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Kyrgyz Republic: Selected Issues

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INTERNATIONAL MONETARY FUND

KYRGYZ REPUBLIC

Selected Issues

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Approved by the Middle East and Central Asia Department

June 2, 2011

Contents Page

I. Banking Sector Performance During the Crisis and Challenges Ahead[1]

A. The Impact of the Political Crisis on the Banking Sector

1. **During the first days of the April events, a reported US$240 million deposit outflow prompted fears of capital flight and led to the imposition of temporary administration on seven banks, including the country's largest bank**. The main criterion for imposing temporary administration (outside of the largest bank) appears to have been alleged links to the previous regime. Strengthened supervision was also put in place in ten more banks, to safeguard the system against capital flight. Depositors were permitted to withdraw money up to a certain limit per day. In the month of April 2010, total deposits declined by 30 percent, predominantly due to the large outflow from nonresident deposits at Asia Universal Bank (AUB)—the country's largest bank accounting for 44 percent of private deposits in December 2010. Resident deposits declined by 10 percent.

2. **The National Bank of the Kyrgyz Republic (NBKR) conducted audits of the banks under temporary administration; certain irregularities were detected in AUB's activities which suggested that the bank was insolvent**. Foreign securities purchased for AUB by Kyrgyz brokerage companies linked to the previous regime could not be confirmed as registered to AUB. Some loans were made against likely unrecoverable collateral in foreign countries. When these losses were provisioned for, the bank's insolvency became evident and the bank was placed under conservatorship on June 4, 2010. Except for one foreign bank, other banks under temporary administration were found to be in a reasonable financial condition.

3. **Plans to resolve AUB were disrupted by the June 2010 events and court processes led to further delays**. AUB was nationalized on June 7, 2010, and an action plan was adopted that would have involved its recapitalization by the government. The recapitalization plan was later rescinded due to the unanticipated budgetary resource needs for reconstruction in the areas affected by the June 2010 events. As an alternative course of action, on August 5, 2010, the NBKR petitioned the court to recognize AUB as insolvent and to commence its resolution. The lower court denied the petition and the decision was ultimately appealed to the highest court. The process of appeals was finally exhausted in October 2010. AUB was recognized as insolvent and a special administrator was appointed to commence resolution of the bank through the split of its assets into a "good" and "bad" bank.

4. **Zalkar Bank (good bank) was established on December 14, 2010, and the split of assets and liabilities from AUB occurred in late February 2011**. AUB kept assets and liabilities of bank-related parties, nonresident liabilities, and deposits from the State Property

[1] Prepared by Dinah Knight and Piyabha Kongsamut.

Bureau due to pending criminal cases relating to these deposits. Zalkar Bank received most of the loan book (which included collateralized nonperforming loans), liquid and fixed assets, public sector deposits,[2] the remaining deposits, and losses from AUB's swap arrangements with micro-finance institutions (MFIs).[3] An asset transfer was made from Zalkar to AUB in March 2011, to further clean up Zalkar's balance sheet and make it more attractive for sale.

5. **Four of the banks under temporary administration were eventually placed under conservatorship.**[4] [5] In each of the remaining four cases, mandatory grounds for the appointment of a conservator were triggered; the banks either breached regulatory norms and/or criminal cases were initiated against officers of the bank. Pending litigation by shareholders and officers of the banks under conservatorship has prevented the NBKR from taking any further actions to resolve these banks. If these cases are not resolved in a timely fashion, the banks' operations will be hindered and it is unlikely that they will remain viable.

B. Weaknesses Highlighted by the Crisis, Including in the Legal Framework

6. **The crisis revealed the extent to which the NBKR is susceptible to external pressure, to the detriment of its supervisory independence**. A forensic audit of AUB suggested that the bank was used to conduct large-scale criminal activities, and that it was likely insolvent even before the April 2010 events. Despite having received information warranting cause for concern some years earlier, the NBKR took no action to remedy the situation (e.g., by imposing sanctions on or revoking the license of AUB) and appears to have been prevented from doing so. The authorities have indicated that political pressure remains a challenge at the highest levels. The NBKR is also appropriately concerned regarding litigation risks arising from the actions taken during the crisis. Under the current legal and political environment, suits against the NBKR by bank shareholders, creditors, and other interested parties are frequent. Moreover, the reported lack of independence and capacity of

[2] Large public sector deposits were held at AUB, including Social Fund and Kyrgyz Republic Development Fund deposits, to the tune of KGS 2.5 billion.

[3] MFIs received funding from donor agencies in foreign currency, but are prohibited from lending in foreign currencies. To access soms, many MFIs entered into foreign exchange swap arrangements with AUB. In practice they were conducted as collateralized loans (loan in som collateralized by a foreign exchange deposit). Losses of around US$6 million were incurred due to exchange rate depreciation between the contract date and the swap expiration date.

[4] Temporary administration was subsequently lifted in two of the seven banks; as noted above AUB was placed under conservatorship and nationalized.

[5] Under the Kyrgyz legal framework, either a temporary administrator or a conservator may be appointed to a problem bank under specified grounds for the purpose of preserving the assets of the bank. The powers of a temporary administrator are limited to day-to-day management of the bank. In contrast, a conservator is empowered to authorize the restructuring of a bank through the sale of its assets and liabilities, merger with another bank or otherwise.

the judiciary often leads to unfavorable results for the NBKR. As a result, the court system appears to be used as a vehicle to exert pressure on the NBKR (e.g., pressure to release banks from conservatorship although those banks are in violation of statutory thresholds). This problem is compounded by the lack of adequate legal protection for NBKR staff members who have been individually named as defendants in civil suits for actions they took during the performance of their professional duties.

