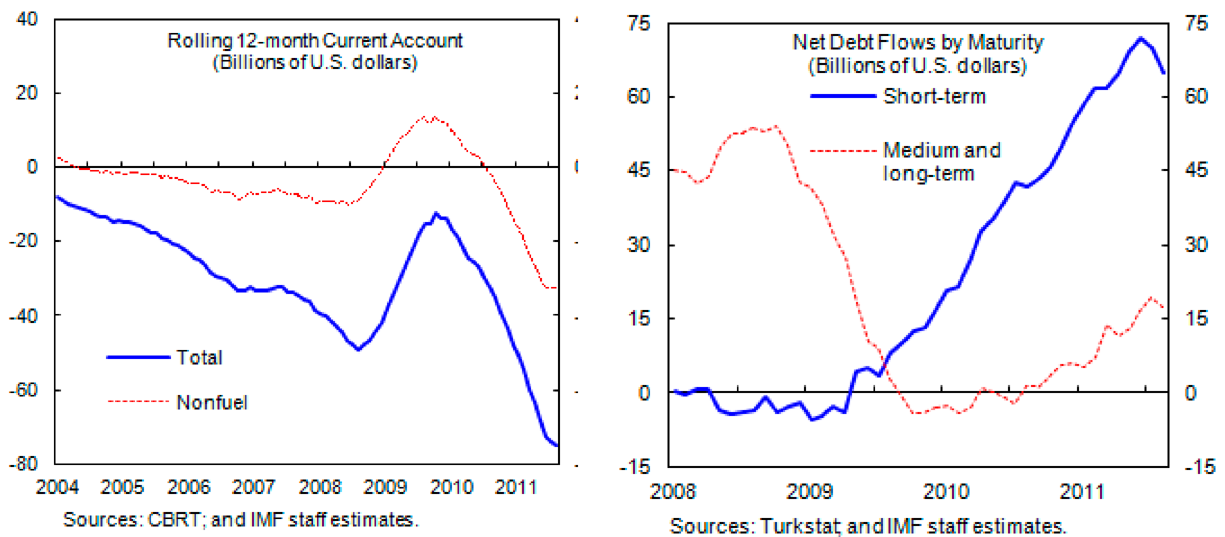
[2] NPLs would likely have been 1-1.5 percentage points higher at their peak in the absence of the forbearance measures related to loan classifications, which were introduced to help address the international financial crisis. The measures were terminated in March 2011.

deficit widened sharply, together weakening Turkey's resilience in some areas. Capital inflows are dominated by potentially-volatile financing, and short-term external debt has climbed sharply to 15 percent of GDP. The currency has recently come under depreciation pressure, and inflation has risen. About a third of the banking sector has links to euro-area banks under stress, but direct funding is low.

9. **The CBRT has taken an active and unorthodox approach to managing these risks.** In mid November 2010, the CBRT moved to emphasize financial stability in its policy framework alongside price stability. It started differentiating and increasing TL and FX reserve requirements (RRs) in several steps to lengthen maturities and increase the cost of funding, widening the CBRT's interest rate corridor and reducing the policy rate to lower the front-end of the yield curve and increase volatility in order to discourage very short-term capital inflows. Reflecting a volatile external environment the CBRT quickly shifted its stance from early August by lowering the policy rate by 0.5 percent, increasing the O/N borrowing rate to narrow the interest rate corridor, as well reducing FX and TL RRs, and allowing banks to hold up to 40 percent of their TL reserve requirements in FX.



Sources: CBRT; and IMF staff estimates.

Sources: Turkstat; and IMF staff estimates.

10. **In a highly uncertain global environment, financial sector risks loom large—and are summarized in the mission's Risk Assessment Matrix (Appendix I).** In the near term, there are risks of a collapse of external funding (which could push Turkey into recession) and a deteriorating domestic economy. Alternatively, if the strong credit growth were not to slow down, this would pose risks further down the line, given that credit booms are often associated with weakened risk management, and subsequent deterioration in bank balance sheets.[3] Liquidity risks have also built up as a result of increasing reliance on short-term FX

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[3] E.g., Borio, Claudio and Philip Lowe, 2004, "Securing sustainable price stability: should credit come back from the wilderness?", BIS Working Paper No. 157, Bank for International Settlements, Basel.

funding and increased FX exposure of unhedged corporate borrowers. While capital buffers are still comfortably above the BRSA's floor of 12 percent, they have come down to below 17 percent from 19 percent at end 2010 (and 21 percent at end 2009). Capital ratios are expected to decline by 1-2 percentage points due to the increased risk weights that will apply with the introduction of Basel II, and could fall further in the event of further depreciation or a rise in yields on sovereign debt leading to marked to market losses.[4] [5]

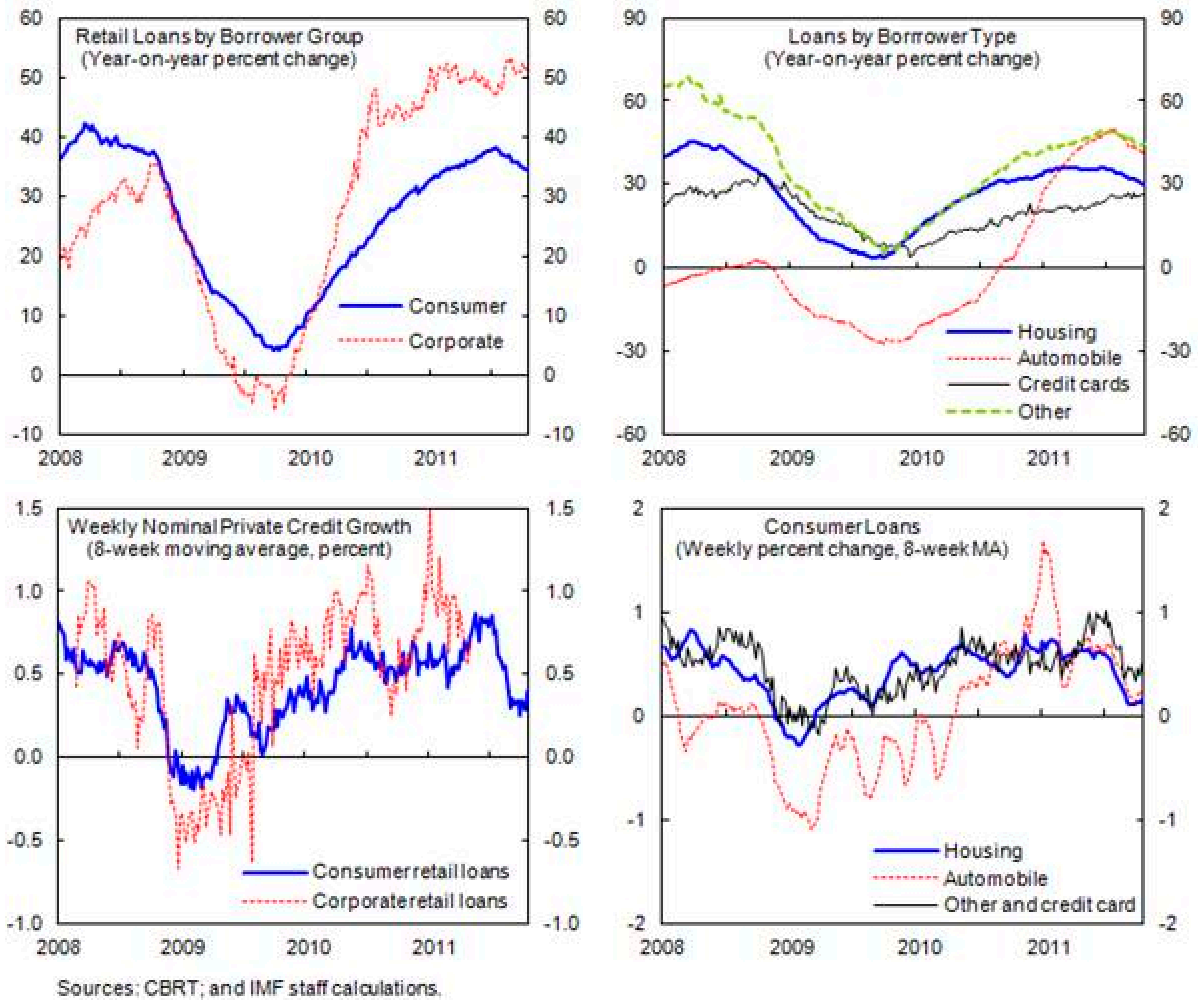
11. **Competition between banks may also be leading to increased risk.** As net-interest margins are compressed by banks competing for market share, banks have been under pressure to shift loan books towards higher margin but higher risk. State banks with lower loan to deposit ratios had more space to grow lending and thus gain market share, making the private banks hesitant to pass on any increases in funding costs, including from the CBRT hikes in RRs during the recent credit boom. However, while profits have declined since 2009, they are presently comfortable, with return on assets and equity of 1.6 percent and 13.8 percent, respectively, as of September 2011.

Credit growth

12. **The relatively untapped consumer segment, healthy household balance sheets, and higher rates on retail loans, has shifted the composition of post-crisis lending away from the corporate sector**. Lending to consumers and SMEs has outpaced other categories since early 2010. Private and state owned banks have led the way in the resumption of consumer lending, with foreign banks lagging. Loan growth started to ease from mid-2011, reflecting a combination of concerns about Turkey's large current account deficit, the effect of previous monetary and prudential tightening measures and—more recently—capital outflows associated with strains in global funding markets; annualized credit growth stood at around 10 percent in October 2011, and had slowed to 30.5 per cent year-on-year.

[4] The BRSA currently operates Basel I for credit risks with additional charges for operational risk. The move to Basel II (expected from July 2012) is likely to increase risk-weighted assets, with the biggest impact expected from an increase in risk weight for FX denominated government bonds from 0 percent to 100 percent. Banks expect the overall impact on capital ratios to be between 1 and 2 percentage points.

[5] Increases in bond yields reduce banks' capital buffers since a high proportion of the sovereign holdings are booked as available-for-sale (AFS) and therefore marked to market.



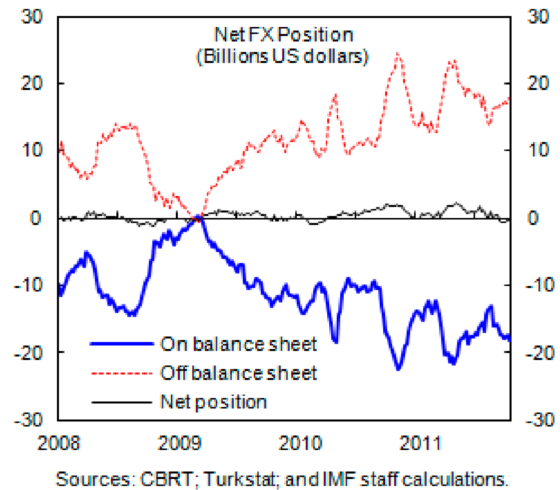
Sources: CBRT; and IMF staff calculations.

