FOR AGENDA

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To: Members of the Executive Board

From: The Secretary

Subject: **Republic of Kazakhstan—Financial System Stability Assessment—Update**

This paper provides background information to the staff report for the 2008 Article IV consultation with the Republic of Kazakhstan (SM/08/173, 6/17/08), which is tentatively scheduled for discussion on **Wednesday, July 9, 2008**. At the time of circulation of this paper to the Board, the Secretary's Department has not received a communication from the authorities of the Republic of Kazakhstan indicating whether or not they consent to the Fund's publication of this paper.

Questions may be referred to Mr. Shabsigh, MCM (ext. 35364).

Unless the Documents Section (ext. 36760) is otherwise notified, the document will be transmitted, in accordance with the procedures approved by the Executive Board and with the appropriate deletions, to the WTO Secretariat on Friday, June 27, 2008; and to the Asian Development Bank, the European Bank for Reconstruction and Development, the European Commission, and the Organisation for Economic Cooperation and Development, following its consideration by the Executive Board.

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REPUBLIC OF KAZAKHSTAN

Financial System Stability Assessment—Update

Prepared by the Monetary and Capital Markets and Middle East and Central Asia Departments

Approved by Jonathan Fiechter and Amor Tahari

June 19, 2008

A joint IMF-World Bank mission visited Kazakhstan during March 3 to 13, 2008, to conduct a second Update under the first Financial Sector Assessment Program (FSAP) Update that had been conducted in 2004. The mission comprised Ghiath Shabsigh (Mission Chief, IMF), Yira Mascaró (Deputy Mission Chief, World Bank), Peter Lõhmus, Nicole Laframboise (both IMF), Tadashi Endo, Simon Walley (both World Bank), Engin Akcakoca, Peter Hayward (both IMF consultants), and Alfredo Bello (World Bank consultant).

The key findings of the FSAP Update assessment are:

- Extremely rapid credit growth, the dependence of the banking sector on foreign financing, and an overheated economy has rendered the financial system highly vulnerable.
- The tightening of foreign financing in the wake of the global financial crisis has triggered a domestic liquidity squeeze. The authorities intervened heavily by providing substantial liquidity support to the banks, as well as to the construction sector to prevent widespread defaults in the sector.
- The banking sector continues to be under stress as loan quality worsens and liquidity ratios decline. Banks are significantly exposed to indirect foreign exchange and credit risks, and have a high exposure to construction and real estate lending, and these vulnerabilities are confirmed by the mission's stress tests.
- The Financial Supervision Authority has made progress in strengthening the prudential framework since the last FSAP, but still lacks the operational autonomy that an independent supervisory authority would need to be able to respond quickly to market developments.
- There is also a need to move towards risk-based supervision, improve off-site financial surveillance, including stress testing and Early Warning Systems, and establish effective contingency planning and bank resolution frameworks.
- The underdevelopment of the domestic money and capital markets limits the ability of the financial sector to manage risk, compounds macro-financial vulnerabilities, and places a greater onus on the authorities to manage market and pressures.

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. FSAPs do not cover risks that are specific to individual institutions such as asset quality, operational or legal risks, or fraud.

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Glossary

BCP	Basle Core Principles
CAR	Capital Adequacy Ratio
CDS	Credit Default Swap
CMU	Crisis Management Unit
CPF	Contingency Planning Framework
EWS	Early Warning System
FSA	The Agency for Regulation and Supervision of Financial Market and Financial Organizations of Kazakhstan
FSAP	Financial Sector Assessment Program
FSI	Financial Soundness Indicators
FSR	Financial Stability Report
GDR	Global Depository Receipt
IFRS	International Financial Reporting Standards
ISMT	Interbank System of Money Transfer
KASE	Kazakhstan Stock Exchange
KDIF	Kazakhstan Deposit Insurance Fund
KMC	Kazakhstan Mortgage Company
KMGF	Kazakhstan Mortgage Guarantee Fund
LTV	Loan-to-value Ratio
MBS	Mortgage Backed Securities
MOF	Ministry of Finance
MOU	Memorandum of Understanding
NBK	National Bank of Kazakhstan
NPL	Non-performing Loan
OTC	Over-the-counter Securities Market
ROA	Return on Assets
ROE	Return on Equity
SFC	Special Finance Companies

EXECUTIVE SUMMARY

Since 2004, the Kazakhstani banking sector has grown rapidly, supported by strong macroeconomic performance and substantial inflow of foreign wholesale funding. Credit growth has been exceptionally strong, particularly real estate and consumer credit, fueled by strong demand and soaring real estate prices.

However, financial vulnerabilities have grown. Banks, which continue to dominate the financial system, relied on funding from abroad to sustain loan growth, and became highly exposed to credit and liquidity risks. Their vulnerability to shocks was compounded by the underdevelopment of the domestic money and capital markets and the lack of hedging and other risk management instruments.

The fallout from the U.S. sub-prime mortgage market exposed the systems weaknesses, but government intervention prevented a widespread banking crisis. Banks' access to foreign financing dried up at the onset of the crisis in August 2007, triggering a domestic liquidity squeeze, a stalling of domestic credit growth, and a contraction of bank deposits. Market perceptions of Kazakhstani sovereign risk have deteriorated, and credit ratings for the largest banks have been lowered. The authorities responded by providing substantial liquidity, primarily to banks, but also to the construction sector, aimed at preventing widespread defaults.

The banking system still faces important risks and stress testing indicates significant exposures. Rising non-performing loans (NPLs) and indebtedness levels of borrowers, declining liquidity ratios, indirect foreign exchange and interest rate exposures, and high concentration on construction and real estate lending pose significant risks. In addition, the Kazakhstani economy would be vulnerable to a sudden reversal of commodity and oil prices and further negative changes in investor sentiments, which would then spill over to the financial system.

The magnitude of the vulnerabilities calls for a refocusing of bank supervision on systemic stability, and shoring up the contingency planning and bank resolution frameworks. Progress has been achieved in strengthening the prudential framework and improving bank governance. However, there is a need to move towards risk-based supervision with more attention to risk management systems and bank internal controls; strengthen the capacity to implement effective consolidated and cross-border supervision; build up stress testing capacity; improve the approach to asset classification and valuation; and develop the liquidity risk monitoring capacity (see Box 1).

Steps are needed to operationalize a recent interagency Memorandum of Understanding on Financial Stability (MOU) as well as to strengthen other aspects of the crisis management framework. For example, the bank resolution framework is rudimentary and the deposit insurance scheme is likely to be under-funded. The Agency for Regulation and Supervision of Financial Market and Financial Organizations (FSA) still lacks the operational autonomy that an independent supervisory authority needs to be able to respond quickly to market developments.

Progress in implementing 2004 FSAP Update recommendations has been mixed.[1] The FSA has taken a more proactive approach in dealing with banks showing stress but the efforts are hampered by high staff turnover and weak capacity building. The 2004 mission recommendation to increase focus on liquidity risk of individual institutions as some banks relied on potentially volatile wholesale funding has not been implemented effectively. While the FSA introduced a number of new liquidity requirements, the reliance on wholesale funding continues to pose risks.

[1] See Appendix I for 2004 FSAP Update recommendations.

Box 1. Main Recommendations[2]

	Implementing Agency
• Strengthen the framework for bank resolution and crisis management. • Assess options to recapitalize the Deposit Insurance Fund (KDIF).	FSA, NBK, KDIF
• Complete contingency plans, including by operationalizing the Memorandum of Understanding (MOU) between the National Bank of Kazakhstan (NBK), FSA and Government.	NBK, FSA, Government
• Complement ongoing efforts to improve financial surveillance, including with improvements to the Early Warning System (EWS) at the NBK and completion of a microeconomic EWS by the FSA.	NBK, FSA
• Ensure that individual banks prepare contingency plans to address possible systemic shocks and individual vulnerabilities.	FSA
• Improve supervision of liquidity management at banks; continue to monitor exposure to wholesale foreign funding at banks and repayment schedules.	FSA
• Strengthen evaluation of the quality of the loan portfolio (both in-situ and extra-situ) in individual banks with particular emphasis on sectoral trends and concentration of exposures. • Enhance monitoring of exposures to construction companies, particularly at large banks. Establish capacity to better assess household indebtedness levels and its implications for the quality of bank consumer loan portfolio.	FSA
• Collect better information about the composition of banks' assets and liabilities abroad, including with regard to maturity, pledges, availability, etc.	FSA
• Move further toward a modern, risk-based approach to supervision paying greater attention to the need for effective corporate governance and risk management in the banks.	FSA
• Improve consolidated supervision, including cross-border supervision.	FSA

[2] Appendix II reports the detailed recommendations of the mission.

I. Macroeconomic Environment and Risks

A. Developments in 2004–2007

1. **Macroeconomic performance has been strong since the 2004 FSAP Update.** GDP growth averaged about 9.7 percent during 2004–07; the fiscal position, underpinned by rising oil prices, remained robust; and by late-May 2008, Kazakhstan had built up external public assets of $46 billion, including $22 billion in international reserves (Table 1). The current account deficit, however, widened to about 7 percent of GDP in 2007 as booming domestic demand fueled strong import growth, although it experienced a sharp correction in Q1 2008.

2. **The Kazakhstani financial sector and domestic liquidity grew rapidly from 2004–07, with broad money growth averaging 52 percent annually**. The total assets of the banking system grew from 46 percent of GDP in 2004 to around 97 percent in 2007 and the stock of bank credit from 28 percent of GDP in 2004 to about 65 percent by end-2007 (Figure 1). Before slowing in August 2007, bank loans to the private sector, with a significant part financing the real estate sector, had grown since 2004 at about 70 percent per annum.