7. **The crisis also highlighted two critical weaknesses in the Kyrgyz Republic's legal framework for early intervention and bank resolution**. First, under the Kyrgyz legal system, legal "codes" will supersede "laws" should there be conflicts between provisions in a code and provisions in a law. All of the legal norms governing early intervention and bank resolution are laws, and thus are subject to override by legal codes. For example, under the laws governing bank resolution, the court has limited grounds upon which it can deny a petition by the NBKR to recognize a bank as bankrupt. In contrast, under the Civil Procedure Code, judges have a substantial degree of discretion to render their decisions. Thus, when the court rendered its decision on the NBRK's petition to recognize AUB as bankrupt it was not bound by the provisions in the banking laws. Instead, it could apply the much broader provisions of the Civil Procedure Code. Second, early intervention and bank resolution are specifically addressed by at least five different laws and four different regulations. The multiplicity of legal norms creates gaps, overlaps and inconsistencies in the legal framework. When legal frameworks are internally inconsistent or do not address certain issues, the authorities may be forced to violate one provision of law in order to apply another or to "construct" law where there are gaps. Such discrepancies open up avenues for litigation and also leave room for judges to apply a substantial amount of discretion in interpreting the law.

C. Impact on Financial Stability

8. **Despite these developments, the authorities managed to avert a systemic crisis and the financial system outside of the troubled banks seems to have successfully weathered the shock**. No deposit runs have occurred, possibly due to the existence of deposit insurance, but also due to the authorities' initial public campaign to reassure the public.[6] The June 2010 events posed a more serious threat to financial stability, since much economic activity is centered in the south, and most banks have branches there. NPLs outside of the five banks under official control rose to over 10 percent and have only recently shown signs of stabilization (Table 1). Capital levels seem so far sufficient to absorb the blow and provisioning is in line with regulations. Performance in the banks under official control (excluding Zalkar) has deteriorated significantly, though they currently account for less than three percent of system assets.

[6] Individual deposits are insured up to KGS 100,000.

Text Table I.1. Kyrgyz Republic: Financial Soundness Indicators, 2009–11
(In percent, unless otherwise indicated)

	System					System excluding AUB/Zalkar					System excluding banks under conservatorship and Zalkar				
	Dec-09	Apr-10	Sep-10	Dec-10	Mar-11	Dec-09	Apr-10	Sep-10	Dec-10	Mar-11	Dec-09	Apr-10	Sep-10	Dec-10	Mar-11
Capital Adequacy															
Regulatory capital / RWA (CAR) *	33.5	35.3	23.1	30.4	30.4	37.3	38.4	32.2	32.2	32.3	37.0	38.2	31.4	31.4	31.4
Tier I capital/RWA	28.5	33.1	20.3	26.0	28.1	31.6	35.4	28.6	27.4	29.8	31.1	35.1	27.7	26.4	28.8
Capital/Total loans	55.4	54.7	33.5	44.0	44.3	53.0	53.0	48.0	48.1	46.8	50.5	50.7	46.5	46.7	45.7
Asset Quality															
NPL levels, in millions of soms	2,061	2,407	4,439	4,163	3,689	1,865	1,890	2,738	2,841	2,962	1,786	1,838	2,225	2,352	2,459
NPLs (gross)/ total loans *	8.2	9.4	16.8	15.8	13.8	8.6	8.7	11.7	11.8	11.7	8.9	9.1	10.1	10.2	10.1
Loans under watch/total loans	10.8	13.8	15.6	12.3	10.7	9.6	11.3	16.1	12.2	10.5	10.0	11.3	16.7	12.6	10.8
Provisions/NPLs	58.4	53.0	62.7	67.7	59.6	56.3	55.0	60.2	57.6	55.3	56.5	54.8	57.8	54.4	51.9
(NPLs-provisions)/capital *	5.8	7.5	16.5	10.7	11.7	6.8	7.0	9.3	9.9	10.8	7.3	7.7	8.7	9.5	10.2
Loans/Deposits	75.7	108.5	99.1	94.3	94.6	116.9	121.5	101.4	88.9	91.8	125.1	122.7	100.3	87.8	90.3
Dollarization															
FX loans/total loans	62.3	59.1	56.1	55.7	54.1	60.6	57.7	54.4	54.9	54.1	60.5	57.6	54.4	54.9	54.0
FX deposits/total deposits	68.3	54.1	54.7	56.5	57.2	57.3	54.4	55.5	56.1	56.8	55.0	53.8	55.1	55.7	56.1
Liquidity															
Liquid assets/total assets	45.5	41.4	32.5	35.7	38.1	35.4	35.8	33.0	34.9	37.3	33.5	33.6	33.3	35.0	37.3
Liquid assets/short-term liabilities*	86.8	90.8	64.8	72.9	76.5	81.3	94.9	71.4	72.2	76.4	75.7	89.1	71.6	72.0	76.4
Sensitivity to Market Risk															
Net FX exposure / capital *	4.0	6.7	51.5	20.5	-11.2	4.0	4.8	0.8	3.7	1.9	4.0	4.4	2.1	4.3	2.8
F/X loans/FX deposits	69.0	118.4	101.6	93.0	89.4	123.6	128.8	99.4	87.0	87.3	137.8	131.3	99.0	86.6	86.9
Memorandum items:															
Share of assets	100.0	100.0	100.0	100.0	100.0	67.4	79.7	91.5	93.7	93.9	58.4	71.7	87.2	90.1	91.2
Share of loans	100.0	100.0	100.0	100.0	100.0	86.6	86.3	92.0	95.7	96.8	80.1	79.8	88.3	92.7	94.4
Share of deposits	100.0	100.0	100.0	100.0	100.0	55.9	76.5	86.2	97.0	97.7	48.6	70.1	82.7	94.0	95.5

Source: Kyrgyz authorities.