Funding risks

13. **Recent bank funding trends are increasing vulnerabilities for the sector.** Minimal FX exposure, primarily deposit-based funding, and strong liquidity (including sizable holdings of government securities) allowed banks to weather the global financial crisis. However, the recent rapid credit growth has outpaced deposit growth, with the loan to deposit ratio now having reached close to 100 percent, leading to increased reliance on wholesale FX funding albeit from a low base (at 13 percent of total liabilities, banks' external funding is not high relative to other countries in the region). While the Turkish banking sector has continued to be able to tap syndicated loans from offshore at low spreads, external funding conditions have undoubtedly been affected by funding strains in international markets. Possible de-leveraging by European banks as they rebuild their capital ratios could also affect Turkish banks' access to wholesale funding. Moreover, although the BRSA has recently approved the issuance of long-term TL bank bonds, this market is not very deep or liquid. Increased CBRT repos have been used as a funding source (including to cover the

recent increases in RRs), however, such funding contributes to increases in banks' maturity mismatch.

14. **Banks' on-balance-sheet short FX positions have widened and required increasing recourse to cross-currency swaps.** With banks being short FX on-balance sheet due to external funding and residents' FX deposits, banks acquire off-balance sheet FX assets, such as swaps, to close their FX positions. Banks tend to use short-duration swaps for liquidity and position taking purposes and longer-term swaps to hedge FX risks from currency mismatches. However, repeated rollovers of funding swaps with a shorter maturity than the duration of assets they fund exposes banks to interest rate risk as seen recently when sharp increases in CBRT and market interest rates fed into higher costs for short-term cross-currency swaps.[6]



Sources: CBRT; Turkstat; and IMF staff calculations.

15. **The Turkish banking sector also faces a large structural maturity mismatch.** The large majority of deposits have maturities of less than three months, and the banks also rely significantly on short-term CBRT repo funding.[7] Although corporate loans are also generally of short maturity, banks have a significant overall maturity mismatch, exposing the sector to funding rollover and interest rate risks.[8] The high concentration of deposits (including those of large corporates) adds to the vulnerability, even though the Turkish experience has been that deposits have been stable, at least until now.[9]

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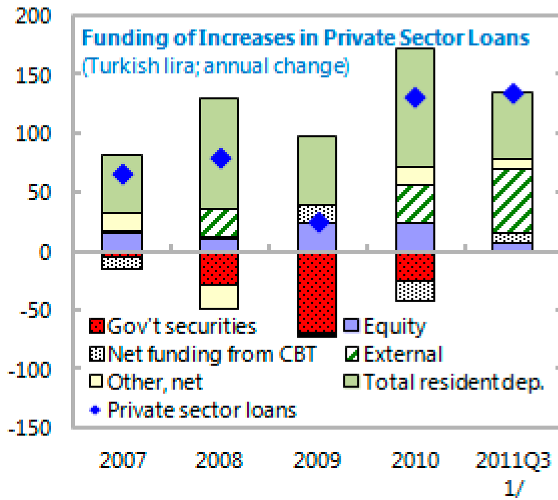
[6] Counterparty concern appears less of an issue for Turkish banks than underlying swap rollover or interest rate risks. London-based global banks are the main swap counterparts, with 89 percent of the total swap transactions. While swap contracts are done on an OTC basis, counterparts typically have credit support annex (CSA) agreements and daily margining between each other to mitigate credit risks.

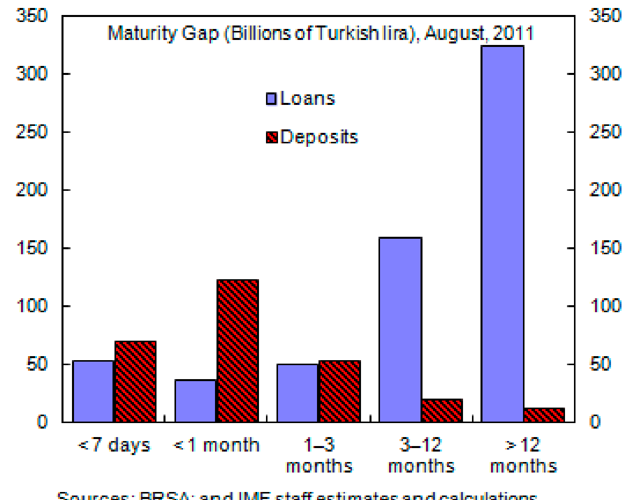
[7] Recent policies to differentiate reserve requirements according to the duration of liabilities have led to marginal shifts away from deposits of less than a month and towards the 3–12 month deposit bracket. It is still too early to see if this policy shift will have a meaningful effect in reducing maturity mismatches.

[8] The BRSA announced a new interest rate risk measure in August 2011 that discourages duration gaps through capital charges on large exposures to interest rate risks. This also helps reduce banks' incentives for over-reliance on short-term hedges. Adjustments to the reserve requirements on local and foreign currency deposits may also be helping lengthen the average maturity of deposits.

[9] Deposits are extremely concentrated: the largest 0.1 percent of accounts hold more than 46 percent of system-wide deposits.



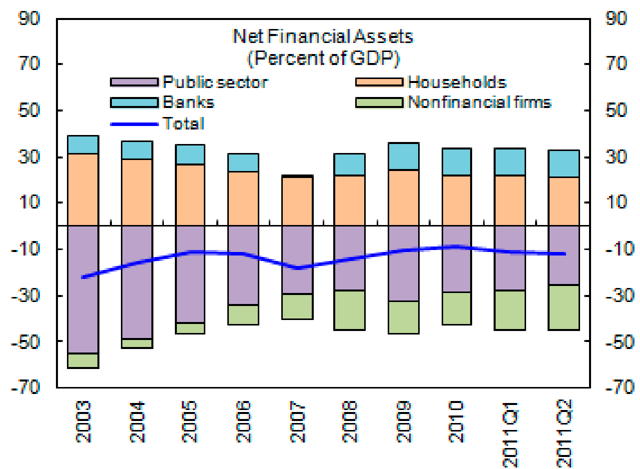
Sources: BRSA; CBRT; and IMF staff estimates and calculations.
1/ Change from 2010Q4 to 2011Q3.



Sources: BRSA; and IMF staff estimates and calculations.

Household Balance Sheets

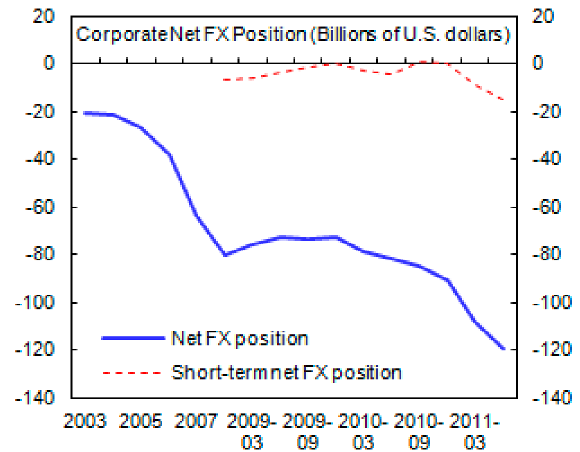
16. **Household balance sheets are strong but becoming less so as credit to the sector grows strongly.** Household sector liabilities are growing fast, albeit from a low base, outpacing growth in assets by a large margin. Nonetheless, the sector as a whole has strong positive net worth and the debt service burden remains manageable. Households are not permitted to borrow in foreign currency and, since June 2009, are no longer permitted to borrow through FX-indexed loans, limiting their FX exposure. Furthermore, the absence of variable rate loans (only housing mortgages are allowed to be indexed to the CPI and the total amount of these loans is negligible) protects household from interest rate risks—during 2009 households took advantage of the low interest rate environment to refinance, thus lowering their interest costs. Loan defaults jumped in 2009 reflecting higher unemployment and despite some loan restructuring, but have since moderated to pre-crisis levels.



Sources: CBRT; and IMF staff estimates.

Corporate Balance Sheets

17. **Non-financial corporates are profitable, but increasingly leveraged and exposed to FX risk.** The non-financial corporate sector remained profitable throughout the crisis despite losses from a combination of Turkish Lira depreciation in late 2008 and their open net FX positions. Corporate sector debt rose by about 19 percent to around 40 percent of GDP during 2010. The net short FX position of the sector, which had started to decrease after the global crisis, has increased by over 60 percent since end-2009. This suggests that currency risk could be important for the sector with knock on implications for credit risk for banks. As of June 2009, Turkish firms with no FX income can borrow in FX on-shore, provided the loan is for at least one year and for a minimum of US$5 million; the previous restrictions on lending to unhedged corporates had led to these loans being channeled through off-shore branches.[10]



Source: CBRT.

D. Stress Tests

18. **Stress tests indicate that the banking sector is robust to relatively extreme shocks so long as they are reasonably short-lived**. In particular, the stress tests performed by banks themselves suggest vulnerability to a one-off rise in interest rates and/or a deterioration in credit quality, but capital buffers leave institutions resilient to even large shocks.[11] The team's own "top–down" tests on the same banks also suggest resilience to a severe macroeconomic shock of the magnitude and duration that occurred during 2008–10, albeit with a significant impact on capital ratios of all banks. Table 7 and Box 1 outline the stress testing framework that was utilized.

[10] Gradual migration to onshore loans will temporarily depress corporate external debt rollover ratios.

[11] The analysis was conducted for the nine largest banks, comprising just over 80 percent of banking system assets as of December 31, 2010.