3. **The National Bank of Kazakhstan (NBK) began to tighten in 2006.** In order to moderate monetary growth, the NBK hiked reserve requirements (and broadened its base) in mid-2006 and raised its deposit rate by 100 basis points later in the year. The NBK also stepped up the issuance of central bank notes and, in 2007, began to lengthen their maturity structure. Notwithstanding the surge in monetary growth, inflation remained in the high single digits until the second half of 2007, aided by a 7 percent appreciation against the U.S. dollar during 2004–07, but subsequently surged to nearly 20 percent.

4. **Kazakhstani financial sector remains dominated by domestic commercial banks** (Appendix III). The banking sector is largely domestically owned, private, and relatively concentrated, with the largest five banks accounting for 78 percent of total banking assets. The share of foreign banks has increased to about 15 percent of total banking assets after some recent acquisitions.[3] Capital markets in Kazakhstan are modest in size and market liquidity is low. While the stock exchange's stock market capitalization stood at 65 percent

[3] The ATF Bank, the fifth largest bank in the country, was acquired by Bank Austria Creditanstalt, a member of UniCredit Group in late 2007. South Korea's Kookmin Bank has acquired a large stake in Bank Centercredit, the country's 6th largest banks. The only state-owned bank, Zhilstroibank, focused on residential construction, accounts for 0.02 percent of total banking sector assets.

of GDP, the annual turnover ratios of equity and government securities were only 16¼ percent and 5¾ percent, respectively, in 2007.[4]

B. Macro-Financial Risks

5. **Against the background of an overheated economy and the effects of the global financial crisis on the banking sector, macroeconomic and financial sector risks mounted rapidly.** In particular, the aggressive growth strategies of Kazakhstani banks in recent years gave rise to heightened credit and structural concerns. The heavy dependence of banks on external borrowing to fund their rapid expansion and a high exposure to real estate credit were the main sources for macro-financial risks.

6. **Kazakhstani banks' expansion has relied on foreign wholesale funding, exposing them to significant liquidity risks should sentiments in foreign financial markets deteriorate** (Figures 2 to 4). Despite several measures taken by the FSA to curb foreign borrowing,[5] external borrowing accounted for about 44 percent of bank funding and bank foreign debt reached 45 percent of GDP at end-2007. The authorities estimate that the maturing external liabilities of banks in 2008 total US$14 billion ($17 billion with interest), including repos and short-term deposits of nonresidents (Figure 5), although early redemption clauses could aggravate the situation.[6] In 2009, the maturing external liabilities are expected to be below $8 billion (with interest payments), estimated as of end-2007.

7. **The real estate market had become overheated, with very rapid growth in prices for several years, but prices dropped sharply with the tightening of credit conditions.** As prices rose across the country and in particular in urban centers, signs of speculative activities emerged further fuelling the growth in prices (Figure 7). The correction since August 2007, however, is estimated at 30–40 percent at lower end of the market and 6 percent at the upper end. The construction sector, which has been the engine of economic growth in recent years, has been badly hit by the crisis.[7] As banks curtailed lending, many projects will have difficulty reaching completion, especially since falling property prices has

[4] The turnover ratio is the ratio of securities' trade volume to the average outstanding amount. The turnover ratio of Kazakhstan's government securities compares to 87 percent in Indonesia, 157 percent in China, 168 percent in Thailand, 197 percent in Malaysia, 259 percent in Singapore, and 264 percent in Korea in 2007.

[5] The FSA introduced limits on short-term foreign borrowing, liquidity requirements on foreign exchange, and limits on foreign liabilities based on banks' capital.

[6] The early redemption clauses appear mostly related to prudential norms, but also to other indicators such as loan-to-deposit ratios.

[7] Construction projects in Kazakhstan are typically financed with around 10 percent equity from the developer and the rest equally split by bank financing and by income from advance sales.

reduced funding from advance sales. As a result, a number of construction companies face insolvency and may default on their bank loans.

8. **Risks to the banking sector stemming from the real estate and construction sectors are significant.** Banks' exposure to real estate lending has risen rapidly with signs of weakening lending standards. The share of construction and mortgage lending in bank credit has doubled since 2004 (Figure 6), amounting to about 38 percent (about 30 percent of GDP) at the end of 2007. Moreover, mortgage credit quality seems to have deteriorated, with rising loan-to-value ratios (a rising number of banks have been offering 100-percent loans) and the share of loans with self-certification of income (no formal verification) account for up to 55 percent of mortgage loans.

9. **While the banks direct foreign exchange exposure is within the strict limits set by FSA, indirect credit risk is significant.** Foreign currency loans account for about 50 percent of total loans, with the exposure largely born by corporations in the non-tradable sector. Furthermore, some tenge loans contain options that allow banks, at their discretion, to index the repayments to the exchange rate. A large exchange rate depreciation could substantially increase private sector debt service obligations with adverse impact on private consumption and investment activities.

10. **Thus far, indicators of balance sheet stress in the corporate and household sectors appear modest, buttressed by recent rapid economic growth and strong profitability.** The corporate sector debt burden has increased only moderately, while leverage ratios have remained stable since 2005 (Table 3). The household debt ratio has increased rapidly in recent years, but the debt-to-GDP ratio, at 21½ percent, is still modest by international standards, although households' net foreign exchange exposure has increased worrisomely (Table 4).[8]

11. **The increasing presence of Kazakhstani banks in neighboring markets helps to diversify their balance sheet, but exposes them to new risks.** The expansion was precipitated by the limitations of a relatively small and increasingly competitive domestic market, and the relative advantage Kazakhstani banks have been enjoying in raising longer term funding at lower costs as compared to most local banks in the region. The liquidity squeeze and credit slowdown had temporary spillovers to Kyrgyz Republic, where Kazakhstani banks' share in total banking sector lending is about 45 percent.[9]

[8] There is no complete data available on corporate sector foreign exchange exposures.

[9] Unlike the banking sector in Kazakhstan, the banks in Kyrgyz Republic are mostly financed by deposits and are less exposed to the real estate sector. Kazakhstani banks' activities in Russia have also been growing rapidly but their share in the Russian banking sector is negligible.

12. **In addition to the above factors, the Kazakhstani economy is vulnerable to changes in global commodity prices**. The country's large oil reserves and high oil prices may have contributed to the inflow of foreign capital and, subsequently, to overheating, but the abundance of natural resources may also protect the economy from larger shocks. However, the Kazakhstani economy is very dependent not only on oil exports (which account for 60 percent of merchandise exports), but also on metals and wheat.

C. The Liquidity Crisis of August 2007

13. **The macro-financial vulnerabilities were exposed as a result of the fallout from the U.S. sub-prime mortgage market.** The crisis adversely affected Kazakhstani banks' access to international credit markets, which in turn tightened considerably domestic liquidity conditions. As a result, inter-bank interest rates jumped and domestic credit growth stalled. Market perceptions of Kazakhstani sovereign risk, as measured by CDS spreads, increased sharply in November 2007 and remained elevated levels until recently. Credit ratings for the largest banks were lowered in recent months amid growing concerns over liquidity and asset quality.[10] About $4 billion worth of nonresidents' tenge assets—mostly held in NBK notes—were withdrawn from the system during August-December, which, coupled with pressures on banks to meet external payment obligations, brought significant pressure to bear on the exchange rate. These external pressures were compounded by a 5 percent contraction in household deposits during August-October, mostly because of uncertainties at the time about the exchange rate stability.

14. **The NBK and the government intervened in a concerted manner to ensure the integrity of the banking system and to prevent the credit crunch from deepening further.** The intervention was primarily aimed at shoring up banks' liquidity and supporting the construction sector. The NBK injected significant amount of liquidity into the banking sector through its refinance windows in August-December; lowered the effective reserve requirement by excluding certain items from its base and allowed banks to borrow up to 70 percent of their reserve requirement;[11] extended the list of eligible collateral, and redeemed most of its own securities. The government set up a $4 billion financing facility—in the form of earmarked government deposits with the banks—to be on-lent mostly to construction companies to keep unfinished residential construction projects running. Some funds are also intended to support SMEs as well as a number of larger investment projects by taking over some commercial loans from the banks through the state investment vehicle,

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[10] Rating agencies downgraded the banks and the sovereign in early October 2007 (to BBB- by S&P for the sovereign long-term foreign currency rating). Several banks were downgraded again in December 2007, while the sovereign rating outlook was revised to negative by S&P in late April 2008.

[11] The liquidity support from the reserve requirement-related measures amounted to about $1.2 billion.

Kazyna. As of March 2008, about $1 billion has been channeled through banks ($400 million to construction, $400 million to SMEs, and $200 million to refinance infrastructure projects), which retained the credit risk in their portfolios. So far, the banks have not used all the funds made available to them.

15. **The cost of intervention was significant but helped in calming domestic financial market.** The NBK's international reserves fell by almost $6 billion in July–December 2007. While international reserves have been accumulating since December and the tenge exchange rate has been stable since October, market confidence in the stability of the system has not fully recovered. The price of Global Depository Receipt for a number of Kazakhstani banks listed abroad are still below their summer peaks, and CDS spreads remain elevated.

16. **The global financial market turmoil had an adverse impact on Kazakhstan's economy.** Real GDP slowed to 6 percent in the first quarter of 2008. Inflation has hovered around 19 percent (year-on-year) in 2008, partly because of higher food prices. While the banks have coped with foreign debt repayments in the first five months of 2008, growth in credit and the money supply has stalled as banks' capacity to tap external funding has diminished considerably, and loan quality has worsened somewhat. Looking forward, and as set out in the accompanying Article IV Staff Report, economic growth is expected to slow from previous highs to about 5 percent in 2008 and credit growth could turn negative in real terms. The current account is projected to move into surplus in 2008 and the budget surplus is projected to increase further due to higher oil and commodity prices.

