November 2006
IMF Country Report No. 06/403

Bosnia and Herzegovina: Financial System Stability Assessment, including Reports on the Observance of Standards and Codes on the following topics: Banking Supervision and Corporate Governance

This Financial System Stability Assessment on Bosnia and Herzegovina was prepared by a staff team of the International Monetary Fund and the World Bank as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on September 28, 2006. The views expressed in this document are those of the staff team and do not necessarily reflect the views of the government of Bosnia and Herzegovina or the Executive Board of the IMF.

The policy of publication of staff reports and other documents by the IMF allows for the deletion of market-sensitive information.

To assist the IMF in evaluating the publication policy, reader comments are invited and may be sent by e-mail to publicationpolicy@imf.org.

Copies of this report are available to the public from

International Monetary Fund ● Publication Services
700 19th Street, N.W. ● Washington, D.C. 20431
Telephone: (202) 623 7430 ● Telefax: (202) 623 7201
E-mail: publications@imf.org ● Internet: http://www.imf.org

Price: $18.00 a copy

International Monetary Fund
Washington, D.C.

INTERNATIONAL MONETARY FUND

BOSNIA AND HERZEGOVINA

Financial System Stability Assessment

Prepared by the Monetary and Financial Systems and European Departments

Approved by Jaime Caruana and Michael Deppler

September 28, 2006

The joint IMF-World Bank Financial Sector Assessment Program (FSAP) to Bosnia and Herzegovina (BiH), conducted two missions in March 2006, and December 2005.

The mission comprised Hormoz Aghdaey (Mission Chief, World Bank) and R. Sean Craig (Deputy Mission Chief, IMF); Andrea Maechler, Claudia Jadrijevic, Daniel Kanda, and Nkunde Mwase (IMF); Serap Oguz-Gonulal, Sue Rutledge, Ramin Shojai, Richard Symonds, and Martin Slough (World Bank); Marko Skreb (expert); and Marcel Maes and Walter Zunic (experts, banking supervision).

- Economic growth in BiH has been impressive with GDP tripling since 1995. It has been underpinned by the currency board arrangement (CBA), which has contributed to low inflation and confidence in the currency (the KM). A key macroeconomic vulnerability is the large external imbalance—reflected in a current account deficit of 21 percent of GDP in 2005.
- The transformation of the financial sector into one dominated by foreign-owned bank subsidiaries has reduced the risk of a traditional banking solvency but has increased reliance on capital inflows to fund credit. Risks to the sustainability of bank-intermediated capital flows and foreign exchange reserves could arise from: (i) a possible underestimation of the build-up of credit risk from rapid credit growth; and (ii) contagion through linkages arising from these banks' international activities.
- To contain these risks to financial stability, reforms should focus on:
  - Addressing weaknesses in the supervision of credit and other risks found in the Basel Core Principles assessment to help ensure that banks' can adequately identify and manage any build-up in credit risk.
  - Adjusting prudential polices to diversify bank funding towards local sources.
  - Strengthening consolidated supervision and also cooperation with home supervisors of foreign-owned banks to better assess the potential for contagion, including by signing MOUs with them.
  - Strengthening surveillance capacity by creating a new financial surveillance unit in the Central Bank of Bosnia and Herzegovina (CBBH) to support high level discussions of financial sector policies.
  - Unifying the two entity level supervisors at the State level to address the lack of independence, protection from political interference and resources, and place the new agency in the CBBH as the best way to ensure these objectives are met.

FSAPs 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

Contents Page

Glossary 4

Executive Summary 6

I. Macroeconomic and Political Environment 9

II. Structure and Development of the Financial System 9

III. Financial System Risks and Vulnerabilities 11
A. Credit Growth and Underestimation of the Build-Up in Credit Risk 12
B. Foreign Funding of Credit, Capital Flows, and Foreign Exchange Reserves 14
C. Potential for Contagion through Foreign-Owned Banks..........19
D. Assessing Risks to Financial Stability 19

IV. Policies to Strengthen Financial Stability and Supervision..........22
A. Policies Targeting Risks to Financial Stability 22
B. Strengthening Banking Supervision..........25
C. Building Insurance Supervision Capacity 26
D. Progress in Anti-Money Laundering and Counter Terrorist Financing..........27
E. Enhancing Corporate Governance..........27

Annex I: Summary Assessment of the Observance of Standards and Codes: Assessment of the BCP and Transparency of Banking Supervision..........28