Table 7. Turkey: Stress Tests for Banks

		Solvency Stress Tests		Liquidity Stress Tests
		Sensitivity Stress Tests	Scenario Stress Tests	
1	Who performed the stress tests	• Two complementary approaches: FSAP team in conjunction with CBRT and BRSA (top down/bottom up sensitivity tests, scenario tests and liquidity tests); and individual banks (sensitivity tests).		
2	Institutions covered/market share	• Nine largest banks accounting for over 80 percent of the banking system.		
3	Severity of shocks	• Aggregate credit risk: Two shocks ranging from moderate (200 percent increase in PD of all exposures-at-default combined with 30 percent increase in LGD, both relative to through-the-cycle levels) to severe (400 percent increase in PD of all exposures-at-default combined with 100 percent increase in LGD, both relative to through-the-cycle levels) • Market risk: (i) Interest rates: Separately for TL and FC instruments, (i) parallel yield curve movements up and down ranging from mild (200 bps for TL; 300 bps for FC) to severe (1000 bps); (ii) increase (ranging from +500 bps to +2000 bps)/decrease (ranging from -400 bps to -1000 bps) of yields with tilting of the curve; (iii) both of these sets of shocks were combined with movements in deposit costs (200 bps up or down for TL; 300 bps up or down for FC); (iv) shock to the swap curve ranging from mild (parallel up or down by 200 bps) to severe (parallel up or down by 600 bps) (ii) Exchange rate: Appreciation (mild: 10 percent; strong: 45 percent) and depreciation (mild: 20 percent; strong: 60 percent). • Combined market risks: Increase in TL and FC yields (strong case with increasing term premium) with 60 percent depreciation of the	Two scenarios • Near term sudden stop: sharp contraction in economic activity over four quarters followed by a sluggish recovery over the next 12 quarters. During the contraction: GDP (-9 percentage points (ppts)), unemployment (+4 ppts), domestic interest rate (+10 ppts), real interest rate (+5 ppts), exchange rate (60 percent depreciation) • Boom and bust: a two-year boom in robust economic growth (around 8 percent per year in real terms) and associated credit growth followed by a sharp contraction in economic activity over four quarters and then a sluggish recovery. During the contraction: GDP (-10 ppts), unemployment (+4 ppts), domestic interest rate (+9 ppts), real interest rate (+4-8 ppts), exchange rate (60 percent depreciation)	Funding withdrawal assumptions are consistent with two scenarios. **Sudden Stop Scenario:** TL and FX deposits have run-off rates of 10 and 20 percent, respectively while short-term wholesale funding has an overall withdrawal rate of around 50 percent and long-term funding of around 20 percent. Haircuts for the counterbalancing capacity of banks are as follows: Cash 0 percent, government securities 15 percent (trading), 30 percent (both available-for sale and held-to-maturity), Eurobonds 30 percent and equities 50 percent. **Boom-Bust Scenario:** Overall loss of short-term funding is around 50 percent with a loss of demand and term deposits assumed to be on average ca. 7 and 14 percent, respectively. Asset Haircuts: Cash 0 percent, securities portfolio 44 percent overall haircut with 20 percent of the securities portfolio one encumbered and the haircut on the rest is 30 percent..

		TL • Combined market and credit risk: Combined market risks plus increase—relative to through-the-cycle levels—of 400% in PD of all exposures-at-default and 50 percent in LGD		
4	Data used	• FSAP team/Authorities: supervisory and audited data • Banks: data from the internal risk management systems		• Supervisory data
5	Risk horizon	• Four quarter horizon	• Four quarter contraction followed by eight quarters of sluggish recovery (sudden stop) and eight quarters of a boom/bubble followed by a four-quarter contraction and then four quarters of sluggish recovery (boom/bust)	• Length of sudden stop and boom-bust scenarios, respectively.
6	Metrics (hurdles rates)	• Credit Risk: NPLs, expected losses, risk weighted assets (RWA), provisioning buffers, net profits, capital and regulatory capital adequacy ratio (CAR) • Market risk: (i) for mark-to-market portfolios: instantaneous impact on portfolio value, RWA, net profits, capital and CAR (ii) for on & off balance sheet price sensitive items: net interest income at 12 months, RWA, and regulatory CAR (iii) for derivatives positions: market value of position, variation margin, net profits, capital and CAR.	• Impact of scenarios on net profits, on provisioning buffers, and on capitalization	• Estimated liquidity gap by bank, calculated as loss of different funding sources and compensated by asset inflow from bank's counterbalancing capacity to generate liquid assets.
7	Positions and risk factors included	• On-balance sheet position for all positions except for those related to the direct exchange rate risk • Credit risk, market risk, and contagion risk	On-balance sheet position	• On-balance sheet positions
8	Methodology	• Banks' internal risk models applied to own data on portfolios, positions, and incomes as of December 31, 2010. • Shock assumptions applied were as described above and supplied by the mission.	• FSAP team/Authorities: IMF baseline and a combination of models • Banks: internal models and expert-based approaches	Tests combine loss of funding liquidity (wholesale and deposits) with liquidity inflows from haircuts on liquid assets, possible fire sales of unencumbered liquid assets as well as freeing up of a proportion of required reserves corresponding to the volume of departing deposits.

Source: FSAP stress testing team.

19. **The FSAP team's scenario analysis indicates that a more persistent macroeconomic dislocation would put the system under considerable strain**.[12] In a sudden-stop scenario, a protracted reduction in economic activity—relative to the baseline—amidst a capital flow reversal, alongside increases in unemployment, (exchange rate pass through-related) inflation and interest rates, was applied to the major banks. Encouragingly, the sector as a whole would remain adequately capitalized relative to the regulatory threshold under both Basel I and economic risk-based measures of regulatory capital. However, up to four of the nine largest banks may be susceptible to risk of undercapitalization at the end of the 36-month scenario period, depending on the stress test methodology utilized (Table 8).

20. **Moreover, the exercise illustrates that vulnerabilities would build if the recent credit boom were to continue (Table 9).** In a boom and bust scenario, credit growth was assumed to continue for two years, followed by a protracted bust. Notwithstanding an assumed improvement in capital buffers in the boom period owing to higher profits and earnings retention, the NPL effect dominates in the determination of the loss impact during the bust following the boom. The subsequent macroeconomic shock would push a larger number among these nine banks—a sizeable majority when using the economic risk-based measure of CAR—into undercapitalization within two years into the downturn.

21. **Further, the team's analysis suggests that Basel I capital adequacy metrics may overstate capital buffers**.[13] In particular, Basel I risk weights may understate the true economic risk of banking assets in emerging markets, especially during credit booms, when underwriting standards weaken. Basel I risk weights are not sensitive to the cycle and do not take into account the increases in the probability of default and loss-given-default during downturns. The team's estimates of bank capital ratios based on the economic risk of assets yielded ratios lower than the current regulatory ratios, with capital ratios falling close to regulatory thresholds if measured in 2010, suggesting an increased likelihood of a significant shock exhausting capital positions.

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[12] Two complementary solvency stress testing models were implemented by the mission. Reported results correspond to a model that estimates credit portfolio losses under estimation of the systemic risk components of credit risk parameters. The second model requires more granular information on individual banks' credit underwriting practices and on exposures/performance of credits allocated to different economic sectors over a longer period of time. The results obtained under the second model were consistent with those reported in Tables 8 and 9.

[13] The BRSA is preparing to move to Basel II for credit risk. However, it will introduce the standardized approach rather than the internal ratings based (IRB) approach. The team's calculations of economic risk-based capital requirements are suggestive of capital ratios under the IRB approach, rather than the standardized approach.

Table 8. Impact of Sudden Stop on Banks' Capitalization

A. Credit quality impact of sudden stop				B. Credit and market risk impact of sudden stop			
	2011	2012	2013		2011	2012	2013
	(Number of banks out of 9 largest)				(Number of banks out of 9 largest)		
Basel I				Basel I			
undercapitalized 1/	0	0	1	undercapitalized 1/	1	1	2
insolvent 2/	0	0	0	insolvent 2/	0	0	1
Economic risk based				Economic risk based			
undercapitalized 1/	0	1	4	undercapitalized 1/	1	4	3
insolvent 2/	0	0	0	insolvent 2/	0	0	1

Notes:
1/ Shareholder equity less than 8 percent of risk w eighted assets.
2/ Shareholder equity is negative.

Table 9. Impact of Boom-and-Bust on Banks' Capitalization

A. Credit quality impact of boom and bust					B. Credit and market risk impact of boom and bust				
	2011	2012	2013	2014		2011	2012	2013	2014
	(Number of banks out of 9 largest)					(Number of banks out of 9 largest)			
Basel I					Basel I				
undercapitalized 1/	0	0	0	3	undercapitalized 1/	0	0	0	3
insolvent 2/	0	0	0	0	insolvent 2/	0	0	0	0
Economic risk based					Economic risk based				
undercapitalized 1/	0	2	3	6	undercapitalized 1/	0	2	2	7
insolvent 2/	0	0	0	0	insolvent 2/	0	0	0	0

Notes:
1/ Shareholder equity less than 8 percent of risk w eighted assets.
2/ Shareholder equity is negative.

Source: FSAP estimates.

22. **The stress tests suggest that the sector currently has adequate liquidity buffers to meet funding shocks.** Given the prominent role of (relatively stable) deposit funding at the moment, a majority of systemic banks would be able to meet extreme yet plausible outflows in short-term funding if a sudden-stop type event were to take place in the near term. While some banks would face a liquidity shortfall, most banks would be able to meet such outflows using a combination of existing liquid assets, repo sales of government securities and, to a lesser extent, through the freeing up of a proportion of required reserves corresponding to the volume of departing deposits.

23. **Nevertheless, the stress tests indicate that several banks could face liquidity shortfalls if strong credit growth were to continue.** Under the boom-and-bust scenario, the additional loan growth that would have taken place means that reliance on non-deposit

wholesale funding would rise and the proportion of assets that could be used in repo sales for emergency liquidity would fall. Extreme, yet plausible simulations of wholesale funding runs in the post-boom downturn indicate that a few banks could face significant funding pressure in the absence of a policy response. This illustrates that liquidity risks would tend to rise with a continuation of the recent trend toward non-deposit wholesale funding.

24. **Macroeconomic and credit developments since the time of the mission appear to have moved the baseline in a direction somewhere between the two tail scenarios**—credit growth continued very strongly for just over six months after which it slowed fairly abruptly in conjunction with a capital outflow. These developments may have increased the likelihood of a more immediate tail scenario somewhat, relative to earlier in the year when the stress tests were carried out. However the evolution of events since the mission, including a reduction in regulatory capital as risk weighted assets increased during the high credit growth period as well as steadily declining liquidity ratios (albeit still comfortably above the minimum regulatory ratios), is broadly consistent with that assumed under the stress test scenarios. Consequently, the FSAP team's conclusions regarding system robustness have not been altered significantly by recent developments.

Box 1. Tail Risks, Scenarios, and Stress Test Design

Tail risks: Two tail risks were identified as being particularly relevant to Turkey's economy and banking sector at the current conjuncture. In the immediate term, a sudden stop or reversal of capital inflows (sudden stop) is an important risk given the widening current account deficit funded increasingly by short-term external borrowing by banks and the corporate sector. Potentially more serious would be a continued credit boom financed by banks using increasing recourse to wholesale non-deposit borrowing in foreign currency (boom and bust). A sudden stop type correction following two further years of a strong credit growth would expose banks' solvency and liquidity risk that would have built up during the boom.