II. Financial Stability Assessment

A. Financial Soundness Indicators

17. **The financial soundness indicators (FSIs) for Kazakhstani banks have been broadly favorable (Table 2).** Despite high loan growth rates in 2004–07, the reported aggregate capital adequacy ratio (CAR) remains high at 14.5 percent as of end-March 2008, partly because of substantial equity injections in 2006 and 2007, and slower than expected loan write-downs in early-2008. The Tier I capital ratio has also remained robust at around 10 percent during 2004–07, well above the 6 percent minimum requirement. Strong bank profitability was maintained in 2007 (mostly the result of the first half) as the ROA and ROE increased to 1¾ percent and 15 percent, respectively, the strongest in recent years. The sector average net interest margin improved to 6¾ percent in the second half of 2007 from 5½ percent in 2006, despite increased funding costs.

18. **However, these indicators seem likely to worsen in the coming months owing to the impact of recent events.** In particular, the share of classified loans has increased rapidly since mid-2007, particularly in the construction sector, although prudential provisions remain in general higher than required provisions applied by IFRS.[12] As banks' loan portfolios have increased rapidly, liquidity ratios have been on a downward trend. Although banks' net open foreign exchange position has been declining, indirect foreign exchange-related credit risks remain high.

B. Stress Test Results

19. **The stress testing focused on the potential impact on the banking system of the liquidity crunch and asset quality deterioration since August 2007.** The emphasis was on certain sectors, including construction and real estate, and consumer lending, viewed as most vulnerable. The methodology comprises sensitivity analysis of the bank financial ratios to changes in key single risk factors, which were brought together into a more comprehensive scenario analysis that included a baseline scenario and two "exceptional but plausible" downside scenarios (Table 5). The baseline scenario reflects current conditions and trends, taking into account the impact of the liquidity tightening of 2007. The first downside scenario assumes further tightening in global financial market conditions and a decline in oil prices, which are assumed to trigger a generalized loss in investor confidence, and result in further capital outflow and a loss of international reserves.[13] The second downside scenario builds on the first, but further assumes a 20 percent exchange rate depreciation as well as a decline in deposits. The results of these three scenarios vary significantly: the aggregate CAR for the banking system falls to 9.5 percent under the baseline, and to 1.5 percent under the most pessimistic scenario. Additional capital needed to bring the banking sector capital adequacy ratio back to the minimum level ranges from $3.7 billion to $8 billion, respectively.

20. **The baseline scenario illustrates that the banking system is already under stress.** The baseline scenario assumes that the banks will be able to refinance only 50 percent of external borrowings coming due. This limits any net new lending by the banking system in

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[12] The asset classification rules are relatively strict in Kazakhstan as loans can be classified even when they are not overdue (the trigger can be the borrower's weak financial position, deterioration in collateral value, etc.). Loan classification in Kazakhstan is based on a complex scoring system that classifies credits and loans as standard, doubtful, and loss. Doubtful in turn is divided into five categories. According to the authorities classification, NPLs comprise categories doubtful 2, 4, 5, and loss, which capture loans overdue by as little as seven days, as well as loans that are still performing, but where the obligor is deemed weak or failing. A narrower definition would include the doubtful 5 and loss categories, capturing a large share of loans overdue by 60 days or more (see also Table 2).

[13] Since the stress test, the IMF oil price assumption for 2008 has been increased to $116.5 from $95.5, and the banks' external liabilities have only slightly declined.

aggregate, even assuming a 30 percent increase in deposits in 2008 (following 87 percent and 36 percent increases in 2006 and 2007, respectively). NPLs are assumed to increase a further 5 percentage points, based on the trend observed in early 2008. Provisioning, as a percent of NPLs, had been kept at 100 percent in recent years, but the rate lagged in 2007, with only a 60 percent coverage rate achieved.[14] In the baseline scenario, a restoration of a 100 percent coverage rate is assumed, causing the system-side CAR to fall to 9.4 percent. The additional capital that would be needed to cover increased provisioning and restore the CAR to the 12 percent statutory minimum is estimated at $3.7 billion.

21. **Under the first downside scenario, banks would encounter a large decline in the capacity to refinance foreign borrowings coming due**, and a further deterioration in asset quality due to second-round effects. Banks would have to increasingly rely on maturing loans to repay their external borrowings (taking up 33 percent of loan repayments falling due), which could cause significant further decline in banks' loan portfolios and income. The system-wide CAR would fall to 4.9 percent. The recapitalization needed to cover increased provisioning and bring the bank capital up to the minimum CAR is estimated at about $7 billion.

22. **The second scenario assumes further losses due to currency depreciation, plus the resulting second-round effect of further loan quality deterioration.** As a result, both the liquidity and the capital adequacy of the system are further squeezed. Bank deposits decline by 6 percent, NPLs rise to 26 percent, and overall CAR falls to 1.5 percent.[15] The liquidity squeeze requires banks to use 40 percent of their loan repayments falling due to pay off external borrowings. The capital needed to cover increased provisioning and to restore the minimum CAR is estimated at $8 billion.

23. **There are questions about the reliability of reported bank data that suggest that vulnerabilities described above could be even larger.** Although the authorities have made concerted efforts to assure the quality of bank reporting, there are at least two reasons for concern: (i) the authorities have not systematically analyzed whether funding agreements may be subject to early redemption clauses if there are breaches of covenants; and (ii) there is a risk that there is less than full disclosure of credit quality, and of the use of "ever-greening"

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[14] Some loan categories classified as NPLs by the FSA require provisions as low as 20 percent (see also Footnote 11).

[15] This increase in NPLs is based on a staff survey of 12 emerging market countries with currency and banking crises indicated an average increase of 12.7 percent in NPLs in the period following the crisis, with a standard deviation of 9.6 percent. The results represented by the stress testing would appear to be in line with these international experiences. Countries in survey: Indonesia, Korea, Thailand, Philippines, Czech Republic, Russia, Slovak Republic, Turkey, Argentina, Brazil, Mexico, and Uruguay.

and undisclosed related party lending, especially in light of the unusually short average life of most loans.

24. **Greater attention should be paid on banks' funding structures, available liquidity and short term cash-flows, including detailed review of borrowing conditions.** Deeper analyses should be carried out on banks' foreign currency positions, including spot and forward positions, on and off balance sheet exposures, and any hedging or derivative tools that may reduce or increase risks to the banks and to the system. In addition, more attention should be given to profitability analysis for each of the banks to understand better recent historical profitability, the month by month evolution since the summer of 2007, and to therefore have a better basis to evaluate capabilities to absorb the likely future credit losses.

III. Financial Stability Framework and Policies

A. Prudential Framework

Institutional arrangements

25. **The FSA has made a large number of improvements to the regulatory framework since it was established in 2004, but shortcomings remain.** The FSA has been hampered by a lack of experienced staff and rapid turnover of senior management.[16] Also, based on financing and reporting modalities, it still lacks the operational autonomy that an independent supervisory authority needs to be able to respond quickly to market developments. In order to strengthen the supervisory framework and enhance the credibility of the FSA, it is recommended that in line with the Basel Core Principles, the FSA Chairman should be appointed to serve for a fixed term, with the provision that they can only be removed for reasons specified in law, and that the reason for their dismissal be made public if they do not serve a full term. In the medium-term, its operational independence could be further assured by lessening its dependence on apportioned funds from the NBK and strengthening its funding base through fees levied on supervised institutions.

Consolidated supervision

26. **The FSA has been empowered to conduct supervision on a consolidated basis, and the formal arrangements are now established.** There is a division responsible for consolidated supervision and the reporting and other arrangements appear comprehensive and allow an assessment of the risks on a group-wide basis. Capital requirements and large

[16] These problems are being addressed as a substantial increase in salaries and in positions was recently approved, and the FSA hopes it may now be able to recruit more experienced staff.

exposures, for example, are monitored on a group-wide basis. Where the bank is the parent, the framework appears operative. Where there is an unregulated entity as parent, consolidated supervision is always more problematic, and supervisors have to rely on an indirect approach in order to map the group and prevent unregulated activities damaging the interests of depositors.

27. **Arrangements exist with most countries that either host Kazakhstani banks' foreign affiliates or are home supervisors of foreign banks in Kazakhstan, but they are not yet fully used.** Several Kazakhstani banking groups now have subsidiaries abroad. The formal arrangements that exist include arrangements to exchange information. However, limited use seems to be made of these powers, in part because the foreign affiliates tend not to be large relative to the domestic operations.

Solvency and asset quality

28. **Capital requirements are now enforced on a consolidated basis but their accuracy is dependent on the valuation of assets, which is particularly difficult at present**. The FSA's approach to asset valuation differs from that used by major banks in their financial statements. The FSA has a complex formula that awards 'scores' to attributes of asset quality and lacks much room for the judgment that is the basis for the valuation of assets in IFRS. The FSA has recently amended the scoring system to give more weight to the financial situation of the borrower and less to collateral. The difficulty is that with no recent history of a downturn of the type of severity now being experienced, the formula approach may understate the risk.

29. **Accordingly, the process of evaluating the quality of the loan portfolio, with emphasis on sectoral trends and concentration of exposures, has to be strengthened.** This includes focus on exposures to construction companies and real estate sector, where valuations are uncertain, particularly at large banks. The FSA should also take steps to assess indebtedness levels of households to evaluate portfolio quality of consumer loans. This should go hand-in-hand with developing in-house capacity to assess effectiveness of banks' asset valuation processes.

Supervision of liquidity risk

30. **The FSA generally has not been able to ensure that banks managed their liquidity prudently, but, with the NBK, the FSA has managed to prevent failures.** The authorities have taken steps to address this issue by limiting bank borrowings and encouraging longer term facilities to match the maturity of their assets more closely. With liquidity risk still significant, banks should be required to have liquidity management policies discussed, approved, and monitored by the bank's board and FSA. Additional efforts will

also be needed to ensure the availability of adequate information about the composition and terms of banks' assets and liabilities abroad.

A forward-looking approach to supervision

31. **The FSA needs to move further toward a modern, risk-based approach to supervision paying greater attention to the need for effective corporate governance and risk management.** There is little room in the present arrangement, which is largely compliance based, for assessment of corporate governance and management, and for the exercise of judgment by the FSA. In addition to changing its approach to asset classification and provisioning to less formulaic, the move should be supported by additional training, given the lack of skills and experience at the FSA.