Annex II: Summary Assessment of the Observance of Standards and Codes: Assessment of the OECD Principles of Corporate Governance 36

Tables
1. Bosnia and Herzegovina: Selected Economic Indicators 10
2. Structure of the Financial System, 2000–June 2005..........11
3. Funding Structure for the Six Largest Banks, June 2005 16
4. Financial Soundness Indicators: Current Quarterly Data 2005–06 24
5. Federation of Bosnia and Herzegovina: Recommended Action Plan to Improve Compliance 31
6. Republika Sprska: Recommended Action Plan to Improve Compliance of the Basel..........33
7. Recommendations of the Assessment of Compliance with OECD Principles of Corporate Governance 41
8. Financial Soundness Indicators: Historical Annual Data 2001–04 44
9. Stress Test Scenarios of a Slowdown in Credit Growth and Reduced Confidence..........49

Figures
1. Ownership Structure of Foreign-Owned Banks, December 2005 12
2. Credit and Deposit Growth, 2003–05 13
3. Bank-by-Bank Credit Growth, June 2004–June 2005 14
4. Return on Equity Trends in Austria, Germany, and Italy, 2001–05 15
5. Illustration of the Segmented Balance Sheet Structure of the Banking System 17
6. CBBH Net Foreign Reserves Net of Bank-Related Capital Inflows 17
7. CBBH Net Foreign Reserves Net of Bank-Related Capital Inflows 18
8. Bank Foreign Claims on Central and Eastern European Countries and Bosnia and 20
9. Credit Growth Rates for Countries in the Region, 2003–05 20
10. Relative Size of Home and Host Country Exposures, September 2005 21
11. Stress Test 1: Shift of Performing and Watch Loans into NPL Categories....................46
12. Stress Test 2: Slow Down of Credit Growth Under Different Assumptions....................47
13. Stress Test 3: Shift of Deposits and Cash From Local Currency to Euros 48

Boxes
1. FSSA Priority Recommendations 8
2. Using Reserve Requirements to Slow Credit Growth: The Risk of Circumvention 26

Appendix
Macro-Prudential Analysis and Stress Testing Methodology and Results 42

GLOSSARY

AMLCFT	Anti-money laundering and combating the financing of terrorism
BCP	Basel Core Principles
BiH	Bosnia and Herzegovina
BLSE	Banja Luka Stock Exchange
CARs	Capital adequacy ratios
CBA	Currency board arrangement
CBBH	Central Bank of Bosnia and Herzegovina
CC	Competition council
CEE	Central and Eastern European
CRS	Central registry of securities
DIA	Deposit insurance agency
DIF	Deposit insurance fund
EU	European Union
FBA	Federation Banking Agency
FBiH	Federation of Bosnia and Herzegovina
FDB	Federation Development Bank
FIU	Financial intelligence unit
FSIs	Financial soundness indicators
FX	Foreign exchange
GMS	General meeting of shareholders
IAS	International Accounting Standards
IASB	International Accounting Standards Board
IFAC	International Federation of Accountants
IFRS	International Financial Reporting Standards
IGA	Investment guarantee agency
ISAs	Insurance supervision agencies
ISC	Independent standards commission
ITA	Indirect tax administration
JSC	Joint stock companies
KM	Convertible mark-local currency
LE	Law on enterprises
LPE	Laws on public enterprises
LS	Law on securities
M&A	Mergers and acquisitions
MCIs	Micro credit institutions
MTDS-PRSP	Medium-term development/poverty reduction strategy
MTPL	Motor third party liability
NPLs	Nonperforming loans
NPV	Net present value
OHR	Office of the High Representative

PIFs	Privatization investment funds
ROE	Return on equity
RS	Republika Srpska
RSBA	Republika Srpska Banking Agency
SASE	Sarajevo Stock Exchange
SC	Securities commission
SIPA	State agency for investment and security
SMEs	Small- and medium-sized enterprises
SOES	State-owned enterprises
TA	Technical assistance

Executive Summary

Economic growth in Bosnia and Herzegovina (BiH) has been impressive with GDP tripling since 1995. It has been underpinned by the currency board arrangement (CBA), which has contributed to low inflation and confidence in the currency (the KM). The banking sector has expanded rapidly over the last few years and banking assets are now around 75 percent of GDP driven largely by the entry of subsidiaries of reputable European banks. The nonbank financial sector is small but growing rapidly. Development of the institutions providing oversight of the financial sector has not kept pace with the private sector, however, and they need strengthening if risks to financial stability are to be adequately contained.