Scenarios: Adverse macroeconomic events in Turkey have, of late, been characterized by V-shape dips in economic activity that last 4 quarters or less followed by a strong recovery. A genuine tail scenario would be one wherein the recovery following the initial severe shock would be substantially more protracted, particularly at the current conjuncture where economic activity in trading partners is still experiencing a gradual, tentative recovery. Accordingly, under either scenario, a sharp contraction in economic activity lasting 4 quarters, mirrored by increasing unemployment rates, capital outflows, depreciating Lira, exchange-rate pass through driven surge in inflation, and increase in domestic interest rates is followed by a sluggish and very gradual recovery over the next 12-24 quarters. The correction of imbalances is assumed to be larger under the boom and bust since imbalances are magnified relative to an immediate term sudden stop. The sudden stop scenario was analyzed over a 3-year horizon beginning January 1, 2011 and the boom and bust scenario over a 4-year period with a 2-year boom starting January 1, 2011.

Scenario stress tests: based on calibration of evolution of the macro-economy and corresponding capital outflows were applied to the portfolios, positions, incomes, and capital of the banking sector (top down) and nine of the country's largest deposit taking banks (bottom up).[14] For the sudden stop scenario, the initial shocks were applied to portfolios and positions as of December 31, 2010, whereas for the boom and bust scenario, the shocks were applied to portfolios, positions, and capitalization of banks projected on the basis of the boom parameters through end-2012. These tests—implemented by the mission using a range of tools—covered risks to solvency emanating from deterioration in credit quality and movements in interest and exchange rates as well as those related to liquidity arising from refinancing gaps related to capital outflows from wholesale deposit and non-deposit funding sources.

Sensitivity analysis: In a parallel exercise, outer envelopes of shocks to market risk factors (e.g., exchange rates and relevant interest rates) and credit risk parameters (default probabilities and recovery rates) drawn from the scenarios were applied by the nine largest banks in the system to their portfolios, positions, incomes, and capital as of December 31, 2010. This bottom-up sensitivity analysis consisted of application of both single factor and multi factor shocks by each bank in this sample. Application of combined shocks to market and credit risk factors could be construed as equivalent to application of the adverse macro scenarios over a one-year horizon.

[14] The banks owned 82 percent of banking system assets as of December 31, 2010.

25. **The policy and operational implications of the stress tests include that**:

- the recent period of rapid credit growth necessitates enhanced scrutiny of underwriting practices;

- interest rate increases and duration mismatches are an important source of bank vulnerability in Turkey, especially given banks' large mark-to-market portfolios of fixed coupon and discount government bonds;

- unhedged exchange rate risk among Turkish banks does not appear to be significant at present.[15] The stress tests did not, however, explicitly consider all sources of risks associated with the use of derivatives instruments, such as the risk of a loss of access to the swap market and counterparty credit risk.[16]

- liquidity risk appears manageable at the moment—notwithstanding the structural maturity mismatch on the sector's balance sheet—given the still significant volume of government securities held by banks that can be used in repo funding. However, some banks could face significant funding shortfalls if Turkey was hit by a full-blown sudden stop and increased recourse to short-term, non-deposit wholesale funding to finance loan growth would increase refinancing risk substantially.

26. **Considerable scope exists for enhancing the quality of stress testing as a component of authorities' financial stability oversight toolkit**.

- Scenario stress testing should evolve from examination of the impact of combined shocks at a point-in-time to testing for resilience of banks' solvency and liquidity to a dynamic evolution of the macro-economy that captures tail risks. Development of macroeconomic forecasting models—which has begun—would facilitate this work and should be considered a key technical priority.

- Bottom-up stress tests applied to individual systemically important banks should be incorporated into the BRSA's and the CBRT's regular off-site analysis and can provide valuable additional information on sources of systemic vulnerabilities beyond top-down analysis.

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[15] While coverage of swap portfolios in the bottom-up stress testing exercise differs across the banks, a parallel movement of 600 basis points in the swap curve failed to cause a materially adverse impact on reporting banks' profits, variation margin (i.e., marginal asset encumbrance), and capital.

[16] Although these hedges are established using over-the-counter derivatives, market participants and regulatory authorities were of a view that the residual counterparty risk of these positions was modest as they viewed the counterparties as high quality and diverse.

- Greater coordination between the BRSA and the CBRT at the technical level would assist in faster and superior incorporation of refinements to modeling and databases.

- Finally, stress testing is a valuable device that supervisors and central banks can use to support policy decisions targeted at safeguarding macro-financial stability. It appears worthwhile for authorities to devote attention to the design of stress tests and communication of results so as to strategically support and justify policy decision-making.

E. Policy Responses

27. **The authorities are aware of the financial stability risks and have responded, albeit with delay on the part of BRSA.** At the time of the FSAP mission to Turkey (April 2011), the steps taken had predominantly been monetary, with the CBRT relying on successive increases of reserves requirements to temper loan growth. Prudential tools had been relatively underutilized at that point; the Banking Regulation and Supervision Agency (BRSA) had taken some steps when it introduced loan-to-value limits on real estate loans and allowed regulatory forbearance measures introduced following the global crisis to lapse in March 2011. The authorities also used moral suasion to target a uniform 25 percent increase on banks' annual loan growth for 2011, adjusted for exchange rate movements. The FSAP team was concerned that overly aggressive increases in reserves requirements could reduce returns, thereby encouraging a further shift into high-margin and high-risk segments, such as consumer and SME loans. The team, therefore, called for a macroprudential approach that utilized a range of complementary measures that could more effectively target emerging risks.

28. **Subsequent to the mission, the authorities broadened the range of measures (Table 10).** This included a number of useful steps taken by the BRSA, including increased risk weights for new general purpose (consumer) loans, increased general provisioning requirements for banks with high levels of consumer loans or non-performing consumer loans (both June 2011), and limits to payments that are made below the debt of the period for credit card payment (July 2011). The BRSA also recently announced further measures to strengthen resilience that will come into effect in 2012, such as capital surcharges for large exposures to interest rate risk (August 2011), and an amendment to minimum capital requirements for banks with strategic foreign shareholders (September 2011). While the June measures on consumer loans were brought in with a delay, they have contributed to the recent slow-down in credit growth and improved the resilience of the system.

Table 10. Recent Macroprudential Measures

Meausre	Description	Adoption Date
Loan-to-value (LTV) ceilings	Implements loan-to-value ceilings on housing loans to consumer (at 75 percent) and on purchases of commercial real estate (at 50 percent)	December 2010
High risk weights for consumer loans	Higher risk weights introduced for fast growing consumer loans. For new general purpose loans with maturities below two years, the risk-weighting increased to 150 percent (from 100 percent). For new general purpose loans with maturity greater than two years, the risk-weight increased to 200 percent (from 100 percent)	June, 2011
Increased provisions for consumer loans	For new (performing) general purpose loans, general provisions were increased from 1 percent to 4 percent. Specific provisions for (pre-nonperforming) loans increased from 2 percent to 8 percent. The higher provisioning requirements are conditional on banks having a consumer loan portforlio exceeding 20 percent of total loans or having a general purpose loan NPL greater than 8 percent.	June 2011
Limits to credit card payments	If three or more monthly payments within a calendar year are less than half of the outstanding balance for the period, the individual credit card limits cannot be increased and cash advances for such credit cards cannot be permitted, unless the outstanding balance for the period is fully covered.	June 2011
Interest Rate Risk	Announced by the BRSA to contain interest rate risk through capital changes on large maturity mismatches, discouraging duration gaps. Effective from 2012.	August 2011
Changes to minimum Capital Adequacy Requirements	Amended by the BRSA in September 2011 to apply to banks with foreign strategic shareholders as of January 2012. The minimum ratio would depend on various factors such as the CDS spread of the parent and its sovereign, EBA stress test results and the public debt ratio in the country of origin.	September 2011
Changes to deposit insurance premiums	SDIF introduced a premium surcharge for large banks and a new factor to calculate the banks' score for the deposit premium determination.	September 2011

Source: Turkish authorities; and IMF staff.

29. **Further measures could be considered if the recent reduction in loan growth proves short-lived and strong credit growth resumes,** leading to a further accumulation of risks over the medium term. In the event that vulnerabilities are exposed in the near term, care needs to be taken and the scope to use prudential tools in a countercyclical fashion may need to be explored.

30. **Banks' portfolio compositions need to be closely monitored and corrective action taken as needed.** When, as a result of competitive pressures, credit flows strongly into high-margin segments—such as consumer loans and loans to SMEs—this may lead to an erosion of lending standards and increases in non-performing loans as the economy slows. Possible corrective actions could include one or more of the following:

- Increases in risk-weights. The authorities increased risk weights for credit cards in 2008 and for general purpose loans in June 2011. Higher risk-weights could be expanded to other segments including new SME loans.

- A cap on debt-to-income ratios. A debt-to-income ratio exists for credit cards (a limit of two times salary for new cards). This could be complemented by a cap on the ratio of all consumer debt to income, although this could require the creation of a comprehensive credit register to be fully implemented.

31. **There will need to be a sustained effort to conserve existing capital buffers.** The BRSA operates a capital target (at 12 percent) above the regulatory minimum and introduced measures to ensure prudent dividend payouts by banks as part of its crisis response (as described in Table 6). These policies are useful also in an environment of strong credit growth, since capital buffers can erode quickly when banks expand their balance sheets and shift from zero risk-weighted government securities towards higher risk-weighted loans. In light of the ongoing European debt crisis the BRSA has already announced steps to boost capital buffers for banks with foreign strategic shareholders.

32. **The authorities should take preventive steps to avoid an erosion of liquidity buffers.** A high share of core deposits and large holdings of sovereign paper result in a relatively strong liquidity position for most banks at present. Since credit growth is likely to outstrip deposit growth over the medium term, this can result in an erosion of liquidity buffers going forward, as banks increase recourse to short-term wholesale funding—much of which sourced from abroad—and decrease their holdings of sovereign paper. The authorities could consider a preemptive tightening of existing local standards, and add requirements on the stability of funding at longer horizons or a capital surcharge that penalizes short-term funding in addition to their current 7- and 30-day ratios, to more effectively constrain the build-up of liquidity mismatches. If appropriately calibrated, the newly announced capital surcharge on interest rate risk may help improve funding resilience to a certain extent. The timing and calibration of any new measures will need care, so as to avoid unintended deleveraging.