B. Bank Governance

32. **The legal framework in Kazakhstan provides a basis for ensuring appropriate standards of corporate governance but implementation continues to focus on "form over substance."** While some further enhancements to the legal framework have been enacted since 2004 FSAP Update, the focus is often on determining the existence of policies and procedures that meet the requirements of the laws, rather than on the adequacy and implementation of these policies.

33. **While the general governance principles set by bank Boards of Directors are sound, they are not fully implemented.** Internal policies, procedures, and controls are governed by the Law on Banks and Banking, which stipulates that the Board of Directors approve all such measures. However, policies and procedures approved by some bank Boards are too general, failing to provide sufficient parameters to senior management. This leads to insufficient accountability of Directors. Furthermore, some bank Boards do not ensure the application of adequate internal controls and risk management processes.

34. **Identification of controlling shareholders of banks is a challenge although the FSA has made major efforts to regularize the situation.** The FSA has devoted considerable resources to the identification of the beneficial owners of banks and attempted to subject them to the FSA's approval process. Often such interests are disguised by indirect holdings. However, the FSA now has powers to obtain information from affiliated companies, if necessary by physical inspection, although controlling shareholders are sometimes reluctant to provide it. As regards the ownership structure, the authorities took action at a higher level in 2007 to enforce full disclosure of the ownership of 17 banks that had not been sufficiently transparent. All but one of these banks provided full disclosure.

C. Financial Safety Net Framework

Financial surveillance and risk monitoring

35. **In response to the financial crisis in the Fall of 2007, work has begun to establish an early warning system (EWS).** The NBK financial stability unit (established in 2006) has developed a methodology for Financial Stability Risks Assessment and an EWS at the macro level. While the system seems comprehensive, there is room for improving it by incorporating micro-level analysis (once prepared by the FSA), and strengthening the analytical methodology, including using dynamic thresholds (where possible for certain indicators) and continuously testing it. The FSA launched in late 2007 a program to develop an EWS at the bank level. The work is still in its infancy, but once completed will contribute to improved financial surveillance.[17]

36. **The authorities have made limited progress in stress testing banks.** A formal methodology is in place and some technical resources allocated to this task, but the FSA's capacity to perform stress tests is still inadequate. The authorities should build on their recent work by increasing the technical resources dedicated to this potentially important area, and integrating it into the broader analytical processes of the FSA. It will then be easier to ensure financial analyses are fully aligned to the perceived system risks, and that any existing data gaps can be adequately evaluated and covered. The FSA should recognize that stability analyses are very challenging and inevitably highly dependent on judgment. It is also important that policy messages from stress testing are effectively communicated and absorbed by policymakers.

[17] For more details, see NBK website http://www.nationalbank.kz/ (Financial Stability Reports).

Contingency planning and bank resolution

37. **Establishing a contingency planning framework (CPF) is a high priority policy area.** The CPF should establish a set of policies, procedures and actions, to be utilized in order to prevent, manage and resolve banking systemic distress and crises. The November 2007 Memorandum of Understanding on Financial Stability, prepared jointly by the government, the NBK, and the FSA, is an important step in the right direction. The guiding principles of this document are sound and should help establish a foundation for protecting financial stability and managing systemic banking crisis. It is of utmost importance to finalize its operational framework and to test it at the earliest possible time to ensure that all operational arrangements are robust.

38. **A crisis management structure would need to be established as soon as possible.** The scope of such a framework must be defined in advance as part of the contingency planning process. The framework should include the establishment of a crisis management unit (CMU) at the FSA in coordination with the NBK, to coordinate information flows and the actions to be taken by various agencies at times when banking distress becomes systemic. A high-level steering committee composed of high-level Government officials, and the Heads of the FSA and the NBK, would need to be set up to assume the overall responsibility of crisis management, preferably on a permanent basis. Alternatively, the mandates of the existing NBK Monetary Policy Council and FSA Advisory Board should be strengthened to carry out these tasks.

39. **In light of the current risks facing the banks, they should be required to prepare their own contingency plans.** The plans should define the manner in which the banks would maintain liquidity in times of distress and preserve asset quality. In addition, the plans should indicate how the banks will ensure that they meet the minimum CAR (including by raising new capital) how they will speed up debt recovery, and what measures they will take to reach adequate profitability.[18] In addition, mechanisms should be put in place for banks to collect and provide to the FSA high-frequency data.

40. **The bank resolution framework is rudimentary at present and urgent legislative action is needed to strengthen it.** Although the current banking law covers bank liquidation procedures in length and includes a number of prompt-correction-type steps (e.g., government intervention in bank capital, etc.), the framework should be strengthened.[19] The FSA does not have a definition of systemic crisis and lacks key tools for effective bank

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[18] Such plans are required under the existing rules, only when the bank actually becomes undercapitalized.

[19] The slow reaction of the authorities to the emerging problems in a small Valut-Transit Bank in 2006, and protracted resolution process, point to weaknesses in the implementation framework.

restructuring and resolution during systemic crisis or failure of individual banks. Some of the inconsistencies in the existing framework include conflicting objectives for the FSA as it supervises both the troubled bank's temporary administration (once placed under FSA conservatorship, appointed by FSA), and the liquidation committee; unclear rules regarding the responsibilities of shareholders and other bank-related parties; and the role of government. The existing legislation needs amendments to ensure an orderly restructuring and resolution of banks. The law should define the criteria under which FSA has to intervene and take over problem banks, and spell out which agency would be in charge of bank resolution (given a potential conflict of interest it should not be the FSA).[20] The legal framework should also be revised to allow the FSA to dilute or wipe-out shareholders of undercapitalized or insolvent banks.

Liquidity management framework

41. **Money markets remain underdeveloped and the incentives to trade are weak, increasing liquidity risk and placing a larger responsibility on the NBK to provide liquidity in times of stress.** The underdeveloped money market causes the banking system to resort more to the foreign exchange market for liquidity adjustment than to the money market. It also inhibits the NBK from moving to indirect market-based instruments to implement monetary policy and aggravate volatility at the short end of the yield curve, impeding the monetary policy transmission mechanism.

42. **Following the liquidity squeeze in 2007, the NBK has taken important steps to strengthen its liquidity management framework.** Steps have included: (a) establishing, under the MOU, the measures, objectives, procedures, eligibility criteria, information requirements, instruments, permitted collateral, and the follow-up required under liquidity support for "financial stability purposes," and (b) preparing a Memorandum of Cooperation and Interaction on Financial Stability that stipulates the terms of liquidity support to banks. Unless banks sign the memorandum with the NBK, they do not have access to exceptional liquidity support (mostly foreign exchange SWAPS)—to date, six banks have signed. Notwithstanding these important steps, there is a need to monitor the liquidity developments more closely and to consider broadening the range of available liquidity instruments, including providing intraday liquidity and extending the range of maturities.

[20] One option to consider would be to give such responsibilities, like in many other countries, to the deposit insurance fund.

Deposit insurance

43. **The Kazakhstan Deposit Insurance Fund (KDIF) is likely under-funded.** The KDIF insures deposits up to 700,000 tenge (approximately US$5,800) per depositor per bank, which, at present, would cover fully about 90 percent of bank accounts and 40 percent of bank deposits. It is mandatory for the banks to participate. The insurance premium is risk-based and ranges from 0.2 percent to 2 percent per annum. The KDIF's paid-in capital is 16 billion tenge with total funds of 23 billion tenge.[21] The KDIF estimates that the total pay-out risk for the four banks that received the lowest rating to be about 4.9 billion tenge, which is within the capacity of the KDIF. However, for the sixteen second to the lowest-rated banks, the total pay-out could be as high as 244 billion tenge, an almost tenfold multiple of KDIF's current reserves.

44. **In case the KDIF funds fall short of its liabilities to depositors, the government will, and has the authority, to cover the shortfall.** In addition, the MOU is contemplating to expand on existing tools for crisis management. In light of the existing systemic risks in the banking system, it is important that the KDIF is funded properly to adequately undertake its responsibilities. The authorities should consider increasing the KDIF capital further, either by direct injection or through long-term loans, repaid by gradual increase in premiums over years.

IV. Money and Capital Markets

45. **The underdevelopment of money and capital market has increased the Kazakhstan financial system's vulnerability to shocks.** While important developments have been made in broadening the investor base, including pension funds, the lack of trust among financial institutions and limited availability of high-quality collateral such as government securities have hindered the money market development. Also, the financial banking system has experienced sustained periods of excess liquidity, reducing banks' incentive to trade in the money markets.

46. **Prevailing regulations constrain the supply of debt instruments for institutional investors, causing excessive demand for government securities and distorting financial markets.** The total outstanding debt securities in the domestic market amounted to 15 percent of GDP as of the end of 2007, including government securities of 6 percent of GDP. Only stand-alone public offerings are allowed, which may not always fit diverse and complex corporate financing needs. The lengthy processes required to raise debt in the local

[21] The KDIF reserves were depleted considerably in the wake of the liquidation of Valut-Transit Bank, but have been replenished by the NBK.

capital markets dissuades issuers and raises financing costs, especially if delays result in missed investments. This cost, coupled with the investor's lack of confidence in the disclosure and corporate governance of issuers, has curbed the supply of debt securities.

47. **The lack of well-functioning money and debt markets also limits the set of early warning indicators available.** The main missing indicator is a benchmark yield curve, from which other indicators such as implicit forward rates and yield spreads can be derived. A liquid government bond market, with a wide range of maturities, links the currency market to the interest rate market, making the financial system more resilient.[22] Limited local alternatives to raising long-term capital seem to have led, in part, banks to foreign markets. Furthermore, limited high-quality collateral for money market transactions have led banks to rely on the foreign exchange market for liquidity management. Finally, hedging mechanisms, through which banks and other economic agents could better manage risks are largely nonexistent.