9. **The banking sector landscape has become more balanced**. Whereas AUB was by far the dominant bank, at least in terms of private deposits, now the situation is more balanced, with three to four banks dominant and accounting for 10–20 percent each in shares of system assets, private deposits, and loans. Resident deposits have recovered from the April 2010 events, and have migrated toward the foreign banks and the largest state-owned bank. Prior to the 2008 global economic crisis, Kazakh banks held a significant share of the Kyrgyz market at 30 percent of assets, but since then they appear to be retrenching, now with less than 7 percent of assets in March 2011.[7] Foreign banks (excluding AUB/Zalkar) have increased their share, up to now over half of system deposits and close to half of system assets (from around 30 percent of each in December 2009), though their share of loans remains unchanged at 47 percent.

10. **With economic prospects improving, the banking sector is also expected to benefit, though new risks have arisen**. The largest state-owned bank has expanded very rapidly, with assets growing by 164 percent between December 2009 and March 2011. So far its loan book has performed well, though it is expected that, as the loans mature, more nonperforming loans will be observed, as cross-country evidence suggests that such growth would likely have been accompanied by a relaxation in lending standards. In addition, there is cause for concern that the bank will become more politically influenced. Its governing

[7] Also partly because two of the Kazakh bank subsidiaries exited from Kazakh status; one became a Kyrgyz bank, and the other which was a subsidiary of a European-owned Kazakhstan bank of a European bank became a direct subsidiary of the European bank.

board is now dominated by politicians, and directed lending is a distinct possibility. Some loans to entrepreneurs who suffered damage from the June 2010 events are planned to be channeled through the bank, in addition to loans already channeled to Bishkek entrepreneurs who suffered damage in the April 2010 events. So far these amounts have not been large, but it is expected that the bank will begin to experience stronger political pressures, particularly with presidential elections later this year. Therefore, though the bank does need to rebuild capital buffers both to absorb likely losses as loans mature and to support increased lending in the south, a capital increase should be more limited in size and the bank's growth needs to be restrained. Supervisory measures to constrain growth will also be needed.[8]

11. **The NBKR's banking supervision function has been steadily eroded**. Even before the crisis, staff resources in supervision had been insufficient, and turnover was high mainly due to low pay. As many banks were placed under temporary administration and the AUB situation was acute, many staff members were called upon to act as administrators, to the detriment of normal supervisory functions (including regular on-site inspections and off-site surveillance). Recently, the cycle of on-site inspections has resumed, but many staff positions remain vacant and it is difficult to attract and retain staff (including due to the lack of adequate legal protection for supervisors, discussed above). The budget process for the NBKR also appears to be overly politicized.

D. Next Steps

12. **The NBKR's credibility and authority needs to be urgently rebuilt, not least through the appointment of full-term chairperson, in line with the requirements under the law**.Moreover, the availability of sufficient resources to attract and retain qualified staff, particularly in the banking supervision area, is critical. With respect to managing the legal challenges, the NBKR also needs sufficient resources to employ outside expertise, as done in other central banks when such expertise is not available in-house.

13. **Zalkar Bank should be fully resolved in line with best international practices.** The audit being conducted by a big-four accounting firm is an appropriate first step in the resolution process. Based on the results, Zalkar bank should be either (i) speedily privatized in a competitive process to a reputable bank, if found to be solvent, or (ii) liquidated, if found to be insolvent. In case privatization is not successful, the bank should be dissolved and its assets and liabilities sold to interested investors. Costs that may need to be incurred to complete the sale of Zalkar as a whole bank should be borne by the budget (for example, with respect to rescuing Social Fund deposits).

[8] For example, these could take the form of a limit on the loan to deposit ratio, in which the denominator would exclude public deposits (due to their volatility) but could include longer-term funding.

14. **The maintenance of financial stability depends on political stability, improving economic conditions, strong supervision, and reining in the growth of the largest state-owned bank**. If the political situation remains broadly stable, allowing for the nascent economic recovery to continue, the banking sector's performance should strengthen as well. At the same time, a strengthened NBKR would be needed to prevent another AUB, including through a sound resolution of Zalkar, close scrutiny of any new entrants to the banking industry, and any necessary actions decisively taken based on clear supervisory evidence. In this context, ensuring that the largest state-owned bank remains sound by restraining its growth (including through limited capital increase and supervisory measures) will be a near-term challenge.