33. **The authorities also need to continue to monitor increases in FX mismatches on bank balance sheets and take corrective action as needed.** A high ratio of resident FX deposits and the prohibition of FX lending to retail borrowers results in a high structural short on-balance-sheet net open position of the banking sector that is hedged in over-the-counter swap markets with international counterparties as mentioned above. Increased recourse to FX wholesale funding over the medium term is likely to further increase banks' short on-balance-sheet positions and hedging needs. The authorities will need to closely monitor increases in counterparty credit and roll-over (basis) risks that arise when swap durations fall short of asset maturity. The range of potential corrective measures that could be taken to limit excessive FX mismatches include increases in FX reserve requirements, tighter capital and liquidity rules on derivatives and a cap on the on-balance-sheet short position relative to capital. Such a cap would be useful to constrain very large net open positions

relative to capital for individual banks, and again, any new measure would need to be phased in very gradually.

34. **The authorities should monitor a potential build-up of unhedged FX positions in the corporate sector.** Although on- and off-balance sheet positions for those firms listed on the Istanbul Stock Exchange are disclosed in external audit reports, there is currently little systematic data to assess how much of the FX borrowing by the corporate sector as a whole, or that of large individual firms, is hedged. In view of high and rising on balance sheet net open positions, the authorities need to fill this data gap, so that they are in a position to take policy action as needed. The current BRSA draft regulation on banks' credit risk management is a step in the right direction and should help to limit the unhedged borrowing by corporates.

II. FINANCIAL SECTOR OVERSIGHT

35. **As with many other countries, Turkey is in the process of systematizing its macroprudential policy framework in reaction to the 2007/8 international financial crisis.** In addition to assessing financial sector oversight in Turkey from the usual micro-prudential perspective, the FSAP mission, therefore, also discussed emerging best practices internationally in macroprudential policy frameworks.

36. **The micro-prudential components of the FSAP work in this area consisted of full assessments of the BCP and IAIS, and a focused updates of key parts of the AML/CFT assessment previously undertaken by the FATF.**[17] Considerable progress has been made in upgrading the regulatory framework for supervision of financial institutions in all three areas since the 2007 FSAP (Appendix II), however a consistent finding across the areas assessed was that some gaps remain in the regulatory frameworks and that implementation has not moved as quickly as the strengthening of regulations. The main challenge going forward will be to ensure that implementation catches up with the regulatory framework, especially as regulation will continue to evolve as Turkey's financial system becomes more sophisticated and complex, and interlinked with the global financial system.

A. Macroprudential Policy Framework

37. **A well-articulated macroprudential policy framework is crucial to achieve more effective crisis prevention.** The 2007/8 crisis underscored the need for countries to develop strong macroprudential policy framework. It should enable the authorities to identify the main sources of systemic risk and to develop a well-focused policy agenda to mitigate these risks. The framework needs to provide clarity as to which authorities are responsible for crisis prevention, ensure a high degree of accountability and willingness to act as well as mutually supportive policies among the relevant agencies while preserving the operational autonomy of established policy fields.[18]

38. **In Turkey, a fragmented regulatory structure complicates the setting up of a strong macroprudential policy framework.** While Turkey has made important advances to strengthen inter-agency coordination, officials agreed with the FSAP team that neither the existing Financial Sector Commission nor the Systemic Risk Coordination Committee

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[17] Detailed assessments of the Basel Core Principles and the International Association of Insurers Insurance Core Principles were undertaken as part of the FSAP update. However, they are still in the final stages of completion and the finalized ROSCs will be circulated subsequently.

[18] See IMF (2011) "Macroprudential Policy: An Organizing Framework" and Nier et al (2011), "Institutional Models for Macroprudential Policy, IMF Staff Discussion Note 11/18

(SRCC) provided the right institutional set-up to establish a well-focused macroprudential policy framework.[19]

39. **The mission therefore recommended—and counterparts agreed—that a new Financial Stability Committee (FSC) should be set up.** Shortly thereafter, the Financial Stability Committee was created by a decree law, chaired by the Minister in charge of Treasury (representing the Council of Ministers)—currently the Deputy Prime Minister is assuming this role, and also comprising Treasury, the BRSA, the Capital Markets Board (CMB), the CBRT and the Savings Deposit Insurance Fund (SDIF). While recognizing that the FSC has improved coordination, the FSAP team feels that the institutional structure could be further strengthened.[20]

40. **The macroprudential policy framework needs to ensure accountability and appropriate communication.** Since the aim of macroprudential policy is to contain tail risks, accountability and communication cannot fully mimic arrangements that have proven useful in monetary policy. The framework can, nonetheless, stipulate duties to communicate major policy decisions in a transparent way and charge the policy maker with a thorough analysis of benefits and costs of taking action. Increased emphasis on communication would help to ensure accountability for macroprudential policy. For example, the Financial Stability Report issued by the CBRT could be used as a vehicle of communication of the committee. The new arrangements in Turkey do not yet make full use of these possibilities, requiring only that the Council of Ministers be informed of the FSC's conclusions.

41. **Whatever shape the arrangements will take in future, it will be useful for them to be introduced in primary legislation.** It is recommended that a revised macroprudential framework be established through a parliamentary act, rather than through an executive decree (as is the newly established FSC). While the decree law has the full force of law, introduction of institutional arrangements through primary legislation allows the establishment of more formal accountability to parliament or a parliamentary committee, as well as the careful design of voting arrangements and powers vested in the committee, such as the power to make formal recommendations to constituent agencies.[21]

42. **Consideration could be given to establishing more clearly distinct arrangements for crisis prevention (macroprudential policy) and crisis management and to assigning**

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[19] The Financial Sector Commission is largely concerned with an exchange of information and its membership is broad, comprising private sector bodies. A description of the SRCC is provided in the section on crisis management.

[20] These considerations draw on recent IMF staff work in this area, see IMF (2011), "Towards Effective Macroprudential Policy Framework - An Assessment of Stylized Institutional Models", and Nier et al (2011), "Institutional Models for Macroprudential Policy" IMF Staff Discussion Note 11/18.

[21] The decree law establishing the FSC is silent on voting and decision-making processes and does not assign any specific powers to the FSC.

chairmanship of the macroprudential committee to the CBRT. A leading role of the CBRT on the macroprudential committee is useful to harness the central bank's expertise in risk assessment and its incentives to maintain financial stability, and can ensure independence of macroprudential policy. The revised setup would also better recognize that crisis prevention and crisis management are different policy functions that may call for separate institutional arrangements and personnel. For example, the SDIF and the Treasury would more naturally take a leading role on a crisis management committee.

43. **Looking ahead, it will be important to enhance interagency coordination while maintaining operational autonomy of the participating agencies.** One approach is to rely on a consensual approach within a macroprudential coordinating committee that fully preserves operational autonomy of each participating agency, as is the case in Canada. A second approach is for the macroprudential committee to be in a position to come to a majority view and to issue (non-binding) recommendations to constituent agencies (such as the BRSA, the CMB, and the Treasury), as in the new models in Mexico and the European Union. A third—and more radical—option is the establishment of a closer institutional link between the CBRT and the BRSA—perhaps following the new model in the United Kingdom, where the prudential agency is established as a subsidiary of the central bank.[22] Benefits, in terms of an increasing ability and willingness to act, and potential costs of each option, including transitional costs, should be studied carefully over the coming months.

B. Banking

44. **Bank regulation has been strengthened significantly since the 2007 FSAP.** The BRSA moved quickly to promulgate various regulations to bring the new Banking Law passed just prior to the previous FSAP into effect. Efforts have also been put into adapting current regulations to the new international environment. New or draft regulations have been issued on internal control, compliance and accounting. The BRSA has also issued a range of draft regulations ahead of the planned migration to Basel II (a parallel run commenced in July 2011). Finally, the BRSA has made improvements to supervisory and regulatory aspects in line with the recommendations of the 2007 FSAP; for example, as regards major acquisitions, off-site reporting and internal control (some of these regulations were in place, but not fully implemented, at the time of the 2007 FSAP mission), and information sharing with foreign supervisors.

45. **However, there remain gaps in regulation and supervision in several key areas.** The crisis has led the international community to place a stronger emphasis on implementation, including on the quality and effectiveness of supervision and the quality of risk management. In the case of Turkey, the team note that: (a) the definition of regulatory

[22] See Nier et al (2011) for detail. Greater institutional integration between central bank and supervisory agency can create a greater alignment of mandates and policy tools, and enhance independence and autonomy of the combined agency.

capital needs to be brought fully into line with Basel standards; (b) asset classification and provisioning requirements need to be strengthened to ensure that banks promptly identify all impaired assets and evaluate adequacy of provisions; (c) risk management and requirements for banks in the areas of country risk, liquidity risk, and operational risk should be enhanced; and (d) the framework for related party exposures needs to be strengthened.

46. **The BRSA follows a hybrid of CAMELS and risk profiling modules for supervising banks, but its risk orientation could be enhanced**. The BRSA's round-the-year presence in all banks provides an efficient foundation for identifying and dealing with banking problems, but the focus is more on rules rather than prospective risks. There is also a need to put in place systems to ensure that valuation of market risk positions and collateral is subject to appropriate levels of management and supervisory oversight. Finally, the BRSA will need to continue to build its capacity to keep pace with the increasing use of risk models in banks, especially in the transition toward Basel II.

47. **The quality control framework for on-site supervision should be further strengthened**. While the BRSA has adopted a five-grade rating scale for banks, most banks tend to be placed in one of two middle grades, making the supervisory tool not as discriminative as it could be. An enhanced internal review process, could help to ensure consistency across the supervisory review process. This is all the more important as BRSA has planned to implement Pillar 2 of Basel II.

48. **The process of AML on-site inspection should also be strengthened**. At present AML issues do not receive significant weight in the banking supervision. Inspections on behalf of the Financial Crimes Investigation Board (MASAK), Turkey's Financial Intelligence Unit (FIU), should be more intrusive and frequent. This will require increased training on AML issues for BRSA staff and action from MASAK to ensure the quality and frequency of the process. A broader discussion of AML issues is provided in Section II.D.

49. **Arrangements for effective consolidated supervision are not in place**. This is of particular significance in light of the complexity of Turkish banking system both in terms of the number of financial and mixed financial/industrial conglomerates, as well as the growing cross border linkages. Several banks do not monitor all their risks adequately at the group level, particularly when dealing with market risk and operational risk. Consolidated supervision should be enhanced, to address risks emanating from unregulated entities in the group and monitor intra-group transactions.