48. **The short supply of government securities constrains the efficiency of the real-time gross settlement system, posing systemic risk and could become an important contagion channel.** Eighteen payment withdrawals occurred in the Interbank System of Money Transfer (ISTM), Kazakhstan's real-time gross settlement system, in the first ten months of 2007 due to liquidity gridlock.[23] Market sources also report that many payments settle on T+1 rather than T+0 to reduce liquidity gridlock. The short supply of government securities in the market hinders NBK's capacity to provide sufficient liquidity to the ISTM.

49. **Consideration should be given to implementing the following measures to facilitate capital market support for financial sector stability:**

a. Continue the government bond market development initiative to generate secondary trading and facilitate collateral-based money market transactions, while enhancing the regulatory capacity for market and operational risks,

b. Develop the non-government bond market to meet the demand from pension funds by facilitating traditional private placements, and institutional offerings, and

c. The development of a secondary mortgage market through an expansion of mortgage bonds ('covered' bonds) and Mortgage Backed Securities (MBS) will provide greater funding stability to banks.

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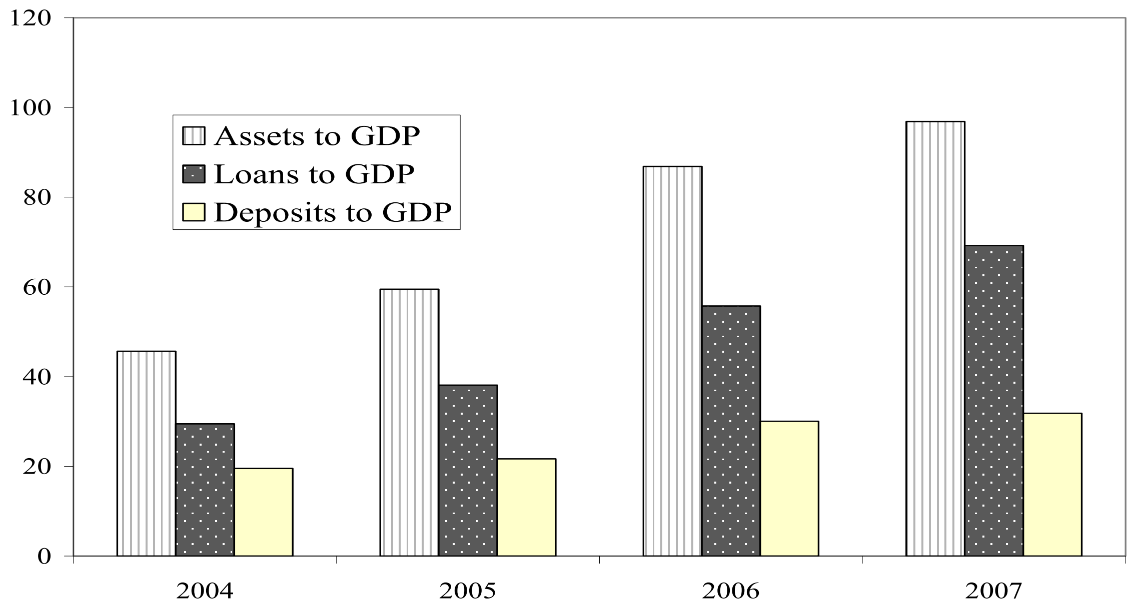
[22] Limited local financial system alternatives to raise long-term capital seems, in part, to have led banks to foreign markets, raising currency risks.

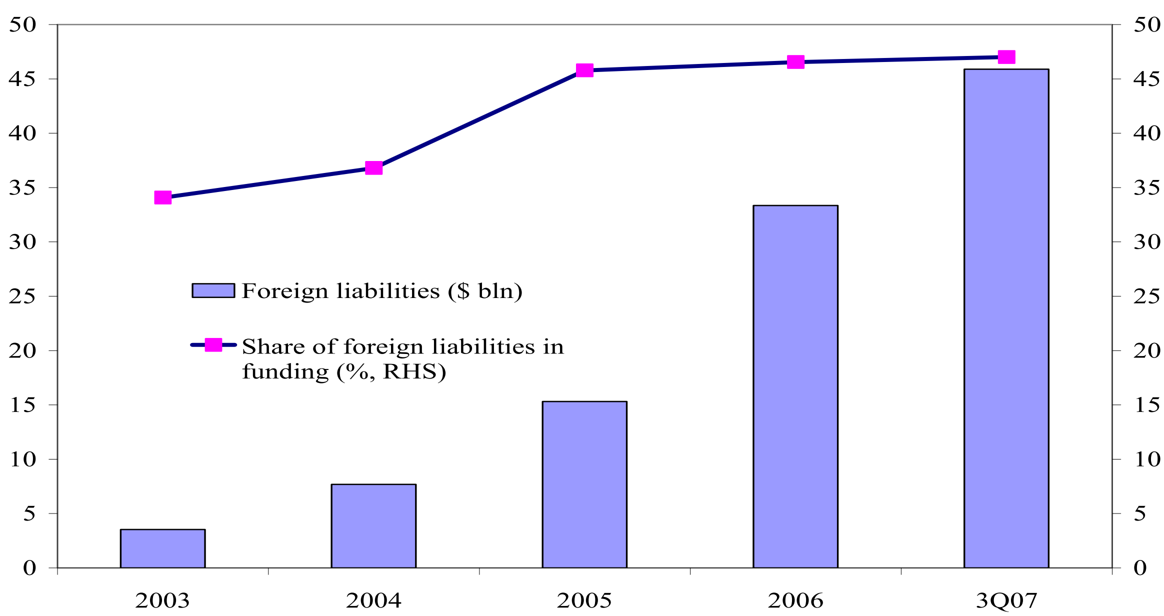
[23] Financial Stability Report, December 2007.

Figure 1. Kazakhstan: Rapid Growth Rates in the Banking Sector
(In percent)



Source: FSA

Figure 2. Kazakhstan: Banking Sector Foreign Liabilities



Source: NBK, FSA

Figure 3. Kazakhstan: Sources of Funds of the Banking Sector

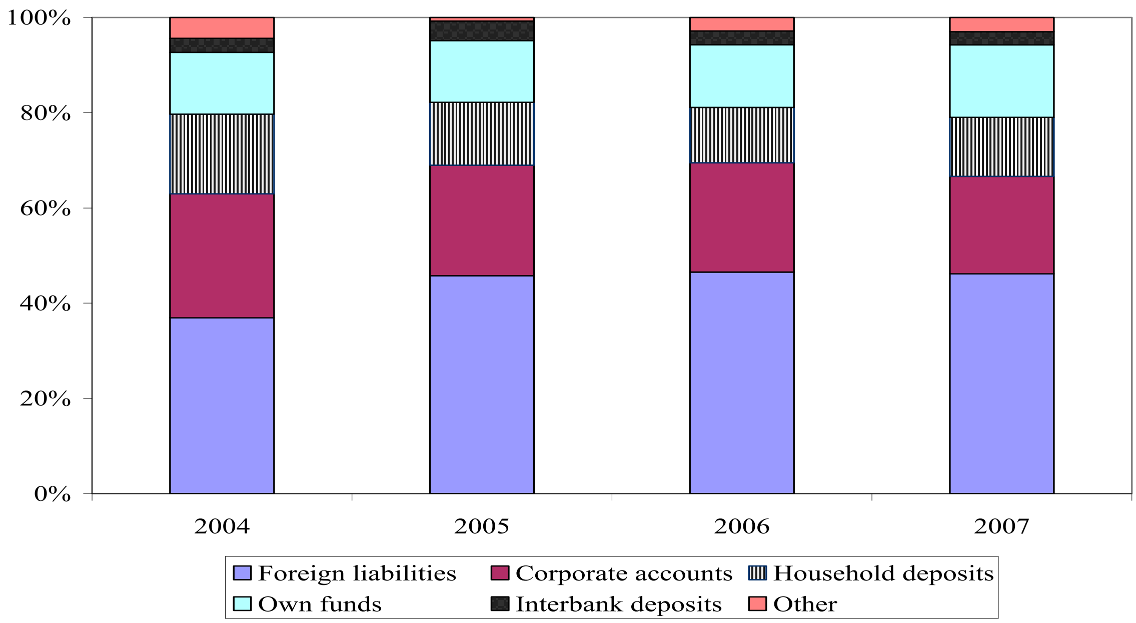
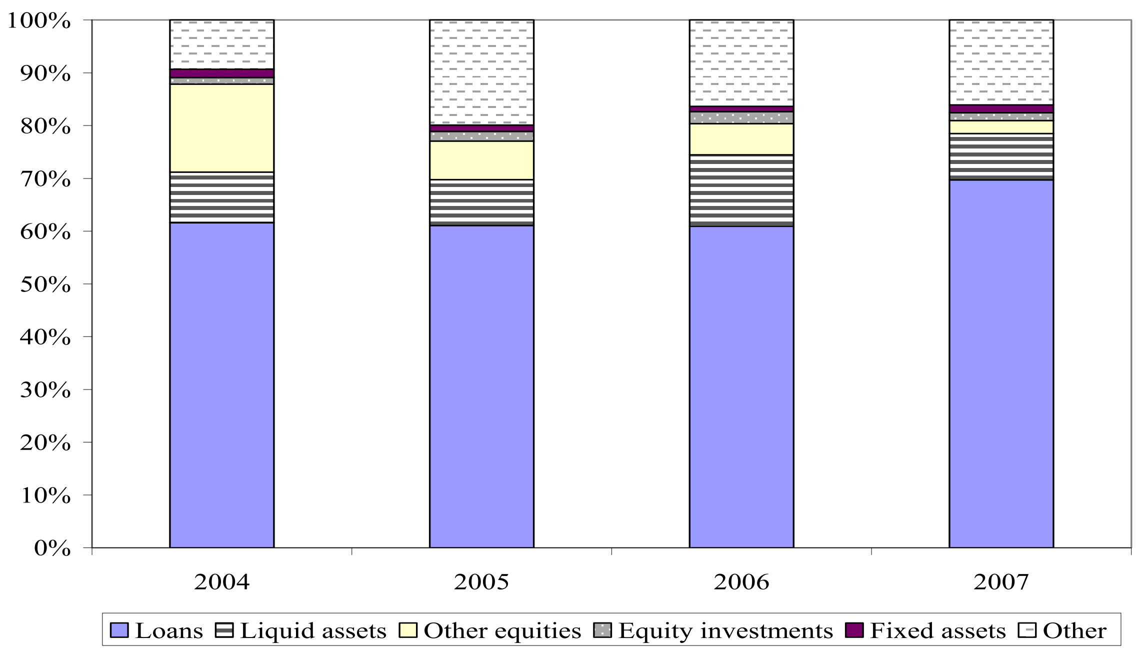
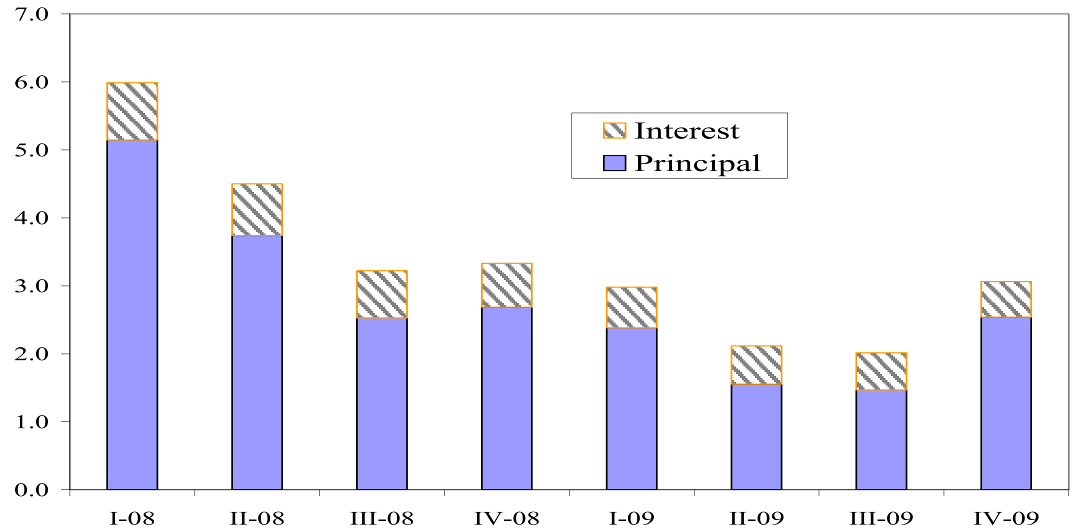