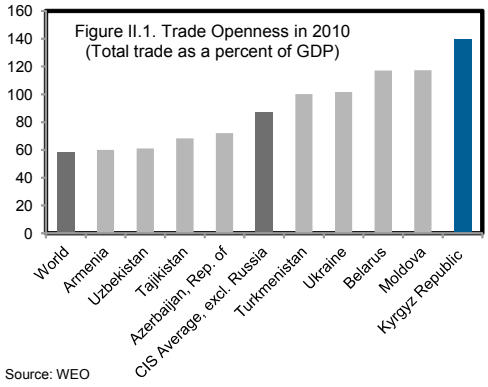
15. **Laws need to be reformed to prevent a recurrence of the legal quagmire that is still ongoing.** Continued, rampant litigation against the NBKR has not only strained staff resources but also increased reputational risks to the NBKR and prevented it from taking decisive actions against the problem banks. The laws governing bank resolution should be streamlined and compiled in to a banking code to ensure that only the constitution and/or constitutional laws can supersede the bank resolution framework and to allow the framework to be implemented to serve its financial stability purpose. The banking code should strengthen the existing powers of the NBKR with respect to the early intervention and resolution of problem banks, in line with international best practice and based on technical assistance from Fund staff. The code should also limit the scope of judicial review of actions taken by the NBKR to better align it with international best practice. This would entail limiting the ability of courts to stop, suspend or reverse actions taken by the NBKR and limiting the courts' review of technical matters within the competence of the NBKR. Finally, the banking code should contain provisions that ensure that the NBKR, rather than its individual staff members or agents, are liable for actions taken by those individuals in the performance of their official duties.

II. Exchange Rate Assessment[9]

The Kyrgyz Republic is a small open economy that is vulnerable to external shocks. Staff supports the authorities' policy of exchange rate flexibility with only limited interventions to smooth large fluctuations and believes nominal flexibility has helped to maintain external competitiveness and ensure that the real exchange rate is in line with fundamentals.

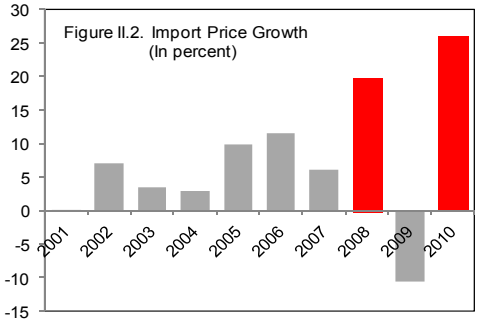
A. Introduction

16. **The Kyrgyz Republic is one of the most open economies in the world**, as measured by external trade. In 2010, total trade amounted to 140 percent of GDP, compared to only 87 percent on average for the rest of the Commonwealth of Independent States (CIS) countries and 58 percent for the world as a whole (Figure 1). This openness, however, exposes the economy of Kyrgyz Republic to a variety of external shocks, most notably in the form of commodity price fluctuations and demand changes in trading partner countries.

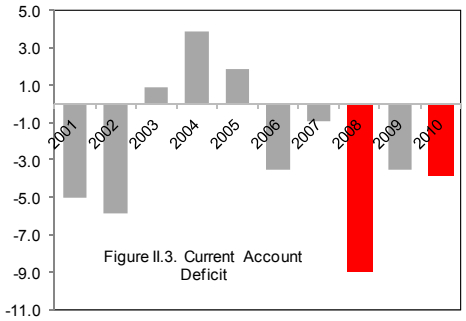


Source: WEO

17. **Recent external shocks have negatively impacted the Kyrgyz economy.** In the wake of the food and fuel price shocks of 2007–08, import prices in the Kyrgyz Republic rose by 20 percent (there was also a quick pass-through to domestic prices, see Box 3). Import prices subsequently receded somewhat in 2009, but rose again by 25 percent in 2010 (Figure 2) in line with international prices. As a direct result of the higher import bill, the current account (excluding grants) deteriorated significantly to a deficit of 9 percent of GDP in 2008 (Figure 3). In 2010, the effect of the higher import prices was mitigated by higher gold prices.



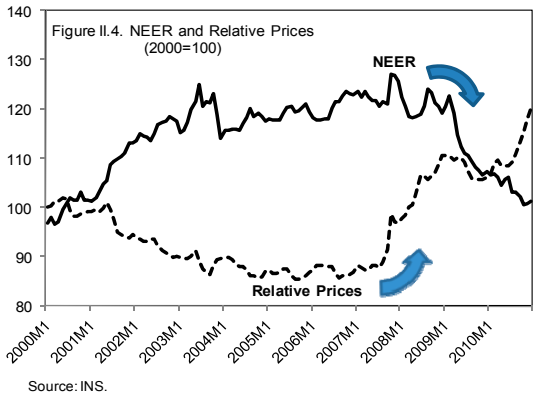
Source: Kyrgyz authorities, and IMF staff calculations.



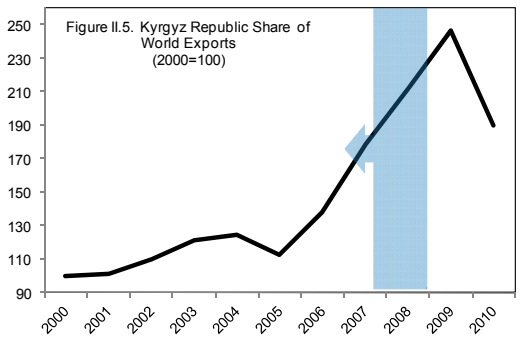
Source: Kyrgyz authorities, and IMF staff calculations.

[9] Prepared by Brett Rayner.