50. **The new Banking Law has provided BRSA with more autonomy, however, some provisions still potentially limit its operational and organizational independence**. [23] The BRSA experiences constraints in the areas of establishment of new departments or

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[23] A decree law (No. 649) in August 2011was published in the Official Gazette, whose provisions authorize the Minister to audit all operations and transactions of supreme boards, including the BRSA.

directorates, recruitment of expert staff due to rules which limit mid-career hires to certain jobs, and capacity to attract talent with market related compensation due to the linkage of the BRSA salary scale to the Government scale. The continued inability to issue regulations without referring them to the related Ministry and the State Planning Organization still limits the BRSA's full operational independence even though it reflects Turkey's constitutional framework.

C. Insurance

51. **While the legal framework for insurance supervision has been transformed, and has laid a solid foundation for creating a modern and effective supervisory function, the institutional setup of insurance supervision and regulation has not progressed as much**. The existing system of insurance supervision still remains a part of government and, as a result, suffers from some rigidity and a lack of independence. As with banking supervision, limitations imposed by the government's salary scale and hiring practices creates some problems, including limiting the pool of technical talent available. More generally, insurance supervision suffers from inadequate resources, in terms of financial resources, modern IT infrastructure and regulatory tools.

52. **From an organizational perspective, the delegation of key supervisory functions to two different departments (i.e., off-site supervision, regulation and enforcement to GDI and on-site supervision to ISB) impedes the effective coordination of regulatory actions.** GDI prepares regulations and ISB must follow up with on-site supervision but often falls behind with implementation. The separation also creates functional redundancies (e.g., off-site supervision is undertaken by both departments) and impedes information sharing. Efforts are underway to improve coordination.

53. **The FSAP team's assessment of the discharge of insurance regulatory and supervisory functions was also mixed**:

- The insurance supervisor has been successful in maintaining the financial stability and solvency of the insurance market. Insolvencies and involuntary company liquidations have been few and orderly over recent years, and companies' solvency ratios have been rising following the introduction of the new solvency regulation in 2006.

- The supervisor has also been successful in protecting the interests of policyholders including through creating an effective arbitration mechanism (the Arbitration Commission) to quickly resolve disputes between insurers and policyholders.

- However, there has been a lack of consultation with the industry when implementing regulatory and supervisory changes, limiting transparency and accountability. The Government's passage, after the FSAP mission, of new regulations that institute a

consultation process with the industry in relation to preparation of new legislation, and related improvements in transparency and consultation by the ISB as regards the supervision process should address these shortcomings, once the practical implementation of these new approaches are fully realized.

- Efforts should be made to reduce the currently heavy cost burden on the insurance industry of the regulatory and supervisory processes and data reporting requirements.
- An impact assessment study of the current solvency regulation should be carried out with a view of ensuring realistic assessment of risk capital requirements for companies of different size and risk profile.
- Despite the enactment of the relevant AML/CFT regulatory framework for the financial sector, the insurance sector specific aspects of the legislation are vague. Although the ISB is the only government institution in the country with the necessary technical expertise to conduct on-site supervision of insurance companies, this expertise is not leveraged effectively by MASAK);

D. Anti-Money Laundering and Combating the Financing of Terrorism (AML/CFT)[24]

54. **Turkey has enhanced its AML legal and regulatory framework since the 2007 FATF mutual evaluation**. The money laundering (ML) offense is largely in line with the international standards. However, as noted also by the FATF in June 2011 when it issued a public statement listing Turkey among the jurisdictions with strategic AML/CFT deficiencies that have not made sufficient progress in addressing them, the Turkish authorities now need to focus their attention on the adoption of a new CFT Law to adequately criminalize the financing of terrorism (FT) and the setting up and implementation of an adequate legal framework for identifying and freezing terrorist assets. There are also several implementation and effectiveness issues that require immediate attention.

55. **Supervision of Turkish obliged parties with respect to AML/CFT compliance needs to be strengthened and the institutional supervisory framework integrated to include the institutional knowledge and experience of the sector supervisors**. These enhancements will improve the effectiveness of both offsite and onsite activities in monitoring, selecting, planning, coordinating and executing future AML/CFT inspections.

56. **Strengthening the AML/CFT framework also requires specific efforts by the banking and insurance supervisors**. For the BRSA, these could possibly include developing a new and separate component for AML/CFT, and a new methodology and

[24] This section focuses on a targeted review of Turkey's compliance with a subset (13) of the FATF's Forty Recommendations on Money Laundering and Nine Special Recommendations on Terrorist Financing.

criteria for addressing potential ML/TF risks. The new component will also assess the cross-cutting nature of ML/TF risks within banking and insurance institutions. The results of this assessment will then be incorporated into the existing BRSA's rating approach to arrive at the consolidated institutional risk rating and risk profile providing the BRSA with better information to enhance its onsite inspections. In addition, there needs to be some strengthening in legislation covering AML in the insurance sector.

57. **Additional oversight to further strengthen the existing preventive measures regime is also desirable**. In particular, the authorities should: i) establish a definition for PEP and specific requirements for handling this type of relationship; ii) immediately resume inspections of obliged parties, particularly for banks, insurance companies, and exchange offices to ensure that these obliged parties adequately comply with the requirements to combat ML and FT.

58. **From 1997 to 2006, 13 percent of all ML cases referred by MASAK to the public prosecutor involved purchasing real estates.** Nevertheless, there has been no suspicious transaction report (STR) submitted so far by real estate agencies to MASAK.[25] A number of steps have been taken to strengthen the AML/CFT framework relating to real estate agencies. There continues to be, however, a lack of effective implementation and very little awareness of the AML/CFT requirements by this sector, making it particularly vulnerable to potential ML and FT activities.

59. **The current legal framework does not provide for any provisions relating to the identification of beneficial owners when establishing legal persons.** It is, therefore, not possible for competent authorities, including law enforcement, to have access in a timely fashion to adequate, accurate and current information on the beneficial ownership and control of legal persons. Finally, additional attention is needed to strengthen the system for compiling and producing reliable statistical information/data for AML/CFT matters.

III. CRISIS MANAGEMENT FRAMEWORK

60. **Turkey's crisis management framework is mandated in the Banking Act.** This legislation specifically authorizes the Council of Ministers to determine extraordinary measures to deal with a negative development (as identified jointly by the SDIF, the CBRT, the BRSA and the Undersecretariat of Treasury) that could potentially affect the financial system. The same mentioned agencies and institutions are, thereby, authorized to undertake the prompt implementation of such extraordinary measures.

[25] The AML Law (Article 2) already considered real estate agencies as obliged parties for AML/CFT purposes. The 2008 ROM (Article 4) specifies the AML/CFT-related obligations of real estate agencies, including the obligation to submit STRs when they suspect ML or FT. No STR was submitted to date.

61. **In order to make this crisis management framework operational, a Memorandum of Understanding (MoU) was signed in April 2009 by the SDIF, CBRT, UT, and BRSA**. The MoU established the SRCC and charged it with the specific task of collectively identifying a systemic event.[26] Moreover, among its duties, the SRCC was made responsible for: (a) assessing financial developments; (b) reporting to the Council of Ministers in the case of a systemic event; (c) identifying and assessing measures to rebuild stability; (d) establishing working groups to support the SRCC's mandate;[27] (e) ensuring cooperation, coordination and the effective exchange of information among SRCC members; and (f) assessing the implementation and consequences of the measures taken. Finally, annexes included in the MoU outline a set of indicative potential negative systemic scenarios and a menu of actions that could be taken in the wake of such events.

62. **While the crisis management framework is well designed, the decision-making process could be made clearer and more expedient**. The MoU noted that the SRCC will collectively determine if a negative systemic event has occurred. It is unclear, however, if this collective decision process required a unanimous judgment and what procedures would be followed if there was disagreement between the agencies. Moreover, much the work of the committee and sub-committees, up until the time of the mission, appeared to have focused on risk monitoring and assessment, rather than updating the existing crisis contingency plans.

63. **The newly established FSC retains the same dual objectives for monitoring current stability issues as well as preparing for and addressing financial sector crises.** The relationship between the SRCC and the FSC is, therefore, unclear and could lead to disputes. Thought could be given to more clearly separating the risk monitoring and crisis management functions.

A. Bank Resolution Framework

64. **The procedures for the exit of failing banks were significantly improved in the 2005 Banking Law.** The measures that the BRSA can take can escalate from corrective measures (suspension of distribution of dividends, liquidation of assets, bonus restrictions, etc.), to rehabilitating measures (increase in capital, restrictions on issuance of loans to related groups, changes in board members, etc.), to finally restricting measures (temporary suspension of activities, dismissal of management, forced merger, etc.). If the BRSA determines that the bank's financial position remains weak and/or that there are risks to the stability of the financial system, then it can either proceed with the revocation of its operating

[26] The SRCC was expected to meet at least twice a year. Joining the regular meetings since the third meeting held in May 2011, the Capital Markets Board (CMB) is expected to be included as a formal member following an amendment to the Banking Law.

[27] Two technical sub-committees were established; the first dealing with Risk Analysis and Assessment, and the second with Legislative Issues.

permission or its transfer to the SDIF with the affirmative vote of five out of seven members of its Board.

65. **The SDIF is part of an early warning framework mechanism for dealing with failing banks.** On the basis of a protocol signed between the BRSA and SDIF, the BRSA is expected to notify the SDIF that a bank has been asked to take rehabilitating or restricting measures. Once this notification takes place, SDIF develops a Resolution Action Plan, which includes the design of bank-specific possible resolution alternatives, putting in place a verification process for determining the amount of insured deposits to be covered, and plans for the quick deployment of appropriate personnel for the safeguarding of IT systems and data.

66. **The SDIF has significant legal powers for resolving failed banks, but resolution periods could be usefully shortened. Under the Banking Law, the SDIF may**:

- transfer the assets, as well as the deposits and participation funds subject to insurance to another bank, and then ask the BRSA to revoke the operating license of the failed bank;
- provide financial support to the intervened bank by increasing its capital and/or liquidity;
- sell the financially restructured bank or orchestrate a merger with another bank.

67. **The SDIF has to complete the resolution process in nine months, which might be extended by three additional months**. This relatively long resolution period allows scope to deal with legal challenges to the transfer (not an unusual event in Turkey), but it might also exacerbate funding problems and fiscal costs. The resolution of cross-border institutions is governed by the Banking Law, which requires the BRSA to revoke the operating license of the branches of a bank declared bankrupt in its home country. Similarly, BRSA is required to promptly inform the counterpart authority of relevant countries in case BRSA revokes the operating license of a local bank with branches abroad.