Figure 4. Kazakhstan: Uses of Funds of the Banking Sector



Sources: NBK, FSA

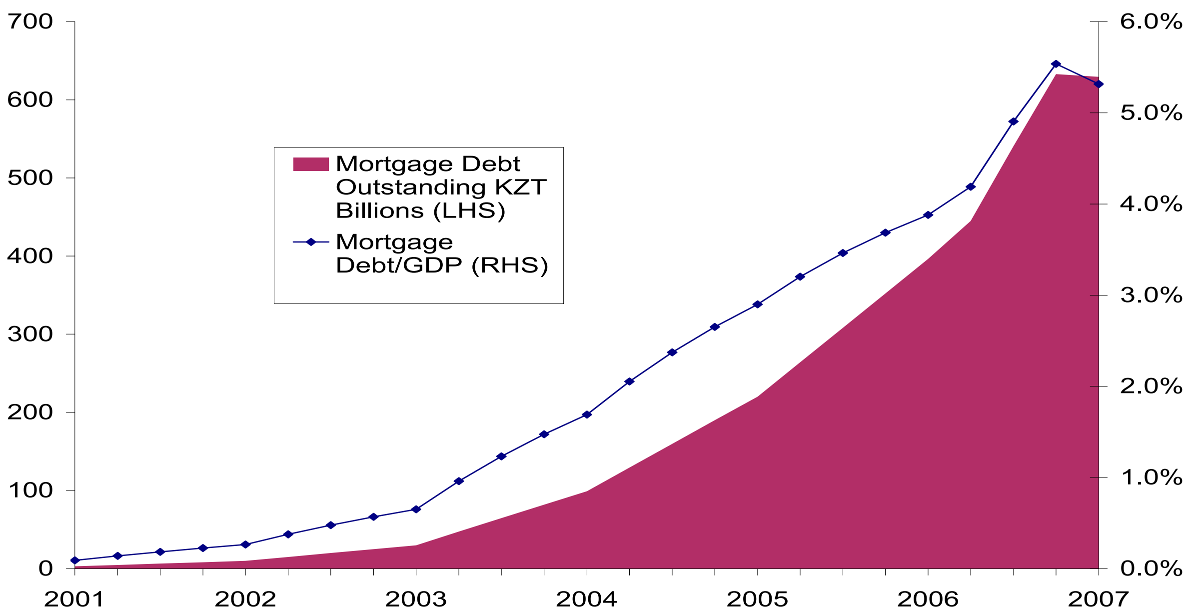
Figure 5. Kazakhstan: Banks' Maturing External Liabilities in 2008–09 1/
(In billions of U.S. dollars; as of end-2007)



Sources: NBK

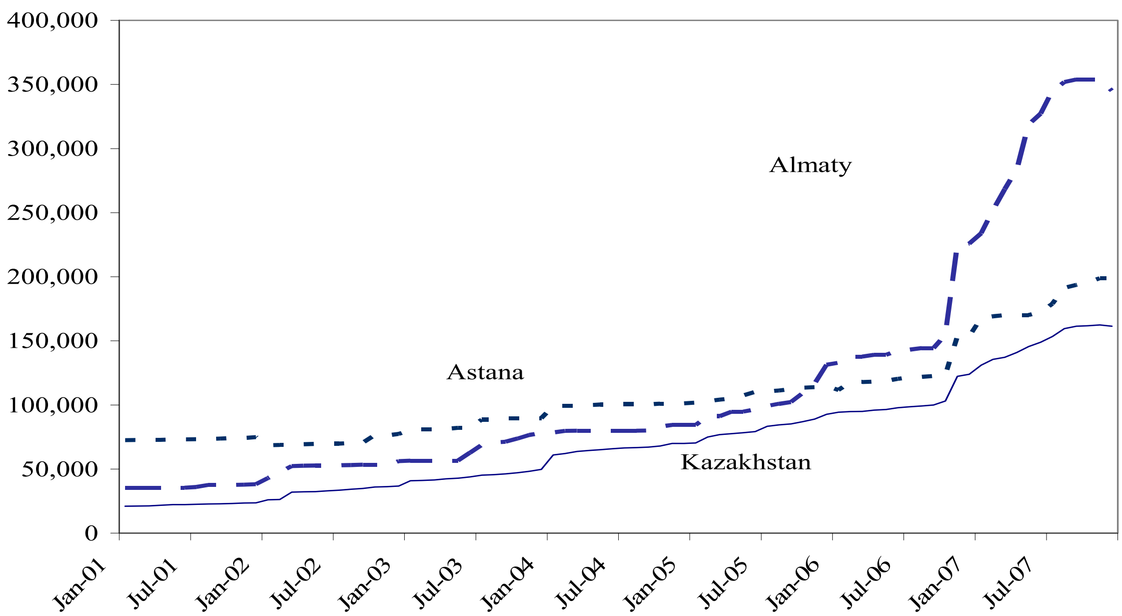
1/ Includes government-owned Development Bank of Kazakhstan as well as short-term deposits and repos with nonresidents.

Figure 6. Kazakhstan: Mortgage Debt Outstanding



Sources: NBK

Figure 7. Kazakhstan: Real Estate Prices
(Tenge per square meter)



Sources: SARK, NBK

Table 1. Kazakhstan: Selected Macroeconomic Indicators

	2004	2005	2006	2007
	(Annual percent change; unless otherwise indicated)			
National accounts and prices				
Real GDP	9.6	9.7	10.7	8.5
Real non-oil	8.4	11.5	11.9	8.7
Consumer price index (eop)	6.7	7.5	8.4	18.8
Consumer price index (p.a)	6.9	7.6	8.6	10.8
Exchange rate (tenge per U.S. dollars; eop)	-9.3	2.9	-5.1	-5.3
Exchange rate (tenge per Russian rubles; eop)	-4.0	-0.4	3.7	1.2
Real effective exchange rate (p.a) (+ appreciation)	5.8	3.1	7.7	8.7
	(In percent of GDP; unless otherwise indicated)			
General government fiscal accounts				
Revenues and grants	24.6	28.1	27.5	29.6
of which: oil revenues	7.0	10.6	10.2	9.5
Expenditures and net lending	22.1	22.3	20.2	24.4
Overall fiscal balance	2.5	5.8	7.2	5.2
Non-oil fiscal balance (percent of non-oil GDP)	-6.5	-7.4	-4.3	-6.0
	(Annual percent change; unless otherwise indicated)			
Monetary accounts				
Reserve money	82.3	14.7	126.5	-2.5
Broad money	69.8	25.2	78.1	25.9
Credit to the economy	52.4	73.2	84.0	51.4
Credit to the economy (percent of GDP)	27.9	37.4	51.1	62.1
Interest rate on bank deposits with NBK (p.a)	2.6	2.4	3.9	5.5
Interest rate on NBK notes (eop; percent)	4.0	2.2	4.8	6.0
	(In billions of U.S. dollars; unless otherwise indicated)			
External accounts				
Current account balance (percent of GDP)	0.8	-1.8	-2.4	-6.9
Exports of goods and services	22.6	30.5	41.6	51.9
Oil and gas condensate	11.4	17.4	23.6	28.1
Imports of goods and services	18.9	25.5	32.8	44.7
Foreign direct investments (net, percent of GDP)	12.6	3.7	8.2	6.8
NBK gross reserves (eop) 1/	9.3	7.1	19.1	17.5
Excl. bank deposits in FX at NBK	9.3	6.9	17.9	13.9
NFRK (eop) 2/	0.0	8.0	14.1	21.0
Public external debt, incl. guaranteed (percent of GDP)	7.8	4.1	2.7	1.7
Total external debt	32.7	43.4	74.0	96.4
in percent of GDP	75.8	76.0	91.3	92.8
excluding intracompany debt (percent of GDP)	37.2	42.4	59.9	64.0
Memorandum items:				
Nominal GDP (in billions of tenge)	5,870	7,591	10,214	12,726
Nominal GDP (in billions of U.S. dollars)	43.2	57.1	81.0	103.8
Exchange rate (tenge per U.S. dollar; eop)	130.0	133.8	127.0	120.3

Sources: Kazakhstani authorities; and Fund staff estimates and projections.