18. **These recent events have demonstrated the importance of a flexible exchange rate regime for the Kyrgyz economy.** The Kyrgyz authorities' policy of nominal exchange rate flexibility, with only limited interventions to smooth large fluctuations, has served the economy well. As prices rose in 2008 and again in 2010 and as the current account balance deteriorated, pressure on the exchange rate mounted. In line with policy, the authorities allowed the nominal exchange rate to depreciate (Figure 4). This depreciation helped to offset the negative effects of the shocks and to bolster the competitiveness of Kyrgyz exports. Indeed, exports continued to gain market share through the 2007–08 food and fuel price increases, although they suffered from domestic political instability and the related border closures in 2010 (Figure 5).[10]

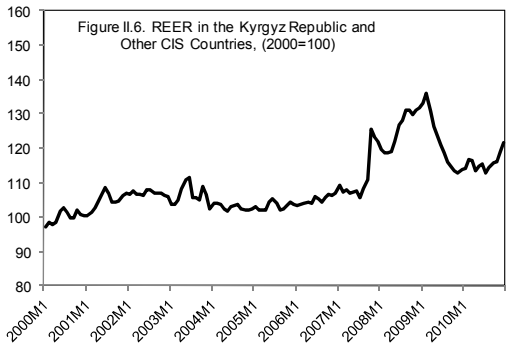


Source: INS.



Source: WEO.

B. The Real Exchange Rate



Source: INS.

19. **Nominal flexibility in the face of external shocks has helped to keep the real exchange rate broadly stable in recent years** (Figure 6). From 2000 to the eve of the food and fuel price increases that began in late 2007, the real effective exchange (REER) rate appreciated by 5 percent. Then, as the shocks hit, the central bank intervened in the foreign exchange market to smooth excessive exchange rate volatility in the face of rising prices. As a result, nominal depreciation did not fully offset the imported inflation and the REER appreciated by 22 percent between late 2007 and late 2008. Starting in early 2009, the appreciation of the real exchange rate was largely reversed as inflation receded.

[10] See staff report for a discussion of the 2010 domestic instability and its economic consequences.

20. **To quantitatively assess the level of the real effective exchange rate, three econometric methodologies are used**: the equilibrium real exchange rate (ERER) approach, the macroeconomic balance (MB) approach, and the external sustainability (ES) approach.

- Under the ERER approach, the equilibrium value of the REER is modeled as a function of factors that cause deviations from purchasing power parity, including terms of trade, productivity, government consumption, and the level of initial foreign assets. The degree to which the REER is in line with fundamentals is then inferred as the difference between the observed value of the REER and its estimated equilibrium value.
- Under the MB approach, the equilibrium value of the ratio of the current account balance to output is modeled. The degree to which the REER is in line with fundamentals is then inferred as the change in the REER needed to reconcile the underlying current account balance with the estimated current account norm (in this case -8½ percent of GDP).
- Under the ES approach, the current account norm is equated to the ratio of the current account balance to output needed to stabilize the ratio of the net foreign asset position to output around its norm, which is generally equated to its most recently observed value. The degree to which the REER is in line with fundamentals is then computed as under the MB approach.

21. **These econometric assessments indicate that the real exchange rate is broadly in line with fundamentals.** Current estimates indicate a negligible undervaluation of 2.9 percent on average, with the macroeconomic balance approach and the external sustainability approach indicating a small undervaluation and the equilibrium real exchange rate approach indicating a small overvaluation (Table 1). The fundamentally aligned real exchange rate supported export growth in the period preceding the international financial crisis and the domestic instability of 2010.

Text Table II.1. Econometric Assessments of Real Exchange Rate Disequilibrium[1]

CGER Methodology	Estimate
Equilibirum Real Exchange Rate Approach	1.0
Macroeconomic Balance Approach	-8.1
External Sustainability Approach	-1.6
Average	-2.9

1/ Positive numbers indicate an overvaluation. Staff estimates using CGER toolkit.

C. Conclusions and Policy Implications

22. **Staff believes that nominal exchange rate flexibility has bolstered external competitiveness and helped to ensure that the real exchange rate is in line with fundamentals**. Looking forward the authorities will need to monitor closely external sector

developments and ensure that the exchange rate adjusts to changing fundamentals, including volatile import prices. If food and fuel prices continue to rise, the nominal exchange rate should depreciate accordingly.[11]

23. **While nominal flexibility has been beneficial, other measures are needed to ensure and increase external competitiveness.** Specifically, continued efforts to improve the business climate will help. While the Kyrgyz Republic has climbed to an overall rank of 44 of 183 countries on the World Bank's Doing Business Report, the country still has work to do in facilitating trade across borders, a category in which it ranks 156.[12] The Kyrgyz Republic also ranks 121 out of 139 countries in the World Economic Forum Global Competitiveness report (2011).

[11] See Box 3 of the staff report for a discussion of the challenges relating to the uncertain inflation outlook.

[12] See Box 4 of the accompanying staff report on the business climate for further discussion.

III. International Reserve Adequacy in the Kyrgyz Republic[13]

While the current level of international reserves in the Kyrgyz Republic comfortably meets rule-of-thumb reserve adequacy indicators, they do not appear to be adequate by at least one new metric used for LICs. Moreover, while reserve accumulation was very strong during the past decade, being a small open economy renders the Kyrgyz Republic particularly vulnerable to exogenous shocks.

A. Introduction

24. **Gross international reserves (GIR) in the Kyrgyz Republic have increased more than six-fold in the last decade, although from a very low base.** With an initial level at US$285 million in 2001, GIR have been continuously rising since then. Apart from low initial reserve holdings, this large buildup of reserves reflects increasing openness of the Kyrgyz economy and a favorable regional and global environment. However, growth turned negative in the immediate aftermath of the global economic crisis. Reserve accumulation followed a similar trend as in other countries in the region and low-income countries (LICs) more generally.