B. Deposit Insurance

68. **The deposit insurance framework in Turkey, managed by the SDIF, broadly conforms to best international practice**.[28]

- **Objectives and Mandates**: Under the Banking Act, the SDIF's main policy objectives are to protect the rights of depositors and to ensure confidence in financial

[28] This review of the Turkish framework was guided by the Core Principles for Effective Deposit Insurance Systems developed by the Basel Committee and the International Association of Deposit Insurers (June 2009).

markets. Moreover, the SDIF is charged with resolving intervened banks and managing the recovery of assets.

- **Governance**: The SDIF's operational decisions are protected from outside influence by law. Moreover, while its budget is subject to parliamentary approval, it is not part of the central government's budget preparation process, and the SDIF, subject to certain civil service wage ceilings constraints, is free to allocate its resources as needed for meeting its duties and responsibilities.

- **Safety net participation**: The SDIF is a member of the FSC. It also exchanges information with the BRSA regarding both the condition of individual banks and the banking sector in general at coordination meetings which are held at least quarterly. Moreover, as part of an early warning system framework, the SDIF participates in a common information database system run jointly with other safety net participants.

- **Reimbursing depositors**: The SDIF is legally mandated to reimburse depositors promptly, no later than three months. While a three-month period appears overly long, in practice the time needed is much shorter.

- **Financial resources**: The current reserve/insured deposit ratio is about 6.0 percent, somewhat higher than in other comparator countries.[29] Existing legal mechanisms ensure that the SDIF can obtain liquidity from the monetary authority (CBRT) and capital from the Turkish Treasury, particularly in crisis times.[30] Under the provisions of Treasury's Debt Management Law dated July 23, 2008, SDIF's obligations to the Treasury that were contracted prior to end-2007 were cancelled (TL 93 billion). Therefore, the SDIF has been financially solvent since then.

C. Systemic Liquidity

69. **The CBRT has in place an established and sound Emergency Liquidity Assistance (ELA) framework that allows for provision of temporary liquidity to solvent banks.** Under the CBRT law, banks in need of temporary liquidity (available for up to one year, renewable every month) are eligible for ELA, subject to a finding by the CBRT that the bank is solvent.[31] Access to ELA is limited to twice a bank's capital, and the interest rate charged on the ELA facility is the overnight CBRT lending rate for interbank transactions.

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[29] This ratio was 2 percent or less for new EU member states prior to accession.

[30] Legally, the SDIF can borrow securities from the Turkish Treasury without parliamentary approval (only ministerial approval) up to a yearly limit of 1 percent of annual budgetary allocations. For 2011, that limit would be about TL5 billion.

[31] The CBRT relies primarily on the BRSA to determine solvency of applicant banks.

Usage of ELA results in regular on-site inspections to confirm that the liquidity support is conforming to its intended purpose.

70. **The ELA is subject to relatively strict collateral and haircut rules which are explicitly specified in the relevant CBRT regulation**. The haircut on the list of eligible collateral ranges from 8.5 percent for foreign exchange deposits to 30 percent for domestic government securities (with a maturity longer than a year) as well as Eurobonds. The list of eligible collateral for ELA provision is available on the CBRT web page.

71. **The CBRT's power to provide ELA is limited to banks.** Consequently, the CBRT could not provide ELA to non-bank providers of credit or securities brokers. However, non-bank providers of credit are currently small and while the inability to support security brokers may be an undesirable constraint going forward, as and when securities markets become more important, the CBRT is already in a position, through repo operations, to provide liquidity to the market as a whole.

72. **The CBRT's ability to provide FX liquidity to banks is constrained by limited official reserves.** The CBRT's reserve cover of short-term debt declined to 70 percent as of end October 2011, which is low in comparison with international peers. Banks can draw on a limited CBRT FX depositor facility in times of FX liquidity needs. Recent changes to the RR framework allow banks to post up to 40 percent of TL RR in FX which serves as a countercyclical measure. The CBRT has reduced FX RR three times (in July, August and October) providing banks with FX liquidity. In addition, the CBRT has announced to resume its intermediation role in the FX deposit market as of November 10, as seen last during the global financial crisis in 2008/2009, so as to mitigate counterparty risk and enhance the FX liquidity distribution among banks.

Table 11. Banking System at a Glance, 2005–11

(Percent, unless otherwise indicated)

	2005	2006	2007	2008	2009	2010	2011 1/
				Banking system			
Balance sheet and quality of loans							
Assets (percent of GDP)	62.7	65.9	69.0	77.1	87.6	91.2	92.7
Loans / total assets	38.4	43.8	49.1	50.2	47.1	52.2	54.1
Government securities / total assets	35.2	31.8	28.3	26.5	31.5	28.6	23.8
Loans / total deposits	62.2	71.2	80.0	80.8	76.3	85.2	94.9
Year-on-year loan growth	57.4	40.0	30.4	28.6	6.9	33.9	39.2
Deposits/total Assets	61.8	61.6	61.4	62.1	61.7	61.3	57.0
Funds borrowed / total assets	13.4	14.2	12.3	12.7	10.3	12.2	13.2
NPLs (gross, percent of total loans)	5.0	3.9	3.6	3.8	5.6	3.8	2.9
Provisioning ratio (percent of NPLs)	88.7	89.7	86.8	79.8	83.6	83.8	82.7
FX exposure (banking system)							
FX assets / FX liabilities (on-balance sheet only)	87.4	87.7	84.6	86.9	84.7	84.0	83.9
FX loans / total loans	27.4	25.5	24.0	28.7	26.6	27.0	28.9
FX deposits / total deposits	36.8	39.4	35.4	35.3	33.7	29.7	31.7
Capital ratios (banking system)							
Capital adequacy ratio	23.7	21.9	18.9	18.0	20.6	19.0	16.6
Shareholders' equity / total assets	13.4	11.9	13.0	11.8	13.3	13.4	11.7
Profitability and liquidity ratio (banking system)							
Return on assets 1/	1.5	2.3	2.6	1.8	2.4	2.2	1.6
Return on equity 1/	10.9	19.1	19.6	15.5	18.2	16.4	13.6
Liquid assets / total assets 2/	35.3	34.7	31.7	23.7	29.4	27.7	28.9
				Private banks			
Balance sheet and quality of loans							
Assets (percent of GDP)	38.0	36.7	38.4	40.5	45.5	47.2	49.1
Loans / total assets	43.6	47.2	52.0	52.2	46.8	52.1	54.5
Government securities / total assets	29.3	29.0	25.4	24.0	31.1	29.0	23.2
Loans / total deposits	74.9	80.3	89.4	88.1	79.8	89.6	100.0
Year-on-year loan growth	54.4	22.3	28.2	19.4	0.9	33.9	44.0
Deposits / total assets	58.2	58.7	58.2	59.3	58.6	58.1	54.6
Funds borrowed / total assets	17.3	16.4	14.0	14.6	12.0	13.3	14.5
NPLs (gross, percent of total loans)	4.3	3.7	3.6	3.7	5.5	3.4	2.6
Provisioning ratio (percent of NPLs)	85.4	86.7	84.2	79.5	87.5	85.6	82.2
				State-owned banks			
Balance sheet and quality of loans							
Assets (percent of GDP)	20.8	20.5	21.0	23.5	28.2	28.9	28.7
Loans / total assets	26.7	32.8	38.2	41.3	41.0	48.3	50.5
Government securities / total assets	49.1	44.6	39.5	38.2	39.9	35.0	30.4
Loans / total deposits	38.0	46.8	54.2	59.1	60.6	70.1	82.1
Year-on-year loan growth	43.4	42.1	32.4	36.5	19.4	39.8	41.5
Deposits / total assets	70.1	70.1	70.5	69.9	67.6	69.0	61.5
Funds borrowed / total assets	4.6	5.8	5.1	5.7	4.8	6.3	8.1
NPLs (gross, percent of total loans)	7.5	5.1	4.1	3.8	4.5	3.3	2.6
Provisioning ratio (percent of NPLs)	96.8	96.6	96.1	88.0	86.7	87.7	87.4
Memorandum items:							
Share of assets held by the five largest banks 3/	...	...	62	62	63	63	...
Share of assets held by the three largest public banks 3/	...	...	29	29	31	32	...
Share of assets held by the three largest private banks 3/	...	...	38	39	39	39	...
Number of banks	51	50	50	49	49	49	48
Number of domestic employees	138,169	150,462	167,212	182,100	183,614	190,586	194,195
Number of branches	...	7,302	8,122	9,304	9,581	10,066	10,460

Sources: BRSA; CBT; Turkish Banker's Association; and IMF staff calculations.

1/ Annualized for August, 2011.

2/ Liquid assets include cash, receivables from the CBT, money markets, and banks, and securities held for trading and sale.

3/ As of September, 2010. Data from the Turkish Banker's Association.

Table 12. Financial Soundness Indicators of the Non-Banking Sectors

Annual data:	2004	2005	2006	2007	2008	2009	2010
	(in percent, unless otherwise stated)						
Household sector							
Rate of growth of financial assets	21.1	15.8	27.8	12.1	16.2	14.4	14.3
Rate of growth of liabilities [1,2]	110.2	81.1	50.1	35.5	23.9	14.0	30.3
Financial assets (percent GDP)	34.0	34.0	37.1	37.4	38.6	44.0	43.0
Financial Liabilities (percent GDP)	5.1	7.9	10.1	12.3	13.6	15.4	17.2
Financial liabilities to disposable income	…	…	29.4	31.1	36.6	36.0	41.3
Interest payments to disposable income [3]	…	…	4.6	4.6	5.6	5.2	4.4
Loan default rate	2.6	3.2	2.9	2.9	3.7	6.0	4.1
Corporate sector [4]							
Growth rate of total corporate debt [5]	1.5	20.5	-5.4	34.0	77.9	12.5	19.0
Corporate debt to equity ratio	1.1	1.1	1.1	0.9	1.3	1.2	…
External borrowing to total borrowing [6]	-	35.7	37.1	37.0	43.5	39.2	30.0
ROA	7.2	5.8	10.0	9.5	7.9	7.2	…
ROE	-	13.3	20.3	22.5	20.5	17.4	…
Current ratio [7]	1.3	1.4	1.4	1.5	1.3	1.3	…
Quick ratio [8]	1.0	1.0	1.0	1.1	1.0	1.0	…
Number of Private Companies [1]	6,645	7,086	5,281	6,862	7,333	8,062	…

Source: CBRT-BRSA, CMB, CRA, SPO, Staff calculations

1/ For 2004 household liabilities do not include liabilities to TOKI due to TOKI's housing sales with long-term maturity.

2/ For 2010 liabilities to TOKI are as of September 2010,

3/ Household disposable income for 2010 has been calculated by using the private sector disposable income estimation for 2010 as mentioned in the 2011 Annual Program, assuming that the ratio of household disposable income for 2009, which was generated from the Income and Living Conditions Survey, to private sector disposable income has not changed.