1/ Excludes deposits of the National Fund.

2/ Excludes transitory domestic currency deposits.

Table 2. Kazakhstan: Financial Soundness Indicators
(In percent unless indicated otherwise)

	2004	2005	2006	2007
Capital Adequacy				
Regulatory Capital (in billion Tenge)	350	585	1,169	1,780
Tier 1 Capital (in billion Tenge)	233	368	816	1,284
Risk Weighted Assets (in billion Tenge)	2,289	3,927	7,886	12,552
Total Assets (in billion Tenge)	2,680	4,515	8,872	11,685
Regulatory capital to risk-weighted assets	15.3	14.9	14.8	14.2
Regulatory Tier I capital to risk-weighted assets	80.0	8.0	9.0	10.7
Capital to assets	13.1	13.0	13.2	15.2
Asset Quality				
NPLss to total loans 1/	6.3	5.3	4.9	9.8
NPLs (narrow definition) to total loans 2/	4.3	3.3	2.4	2.7
Specific Provisions to Gross NPLs 1/	64.3	104.9	102.7	60.2
NPLs net of provisions to Tier I capital 1/	17.6	-2.2	-1.0	26.9
Loans to shareholders and parent companies to total loans	0.8	1.0	1.1	1.4
Specific Provisions to gross loans	4.1	5.6	5.0	5.9
Profitability				
Return on Average Assets (ROAA)	1.2	1.6	1.4	1.8
Return on Average Equity (ROAE)	11.5	16.6	14.6	15.0
Non-interest income to gross income	34.1	31.7	31.7	30.3
Trading and foreign exchange income to gross income	10.1	10.6	11.3	16.1
Non-interest expenses to gross income	58.9	47.3	48.8	48.5
Non-interest expenses to average assets	8.8	6.6	6.9	7.7
Liquidity				
Core Liquid assets to total assets	18.8	14.6	16.1	13.9
Core Liquid assets to short-term liabilities	69.6	66.7	66.5	55.7
Liquid assets to total assets	27.8	20.8	28.5	24.2
Liquid assets to short term liabilities	102.7	95.0	117.8	97.0
FX- loans to total loans	56.4	55.5	53.7	50.4
FX- deposits to total deposits	56.5	62.4	58.0	59.2
FX- liabilities to total liabilities	41.5	44.3	42.2	62.1
Loans to deposits	107.0	165.0	174.0	210.0
FX- loans to FX-deposits	105.0	199.0	235.0	289.0
Sensitivity to Market Risk				
Net open FX position as percent of Tier I capital	-29.8	-12.5	-3.6	8.2
Off-balance sheet operations as percent of assets	68.9	63.8	76.4	94.4

Source: NBK, FSA

1/ NPL − Broader definition, consisting of loans overdue past 7 days and other qualified loans (FSA Categories 2, 4, 5, and Loss

2/ NPL − Narrow definition, consisting of loans overdue past 60 days and other qualified loans (FSA Category 5 and Loss).

Table 3: Kazakhstan: Corporate Sector Balance Sheet—Selected Indicators
(in percent)

	2004	2005	2006	2007
ROE 1/	33.3	40.8	49.3	48.3
ROA 2/	16.3	18.7	21.0	21.0
Debt burden 3/	51.3	56.7	57.9	56.6
Leverage 4/	105.3	131.0	137.6	130.3

Source: NBK Financial Stability Report, 2007

1/ Income before taxes to average equity
2/ Income before taxes to average assets
3/ Liabilities to assets
4/ Liabilities to equity

Table 4: Kazakhstan: Household Debt Burden (in percent) and Net Foreign Exchange Position (US$ billion)

	2005	2006	2007 Q3
Debt/disposable income	18.2	32.4	42.9
Debt/financial assets	45.0	63.8	78.8
Debt/GDP	9.9	16.4	21.4
Liquidity ratio	133.4	96.6	79.4
Net foreign exchange position	-0.8	-2.6	-3.9

Source: NBK Financial Stability Report, 2007

Table 5. Kazakhstan: Stress Test Scenarios

STRESS TESTING - SCENARIOS	Baseline	Scenario 1	Scenario 2
Key assumptions			
Macroeconomic assumptions			
GDP growth (annual %)	4.0%	-0.1%	-1.7%
Oil price (in US$ per barrel)	95.5	80.5	80.5
Currency depreciation	0%	0%	20%
Borrowings:-			
Maturing external borrowings rolled over or replaced	50%	10%	10%
Loan quality:-			
NPLs at year end (in % of loans) 1/	15%	22%	26%
Provisions at year end (in % of loans) 2/	15%	22%	26%
Provisions at year end (in % of NPLs) 2/	100%	100%	100%
Increase in provisions (also refer to calibration 3/)	9%	16%	20%
Of which:-			
Increase of provisions for construction and real estate loans	15%	25%	25%
Increase of provisions for trading sector and consumer loans	10%	20%	20%
Additional increase of provisions for foreign currency loans	0%	0%	10%
Other:-			
Change in depositors	29%	0%	-6%
Underlying profitability (before provisions) (in % of total insets)	1.5%	1.0%	1.0%
Resulting change in loans			
Total banking system	-1%	-25%	-32%
Top 6 banks	-1%	-25%	-32%
Capital adequacy			
Total banking system (CAR)	9.3%	4.9%	1.5%
Total banking system (Tier 1)	4.9%	-0.3%	-3.9%
Top 6 banks (CAR)	8.3%	3.5%	-0.1%
Top 6 banks (no. under 12%)	6	6	6
Top 6 banks (no. under 8%)	3	6	6
Top 6 banks (no. under 6%)	0	6	6
Top 6 banks (Tier 1)	3.9%	-1.7%	-5.6%
Top 6 banks (no. under 3%) (Tier 1)	3	6	6
Liquidity			
Total banking system: Reliance on maturing loans	0%	33%	40%
(% of maturing loans needed as cash for liquidity)			
Top 6 banks	0%	34%	43%
Top 6 banks (no. over 50%)	0	2	2
Top 6 banks (no. over 100%)	0	1	1
Recapitalization requirements			
Capital required to get back to 12% CAR (US$bn) 4/	3.7	7.2	9.0
In % of GDP	3.6%	6.9%	8.7%
In % of current regulatory capital	25%	48%	73%

1/ Categories 2,4,5 and loss. Recently reported NPLs: 6.7 percent (2004), 5.4 percent (2005), and 4.8 percent (2006); with an increase in 2007 to 9.8 percent;
2/ Reported provisions have been at 100 percent of NPLs: 100 percent (2004), 104 percent (2005), and 104 percent (2006); with a decrease in 2007 to 60 percent;
3/ Calibration to international survey: A survey of 12 emerging market countries with similar currency and banking crises indicated an average increase of 12.7 percent in NPLs in the period following the crisis, with a standard deviation of 9.6 percent (giving average + 1 std deviation of 22.3 percent). The results represented by the stress testing would appear to be in line with these international experiences.
4/ Aggregate capitalization needs for individual banks to return to compliance with CAR.

STRESS TESTING - SINGLE FACTOR SENSITIVITY ANALYSIS										
CREDIT RISK (first and second round effects)	**Additional Provisions**	**Total system CAR**	**Tier 1**	**Top 6 banks CAR**	**Tier 1**	**CAR <12%**	**CAR <8%**	**CAR <6%**	**Tier 1 <3%**	**Tier 1 <0%**
Capital adequacy 31.12.07		14.0%	9.6%							
Economic sector concentration										
Construction and real estate (entities and individual	5%	13.0%	8.5%	12.0%	7.5%	3	0	0	0	0
Construction and real estate (entities and individual	10%	12.0%	7.4%	10.9%	6.4%	5	0	0	0	0
Construction and real estate (entities and individual	15%	10.9%	6.4%	9.8%	5.2%	5	2	0	1	0
Construction and real estate (entities and individual	20%	9.9%	5.2%	8.7%	4.1%	6	3	0	2	0
Trading sector and consumer loans	5%	12.9%	8.4%	11.9%	7.5%	3	0	0	0	0
Trading sector and consumer loans	10%	11.8%	7.2%	10.8%	6.3%	6	0	0	0	0
Trading sector and consumer loans	15%	10.6%	6.0%	9.6%	5.1%	6	1	0	1	0
Trading sector and consumer loans	20%	9.4%	4.8%	8.4%	3.8%	6	3	0	3	0
Both combined	5%	11.9%	7.3%	10.8%	6.3%	6	0	0	0	0
Both combined	10%	9.6%	5.0%	8.5%	3.9%	6	3	0	3	0
Both combined	15%	7.3%	2.5%	6.1%	1.4%	6	6	3	5	3
Both combined	20%	4.8%	-0.1%	3.6%	-1.3%	6	6	6	6	5
Foreign currency loans concentration										
Foreign currency loans	5%	12.5%	8.0%	11.4%	6.9%	3	0	0	0	0
Foreign currency loans	10%	10.9%	6.4%	9.7%	5.2%	6	0	0	0	0
Foreign currency loans	15%	9.3%	4.7%	8.0%	3.3%	6	2	0	3	0
Foreign currency loans	20%	7.7%	2.9%	6.2%	1.4%	6	5	2	4	2