Figure III.1. Gross International Reserves
(In millions of U.S. dollars)

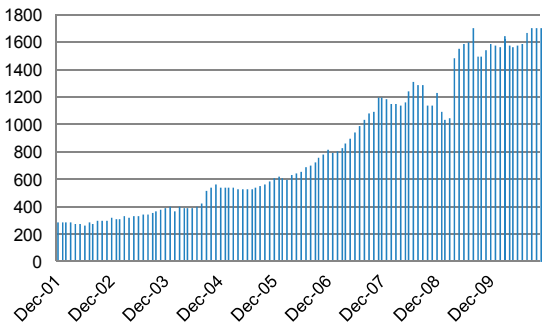
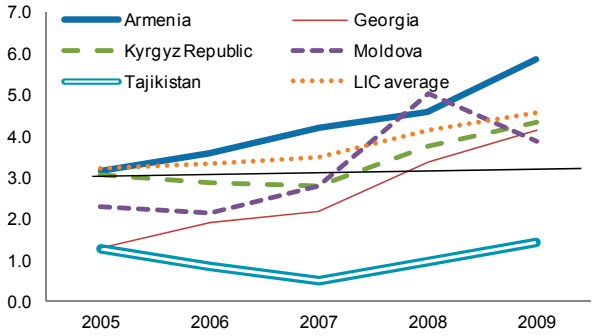


Figure III.2. Gross International Reserves Import Cover
(In months)



25. **Gold exports, remittances and official development assistance have become important sources of reserve accumulation**. The Kyrgyz Republic is a very open economy with a trade-to-GDP ratio reaching almost 140 percent. Gold exports, which are largely supplied by a single foreign-owned company, constitute more than a quarter of total exports of goods and services. Other exports are agriculture, textiles and chemical products. With more than 90 percent of inflows coming from Russia, net remittances reached almost 30 percent of GDP in 2010.[14] The domestic political instability in 2010 that led to an increase in emigration, has likely contributed to higher remittances. Official development assistance in

[13] Prepared by David Amaglobeli.

[14] However, the largest nominal remittance inflows were recorded in 2008.

the form of program and project loans and grants, is another important source of external inflows, averaging about 8 percent of GDP during the last decade. Imports, especially of fuel and food, are the main drains on reserves.

Figure III.3. Main Sources of Gross International Reserves Accumulation (In percent of GDP)

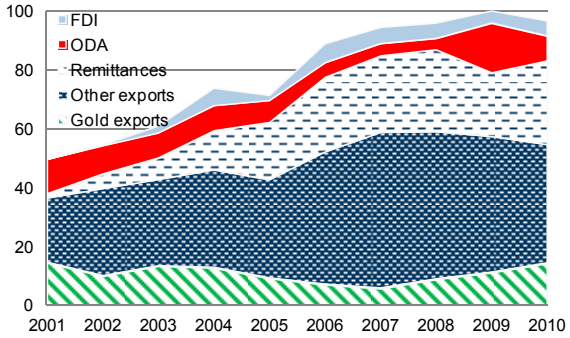
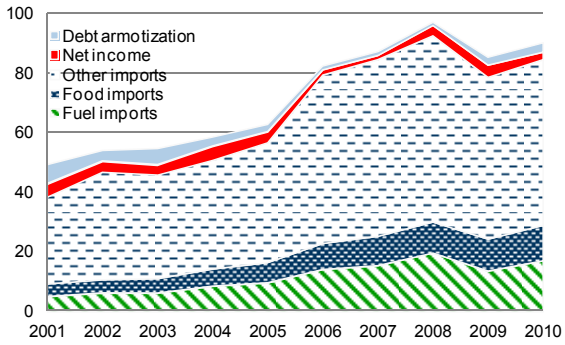


Figure III.4. Main Drains on Gross International Reserves (In percent of GDP)



26. **Reserves have helped to cushion adverse effects from external shocks.** The National Bank of the Kyrgyz Republic lost more than 20 percent of its reserves within six months of the onset of the global financial crisis in August 2008, while the Kyrgyz som lost 19 percent of its value. Nongold exports and remittances declined by 15 percent and 30 percent in 2009, respectively. Large bilateral assistance received during 2009, including US$450 million in grant and concessional loan from Russia and the SDR allocation, prevented the reserves from dipping further.

B. Reserve Adequacy Using Conventional and New Metrics

27. **The current level of reserves in the Kyrgyz Republic comfortably exceeds all rule-of-thumb reserve adequacy indicators**. This partially reflects the relative underdevelopment of the domestic financial market and limited access to international financial markets. The present reserve adequacy ratios are in line with those of peer countries, and surpass thresholds widely used as rules of thumb:

- The ratio of gross international reserves to subsequent year's imports in months was 4.2 at end-2010, well above the recommended level of three months;
- The ratio of GIR to broad money was about 115 percent, well above the 20 percent considered the upper value of a conventional range for this ratio;
- The ratio of reserves to short-term external debt at remaining maturity was higher than 900 percent, well above the 100 percent Greenspan-Guidotti threshold.[15]
- Reserves represented over 500 percent of foreign currency denominated deposits.

[15] This ratio improved drastically in 2010 reflecting a sharp decline in short-term debt of the banking sector following fraudulent changes recorded on the balance sheet of a then largest bank Asia Universal Bank.