4/ Ratios from CBRT Company Accounts Database on corporates are based on financial tables of given numbers of private companies for the consecutive years.

5/ Computed as the percentage rate of change of level of debt from a given year to the following year's level, 2010 annualized as of September.

6/ Data include only borrowings of corporate sector from financial sector. Figure for 2010 is as of November 2010.

7/ Current Assets to Current Liabilities.

8/ Current Assets net of Inventories to Current Liabilities.

Appendix I. Risk Assessment Matrix

Nature/source of main threats to financial stability	**Likelihood of realization of threat sometime in the next three years**	**Expected impact on financial stability if threat is realized**
	Staff assessment: High	**Staff assessment: High**
A reversal of capital inflows/ external funding collapse in the near term	• The continuing uncertainty in the Euro area debt crisis can trigger a sharp increase in external funding costs for Turkish banks, corporates, and the sovereign. • About a third of the banking sector has links to euro-area banks under stress, but direct funding is low. European banks, pre-occupied with deleveraging, might, however, only roll-over a portion of the market funding provided to Turkish banks (e.g., syndicated loans) and corporates. • Continuing depreciation pressures and a high current account deficit, as seen recently, combined with skepticism as regards the domestic policy mix can be other triggers.	• A capital flow reversal is likely to lead to a further sharp depreciation and could push Turkey into recession, affecting banks through a collapse of external funding and rising NPLs, as in the wake of the 2008 crisis. • A loan-to-deposit ratio close to 100 percent and stronger reliance on wholesale and money market funding (incl. CBRT repos) exposes banks to interest rate and roll-over risks on both FX and TL funding. Overall banks' maturity mismatch up to one year is US$117 billion (both net on- and off-balance sheets) • Banks' on-balance sheet short FX positions are close to historical peaks of US$20 billion in September 2011 and would need to be hedged at elevated costs. • The overall net FX exposure of the corporate sector, including SMEs, is at a record-high (US$120 billion) with net short-term liquidity needs at more manageable US$15 billion. A sharp depreciation could squeeze profits and lead to higher corporate NPLs, reinforcing the recession. • High exposure to the Turkish sovereign exposes banks to the risk of sharp increases in yields and falls in prices which results in pressure on capital buffers, as a high proportion of the sovereign holdings are marked to market (booked as available for sale). • Stresses on the banking sector are likely to aggravate the recession, since banks are the dominant providers of credit to the Turkish economy. A large proportion of corporate loans is at shorter maturities and might not be rolled-over in a sudden stop.

		• Despite strong balance sheets, households would be impacted from the depreciation, inflation, worsening credit quality, higher unemployment and lower earnings.
	Staff assessment: Medium	**Staff assessment: High**
A continued boom in demand and credit with insufficient policy tightening, followed by a bust in the medium term	• Existing macroprudential policies, while contributing to higher loan interest rates and declining credit supply, have not been able to fully rein in strong credit growth. • Fiscal policy has been procyclical and reliant on transient revenues while the CBRT's unorthodox policy has not been successful in effectively halting the sustained rise in inflation and depreciation pressures.	• As long as foreign interest rates remain low, corporates may further increase FX borrowing, increasing their exposure to depreciation and roll-over risks especially with a record-high US$120 billion corporate net FX exposure position. • Continuing demand for credit and strong competition between banks is likely to lead to a lowering of lending standards, including in the consumer and SME segment, which could feed a strong build-up in NPLs (from a low base) in the aftermath of the bust. • A further shift to higher risk-weighted loans can lead to deteriorating capital buffers, higher provisioning for weaker loan quality will reduce retained earnings' and capital buffers. But there is some offset from mandated retained earnings. • In the presence of low domestic savings rates and low consumer interest rate insensitivity, continued demand for credit is likely to lead banks to become more dependent on short-term funding (including from the CBRT) as the marginal funding source, increasing vulnerabilities. • Any aggressive policy tightening at the peak of the boom from further depreciation pressures or an unsustainable current account deficit, will expose banks to significant interest rate risk given the pre-dominance of short-term funding as well as capital losses from their government securities' holdings. • The risk of a real estate bubble appears low, however, since available data do not indicate significant price increases.

Appendix II. Status of Main Recommendations from the 2007 FSAP

Main Area	Specific Recommendations	Action Taken[32]
Banking		
Implementation of the new Banking Law	Implement all regulations of the new Banking Law. Develop and implement a comprehensive plan for the BRSA to supervise banks in line with new legal and regulatory framework, including risk management.	All the sub-regulations issued pursuant to the banking law are in effect and executed on a continuous basis.
Review and amend procedures for handling failing banks	Reduce legal uncertainty that could cause disruptive court challenges. Eliminate the need for a supermajority on the banking supervisory board to transfer control of a failed bank to the SDIF. Shorten the period an intervened bank may be kept open. Ensure active involvement of all relevant agencies to promote timely and cost-effective action (e.g., by including SDIF into contingency planning).	The procedures related to handling problem banks are given explicitly in Banking Law articles 67–71. BRSA believes that the need for a supermajority to transfer control of a failed bank to the SDIF is essential for such an important action. The supermajority is also required for the establishment of a bank in Turkey. According to article 100 of the Banking Law, the Coordination Committee (including SDIF) convenes once every three months, exchanges information on the banking sector, and discusses measures to be taken as a result of the supervision of deposit banks. Moreover, issues related to contingency planning are evaluated by a Systemic Risk Coordination Committee.

[32] This summary draws on detailed answers provided by authorities in the context of the 2010 Article IV, as published in September 2010 and also includes some further updates prepared by Staff.

Review mechanisms to ensure financial independence of supervisory agencies	Amend the legislation to allow the BRSA to be fully responsible for managing its expenditures budget without consulting the relevant Minister and, in general, any interference from the government. The BRSA should have the final decision on all technical issues related to its relevant sub-regulations.	No progress since the last FSAP report.
Conclude Memoranda of Understanding (MoUs) with remaining significant foreign supervision counterparties	The BRSA should develop informal or formal arrangements with foreign supervisors (particularly with countries where Turkish banks have material presence or with the home countries of banks with a major presence in Turkey) to ensure ongoing cooperation and information sharing.	The BRSA has signed MoUs with 13 out of 26 countries where Turkish banks have presence (i.e., subsidiaries, jointly-controlled undertakings, branches, and representative offices). Passage of a recent law has reduced obstacles to information sharing with foreign supervisors and is expected to pave the way for further memoranda to be signed.
Prudential norms	Ensure FX-indexed loans are subject to similar constraints as FX loans.	Need no longer arises since FX-indexed loans to consumers are now prohibited.
Data management	To support enhanced supervisory practice, the authorities need to make better use of the information that is already available, and, as needed, selectively gather new types of information (e.g., on portfolio duration, corporate and household financial indicators, and dealings in derivatives).	To deepen the supervisory practices, consolidated supervision and financial data gathering have been paid special attention. In this context, for instance, to improve the off-site monitoring function, the Supervision IV Department was established in September 2008 to produce and report analyses on a consolidated basis. Daily information is obtained from banks and is regularly analyzed. A circular on transferring IT audit reports for IT supervisor and software for transferring them was developed, and new supervision guidelines are being prepared. Supervision program for the year 2010 was formed in accordance with the guidelines.
Privatization	Complete privatization of state banks.	In the 2010–2012 Medium-Term Program, the government has announced that preparation studies for public offerings of some shares of Ziraat Bank will be started; decisions regarding implementation will be made by taking into account progress and

		market conditions.
Taxation	Phase out transaction taxes: Banking and Insurance Transaction Tax (BITT) and Resource Utilization Support Fund (RUSF)	BITT on housing finance and investment fund transactions have been exempted. BITT rate has been reduced from 5 to 1 percent for purchases/sales of liquidity bills issued by CBRT or securities acquired or sold by some public administrations (e.g., housing development administration or privatization agency).
Households and insurance sectors		
Mortgage and insurance law	Complete and implement regulations associated with the new laws. Establish prudential norms for mortgage lending, and assign related oversight responsibilities.	New mortgage and insurance law passed. Bylaw on Insurance Related Individual Credits was published on January 17, 2009. General Conditions for Payment Protection Insurance are in effect since February 2008 to protect debtors' installments to creditor against unemployment and incapability risks. Staff update: A new mortgage lending legislation was announced in December 2010 (effective from 2011). Loans secured by residential real estate are limited to 75 percent of collateral value, and commercial real estate loads to end buyers are capped at 50 percent of collateral value. Appraisals must be provided by companies authorized by the BRSA or Capital Markets Board.
Data provision	Establish mechanisms to generate more reliable data on insurance companies' provisions and capital.	Legislation setting the rules for the calculation of "Capital Adequacy of Insurance, Reinsurance, and Pension Companies" has been adopted.
Capital Markets		
Resolve problems regarding privatization of the ISE	Remove ISE status as a government agency by privatizing it, allowing ISE governance to be competitive and cost effective.	The decree law 662 of the Government, dated November 2, 2011, aims to accelerate the privatization process of the ISE.

Capital markets law	Adopt a capital Markets Law in 2008. Key regulatory issues relate to the treatment of market conduct of large shareholders and corporate governance in publicly owned companies. The current system for valuing illiquid assets needs to be improved.	Amendment in the Capital Markets Law is planned by December 31, 2011 (depending on Parliament Schedule) [33]. Staff update: Some provision in the Law were amended by the Omnibus Law No: 6111 in February 2011. These provisions included vesting the authority to regulate FX transaction in the CMB and two provisions that further enhanced the dematerialization process
Corporate Governance		
Encourage market participation	Strengthen minority shareholders' protection and raise board members' accountability.	New communiqué requiring independent review/valuation for related party transactions that meet specific criteria (e.g. the amount of transactions exceeds a threshold) was adopted in 2008. The ongoing project on reviewing and amending corporate governance principles according to international developments (including the European Commission's recommendations on remuneration of directors of listed companies) is expected to be finalized by end-2011. The BRSA introduced amendments to corporate governance arrangements, in line with European Commission recommendations, on remuneration of all staff of banks in June 2011.

[33] The recent financial architecture is going to change in the near future and the new Capital Markets Law has to take into consideration all these changes in its pertinent part.

Accounting and auditing standards	Further strengthen accounting and auditing, especially in smaller nonfinancial firms (and non-listed firms).	Staff update: with the adoption of the Commercial Code in January 2011, accounting of small and non-listed firms will be harmonized with internationally accepted accounting standards. The requirements of the new TCC regarding accounting and financial reporting will enter into force on January 1, 2013.