LIQUIDITY RISK	**Borowings renewed**	**Total system Maturing loans needed**	**Top 6 banks Maturing loans needed**	**>50%**	**>100%**
External borrowings renewed	60%	9%	9%	0	0
External borrowings renewed	50%	15%	15%	0	0
External borrowings renewed	40%	20%	22%	1	0
External borrowings renewed	30%	26%	28%	2	0
External borrowings renewed	20%	32%	34%	3	1
External borrowings renewed	10%	38%	40%	3	1

APPENDIX I. MAIN RECOMMENDATIONS AND PRELIMINARY ASSESSMENT OF IMPLEMENTATION OF THE 2004 FSAP UPDATE MISSION

(In the areas of banking and supervision)

Recommendation	Preliminary assessment of implementation
Implement consolidated supervision. Follow through on the initial steps already taken, including ensuring adequate resources to conduct the scheduled number of comprehensive on-site Inspections of commercial banks.	While a consolidated supervision department was created in FSA, the implementation of consolidated supervision is weak and the resources devoted to it are inadequate.
Implement the recently issued regulation on risk-management on banks, thus moving from a primarily rule-based approach toward a more risk-based approach.	Financial sector supervision is, in general, still operating on rule-based principles.
Stipulate in law that high level officials at the NBK and the FSA can be removed only for just cause with the reasons made public.	No action taken.
Reassess the frequency and detail of reporting requirements for market participants.	Frequency of reporting is still excessive and in times too detailed.
Provide continuous training, including upgrading of skills, particularly for nonbank supervisors to meet the challenges of the newly adopted legislation.	FSA staff turnover is very high and training needs are not adequately met.
Take prompt supervisory action, if required, to deal with banks paying excessive interest rates. Then the limits on excessive interest rates introduced by the KDIF can be removed.	The FSA has taken a more proactive approach in dealing with banks showing stress. The limits on excessive interest rates are removed by the KDIF.
Increase focus on liquidity risk of individual institutions. Some banks rely on potentially volatile wholesale funding.	The FSA has introduced a number of new liquidity requirements but the reliance on wholesale funding has increased and is posing currently significant risks.
Consideration should be given to introducing capital requirements for market risks.	Capital requirements for market risks have been introduced.

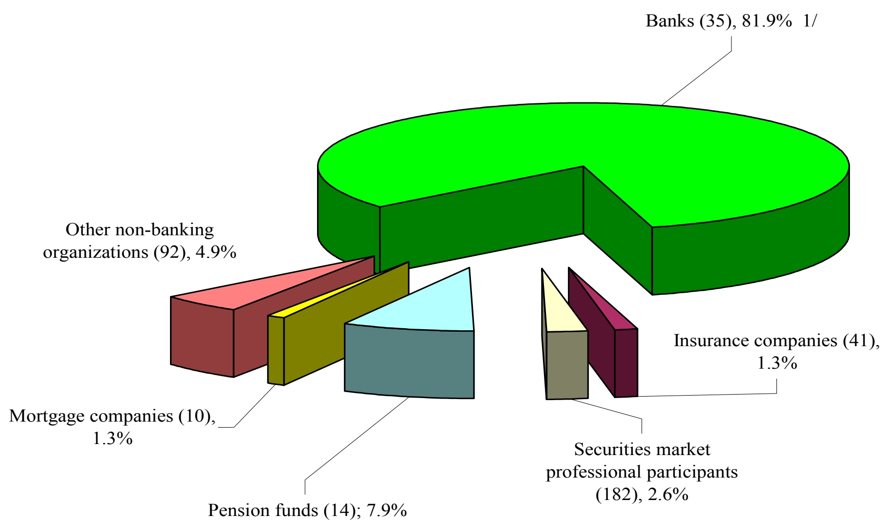
APPENDIX II. DETAILED RECOMMENDATIONS

Short-term actions	Agency
Bank supervision and regulation	FSA
—Build up skills and resources to enable further moves towards understanding of risks, and risk management, in banks.	
—Develop capacity to assess effectiveness of banks' asset valuation processes.	
—Strengthen evaluation of the quality of the loan portfolio (both in-situ and extra-situ) with emphasis on sectoral trends and concentration of exposures. This includes focus on exposures of construction companies, particularly at large banks.	
—Assess indebtedness levels of households to evaluate portfolio quality of consumer loans.	
—Amend instructions to banks on management of liquidity. Include a requirement for banks to have board approved and monitored liquidity management policies, incorporating limits on net funding requirements, scenario analyses, and stress-testing.	
—Assess adequacy of bank liquidity management. In particular, continue to monitor exposure to wholesale foreign funding at banks and repayment schedules.	
—Collect information about the nature of bank assets and liabilities abroad, assessing maturity, underlying pledges and covenants.	
Crisis Management	
—Testing macro level EWS to ensure quality of signaling is improved. Some Indicators should be rationalized.	NBK
—Develop micro level EWS to ensure systemic and individual bank distresses are identified as early as first signals are received.	FSA
—Make MOU operational, activate its conditions.	Gov, NBK, FSA
—Establish Contingency Planning Framework: prepare the policies, procedures and actions to prevent, manage and resolve banking crisis; request banks to prepare their own contingency plans for CAR, asset quality, liquidity, and restoring profitability; establish CMU at times of systemic crises, define its duties and responsibilities should overall manage the crises operationally, and develop its framework.	NBK, FSA
—Establish a framework for a high level Steering Committee, to be in charge of policy issues of the systemic crisis.	NBK, FSA
—Bring bank restructuring/resolution framework to best international framework. Increase the number of tools to combat systemic and individual distresses.	Gov., NBK, FSA
—Develop framework to improve KDIF's resources to adequate levels, at times of systemic distress or whenever required.	NBK, FSA

Mortgage market developments —Finalize regulatory framework for securitization: Determine risk weighting and treatment of Mortgage Backed Securities (MBS); ensure that "true sale" of mortgages to Special Finance Companies (SFC) is possible.	FSA, NBK
Medium-term actions	
Crisis Management , EWS, and contingency planning —Bring KDIF framework in line with best International framework.	NBK
Capital market development —Assess the state of laws and regulations and market infrastructure necessary for a government bond market, and draw out a work plan for tasks to implement the first stage of government bond market development. —Improve financial linkages with capital market —Improving the market infrastructure to allow collateral-based money market transactions in an internationally compatible manner; —Develop well-structured infrastructure bonds and housing finance bonds mainly to meet the demand from pension funds; —Introducing traditional private placements, and institutional offerings first, and shelf registration later, in parallel with the continued reinforcement of corporate governance, supervisory capacity, and disclosure; —Facilitate OTC markets, along with the stock exchange, to help develop or introduce products and techniques; —Allow pension funds to offer a limited choice of plans with different levels of risk, and reconsider risk-free pension promises and inflation-linked performance requirements —Enhancing the regulatory capacity for market and operational risks. —Relax pension fund investment rules—allow up to 20 percent investment in mortgage bonds	FSA
Mortgage market developments —Extend role of KMC to provide liquidity to banking sector by purchasing mortgage assets	FSA

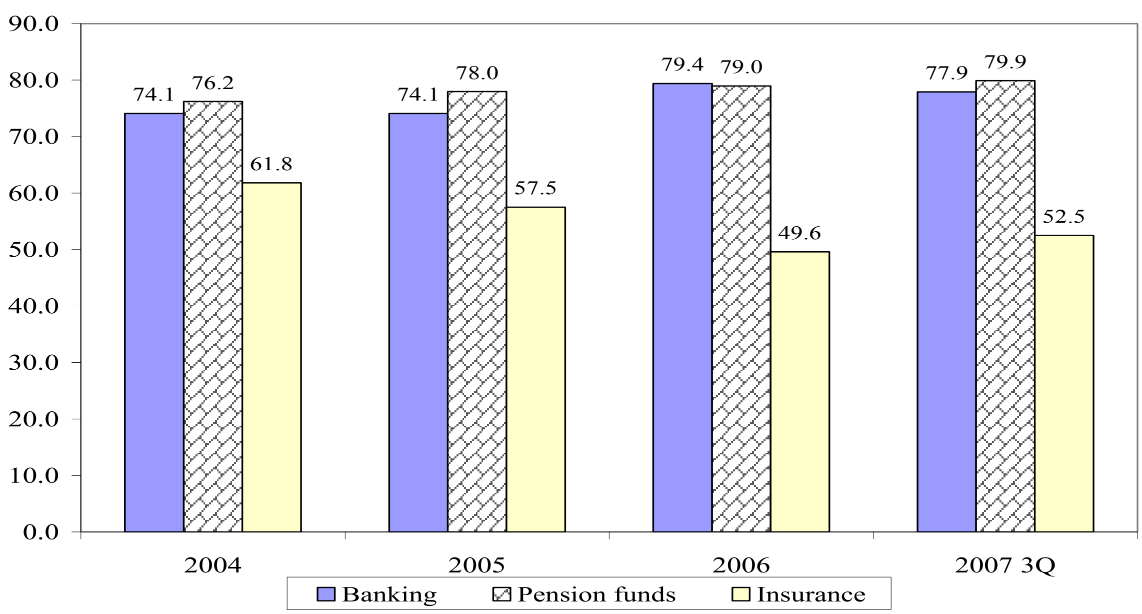
APPENDIX III. KAZAKHSTAN: FINANCIAL MARKET STRUCTURE

SHARE OF FINANCIAL SECTOR ASSETS BY INSTITUTIONS (OCTOBER, 2007)



1/ The JSC "Masterbank" was licensed on October 26, 2007

FINANCIAL SECTOR CONCENTRATION—SHARE OF 5 LARGEST INSTITUTIONS BY ASSETS (OCTOBER, 2007; IN PERCENT)



Source: NBK Financial Stability Report 2007