Text Table III.1. Gross International Reserves

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Gross International Reserves										
in million U.S. dollars	285	290	359	544	608	814	1,194	1,222	1,584	1,716
in percent of GDP	18.6	18.0	18.7	24.6	24.7	28.7	31.4	23.8	33.8	37.2
in months of subsequent year imports	4.5	3.9	3.8	4.7	3.2	3.0	3.0	4.0	4.9	4.2
in percent of broad money	165.8	121.2	106.7	114.8	118.0	96.0	97.9	99.9	122.2	116.8
in percent of foreign currency deposits	675.8	495.2	436.2	382.8	470.9	379.0	510.4	472.5	511.9	523.0
in percent of short-term external debt	615.4	441.9	301.9	365.1	310.0	382.2	382.4	317.5	376.0	935.6
GIR and Banks Liquid Assets										
in million U.S. dollars	285	294	372	558	628	851	1,224	1,264	1,628	1,761
in percent of broad money	165.8	123.0	110.5	117.9	121.8	100.3	100.3	103.3	125.6	119.9
in percent of short-term external debt	615.4	448.2	312.6	374.9	319.9	399.5	392.0	328.4	386.4	959.9

Source: Kyrgyz authorities, and Fund staff estimates.

28. **The current level of reserves appears to be adequate based on emerging market type composite indicators, but below the calibrated levels for LICs.** Unlike rule-of-thumb indicators, which capture potential drains on reserves from a single source, the composite indicators consider contemporaneous effects of drain from a few potential sources.

29. **The Kyrgyz Republic performs well based on the Lipschitz, Messmacher, and Mourmouras composite reserve adequacy ratio.** The composite indicator proposed by Lipschitz, Messmacher, and Mourmouras (2006) takes into consideration the need to finance import consumption in the event of a drop in revenues. It looks at reserve coverage relative to the sum of 100 percent of the prospective external debt service, 10 percent of broad money, and 20 percent of imports of goods and services.

30. **The Kyrgyz Republic's reserve adequacy is also comfortably higher than the level predicted by a new composite indicator recently developed by IMF staff.** This composite indicator was almost 400 percent for the Kyrgyz Republic, significantly above the 100–150 percent range generally considered adequate. This measure takes into account potential drain on reserves stemming from the sale by nonresidents of their long-term debt and equity portfolio holdings. For a country with a fixed exchange rate, the reserve coverage is measured relative to an indicator based on the sum of 30 percent of short-term debt at remaining maturity, 15 percent of other medium- and long-term debt and equity liabilities, 10 percent of broad money, and 10 percent of exports of goods and services. Kyrgyz Republic's high ratio is explained by the absence of portfolio liabilities and by underdeveloped financial market, which is reflected in low level of monetization.

31. **Another recent reserve adequacy measure, developed specifically for LICs, presents a mixed picture.** This indicator was developed first by estimating crisis prevention and mitigation benefits of reserves in the event of adverse external shocks and then deriving optimal level of reserves through the calibration based on estimated regression coefficients, reference values for the opportunity cost of holding reserves, and simplified assumptions

about the extent of risk aversion. Calibrated optimal reserves appear to vary depending on country characteristics and the cost of holding reserves with optimal reserve levels generally expected to be higher for countries with fixed exchange rate regimes, commodity exporters, and for fragile states. Based on the IMF's latest AREAER *de facto* exchange rate classification and applying the stricter guidance used for EMs, the Kyrgyz Republic's exchange rate regime could be interpreted as being fixed.[16] For example, given the shallow and illiquid domestic foreign exchange market the central bank acts as a major market-maker and supplier of foreign currency. Under this assumption and also assuming 4 percent cost of holding reserves, this measure suggests that actual reserves are below the computed optimal level of reserves. However, reserve adequacy is more than sufficient using the metric for countries with flexible exchange rate regimes, which is the de jure and for all practical purposes the *de facto* exchange rate classification for the Kyrgyz Republic. Given a large variation between the calibrated optimal reserves for fixed and flexible exchange rate countries, we combined the two measures, using a simple average. Based on this new measure, the current level of reserves appears to be very close to the optimal level.

Text Table III.2. Composite and Calibrated Reserve Adequacy Indicators

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Gross International Reserves in percent of										
Lipschitz, Messmacher, and Mourmouras threshold	105.7	110.2	109.4	150.5	147.5	133.4	138.5	103.7	149.8	151.4
IMF composite—fixed exchange rate	327.2	269.3	236.6	279.7	282.0	273.9	271.3	225.7	301.4	377.3
Calibrated reserves for LICs with fixed exchange rate 1/	82.5	71.6	69.5	84.9	58.9	55.2	54.9	72.4	88.5	75.6
Calibrated reserves for LICs with flexible exchange rate 1/	216.0	187.5	182.1	222.4	154.3	144.6	143.7	189.7	231.8	197.9
Calibrated reserves for LICs average for fixed and flexible exchange rates 1/	119.4	103.6	100.6	122.9	85.3	79.9	79.4	104.8	128.1	109.4
Memorandum items (in millions of U.S. dollars):										
Gross international reserves	285	290	359	544	608	814	1,194	1,222	1,584	1,716
Lipschitz, Messmacher, and Mourmouras threshold	270	263	328	361	413	610	862	1,179	1,057	1,133
IMF composite - fixed exchange rate	87	108	152	194	216	297	440	542	525	455
Calibrated reserves for LICs with fixed exchange rate	346	405	517	640	1,033	1,475	2,176	1,688	1,789	2,271
Calibrated reserves for LICs with flexible exchange rate	132	155	197	244	394	563	831	644	683	867
Calibrated reserves for LICs average for fixed and flexible exchange rates	239	280	357	442	714	1,019	1,503	1,166	1,236	1,569

Source: Kyrgyz authorities, and Fund staff estimates.
1/ Assumes unit cost of holding reserves of 4 percent.

C. Scenario Analysis: Application of Country-Specific Shocks

32. **We undertake forward-looking assessment of reserve adequacy under various country-specific stress scenarios.**[17] In particular, we assess impact on reserves from isolated external demand shocks and terms of trade shocks using simplified assumptions. Guided by the impact that the recent global economic crisis had on the Kyrgyz Republic, the external demand shock is identified as (i) a drop in nongold exports in the magnitude of 25 percent; (ii) a decline in exports of services by 5 percent; (iii) a 30 percent drop in net remittance inflows; (iv) a 30 percent drop in FDI; and (v) a decline in nonfuel and nonfood imports of 25 percent. We assume that the shock is one-off and strikes the country in 2012. Terms of

[16] Emerging market exchange rate regime classification is based on the Fund's AREAER, with only the top two categories described as "flexible".

[17] We continue supplementing emerging market-type metric with LIC-type metric since for the forward-looking assessment of reserve adequacy rapid development of domestic financial sector and growing global integration through financial linkages make such metric more important for the Kyrgyz Republic.

trade shock is identified as (i) a 10 percent decline in international prices on gold; (ii) a 25 percent increase in fuel prices; and (iii) a 15 percent increase in food prices. The food and fuel price shocks are somewhat more moderate than the one observed in 2008 and decline in gold prices is comparable with that in 1998. The terms of trade shock is also assumed to be one-off affecting the Kyrgyz economy in 2012 and then dissipating quickly from 2013. All scenarios assume official development assistance levels under baseline projections.

Text Table III.3. Composite and Calibrated Reserve Adequacy Indicators Under Different Scenario

	2010	2011	2012	2013	2014	2015	2016
Baseline							
Gross International Reserves in percent of							
Lipschitz, Messmacher, and Mourmouras threshold	151.4	121.4	128.8	131.0	130.0	129.3	124.4
IMF composite - fixed exchange rate	377.3	391.9	360.7	351.1	333.9	324.2	307.9
Calibrated reserves for LICs with fixed exchange rate 1/	75.6	75.2	71.4	69.5	69.2	69.6	69.9
Calibrated reserves for LICs with flexible exchange rate 1/	197.9	197.0	187.1	182.1	181.3	182.3	183.1
Calibrated reserves for LICs, average for fixed and flexible exchange rates 1/	109.4	108.9	103.4	100.6	100.2	100.8	101.2
Gross international reserves (in millions of U.S. dollars)	1,716	1,862	1,887	2,038	2,237	2,475	2,666
Scenario 1. External Demand Shock							
Gross International Reserves in percent of							
Lipschitz, Messmacher, and Mourmouras threshold	151.4	121.4	106.6	105.3	99.1	94.6	86.7
IMF composite - fixed exchange rate	377.3	391.9	298.3	282.0	254.4	237.2	214.5
Calibrated reserves for LICs with fixed exchange rate 1/	75.6	75.2	59.1	55.9	52.8	50.9	48.7
Calibrated reserves for LICs with flexible exchange rate 1/	197.9	197.0	154.7	146.3	138.2	133.4	127.6
Calibrated reserves for LICs, average for fixed and flexible exchange rates 1/	109.4	108.9	85.5	80.8	76.4	73.7	70.5
Gross international reserves (in millions of U.S. dollars)	1,716	1,862	1,561	1,637	1,705	1,811	1,858
Scenario 2. Terms of Trade Shock							
Gross International Reserves in percent of							
Lipschitz, Messmacher, and Mourmouras threshold	151.4	121.4	92.9	97.2	99.4	101.8	99.8
IMF composite - fixed exchange rate	377.3	391.9	260.0	260.4	255.3	255.2	247.1
Calibrated reserves for LICs with fixed exchange rate 1/	75.6	75.2	51.5	51.6	52.9	54.8	56.1
Calibrated reserves for LICs with flexible exchange rate 1/	197.9	197.0	134.9	135.0	138.6	143.5	146.9
Calibrated reserves for LICs, average for fixed and flexible exchange rates 1/	109.4	108.9	74.5	74.6	76.6	79.3	81.2
Gross international reserves (in millions of U.S. dollars)	1,716	1,862	1,360	1,511	1,711	1,948	2,139

Source: Kyrgyz authorities, and Fund staff estimates.

1/ Assumes unit cost of holding reserves of 4 percent.

33. **The Kyrgyz Republic appears to be particularly vulnerable to terms of trade shocks.** A decline in gold prices, combined with food and fuel price increases, reduces reserves sharply. A similar outcome was observed in 2008 when increased commodity prices led to a more than 40 percent increase in the value of commodity imports. However, higher gold production and prices and a large increase in remittance inflows more than offset the negative impact from the shock. An external demand shock is less severe and also less frequent.

D. Conclusions

34. **The current level of reserves in the Kyrgyz Republic comfortably meets most reserve adequacy indicators, but fails on one metric used for LICs**. Although reserve accumulation was very strong during the past decade, being a small open economy the

Kyrgyz Republic is particularly vulnerable to exogenous shocks. Drains on reserves mainly occur through the import channel and given the *de facto* exchange rate regime, the central bank acts as the main supplier of foreign currency in the event of exogenous shocks. From two potential isolated shock events stemming from external demand and terms of trade shocks, the Kyrgyz Republic appears particularly vulnerable to the latter.

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