The dominance of foreign-owned bank subsidiaries has transformed the financial sector and altered the risks to financial stability. The financial system is now more robust to traditional banking solvency crises, as these subsidiaries can typically draw capital and liquidity from their parents as needed, and now risks are primarily to the sustainability of foreign exchange (FX) reserves.

Risks derive from the reliance of foreign-owned bank subsidiaries on foreign funding in combination with the large current account deficit, equal to 21 percent of GDP in 2005. Specifically, recognition of a possible build-up of credit risk or contagion through linkages arising from these banks' international activities could trigger a sudden slowing of credit growth, reducing capital inflows and putting pressure on FX reserves. In sum, in addition to the familiar direct macroeconomic effect of a slowing of credit growth, there could also be an indirect effect associated with financial instability induced by capital flow volatility. This report focuses on the latter and concludes that the financial system appears resilient to these risks and that maintaining confidence in the currency should help limit potential pressures on FX reserves.

To contain risks to financial stability, reforms should focus on the following areas:

- **Strengthening banking supervision and adapting it to the transformation of the financial system in line with recommendations in the Basel Core Principles (BCP) assessment.** This would include addressing weaknesses in the oversight of loan classification and provisioning to ensure more effective bank management of credit risk and identification of build ups in risk from rapid credit growth by supervisors.

- **Increasing banks' flexibility to rely on local funding to finance credit**—thereby reducing a potential source of capital flow volatility—by relaxing tight prudential limits on maturity mismatches, introducing a capital charge for market and other risks that can arise from such mismatches, and possibly adopting the common practice of treating very stable "core" deposits as longer-term deposits for maturity matching.

- **Enhance cooperation with home supervisors of foreign owned banks** to better assess the potential for contagion through these banks and help ensure that they adequately manage risks in their subsidiaries, including by signing memoranda of understanding

(MOUs); and strengthen consolidated supervision of these banks in line with BCP assessment recommendations.

- **Strengthen surveillance capacity** by creating a new financial surveillance unit in the Central Bank of Bosnia and Herzegovina (CBBH) to monitor risks to financial stability. To ensure this surveillance contributes to financial stability, the unit's analysis must be integrated into the high level deliberation on financial sector policies involving the Governor and heads of supervision.

- **Unify the two entity supervisors** to address the lack of the independence, protection from political interference and resources that may compromise the effectiveness of supervision. While in principle the unified supervisor could be set up as an independent agency, placing it in the CBBH would ensure protection from political interference.

While the insurance sector is too small to be systemically important, the unsettled conditions in the sector could weaken confidence in the financial system. For example, unscrupulous companies are offering discounted premiums for motor third-party liability business that are well below the prescribed floor price required to ensure their solvency, which could reflect an intention not to pay. An upgrading of the supervisory enforcement capacity and the introduction of the necessary technical regulations are urgently needed to avoid a crisis in the sector.

Banks' capacity to accurately manage corporate sector credit risk can be enhanced by addressing weaknesses in corporate governance. This would reduce the opacity of ownership structures, a lack of accountability of boards and managers, and poor transparency and financial reporting. **(**See the attached Corporate Governance ROSC).

Box 1. FSSA Priority Recommendations

1. Enhancing the banking supervision and regulatory framework

- Upgrade supervision of bank provisioning and loan evaluation, as recommended in the BCP assessment, to better identify build ups in credit risk and strengthen bank risk management.
- Foster a shift from foreign to local financing of credit by: (i) relaxing tight limits on maturity and currency mismatches; (ii) introducing a regulatory capital charge for market and other risks that can arise from such mismatches; and (iii) possibly treating very stable "core" deposits as long term deposits for maturity matching purposes.

2. Strengthen cooperation with the home supervisors of foreign-owned banks

- Enhance consolidated supervision in line with the BCP assessment recommendations.
- Develop information sharing with home supervisors of foreign-owned subsidiaries to assess the condition of parent banks and the risk of contagion from these banks' activities abroad.

3. Develop a financial sector surveillance unit within the CBBH

- Ensure that the high-level meetings between the Governor and Banking Agency Directors on financial sector policies make effective use of the unit's surveillance outputs.
- Report and disseminate financial surveillance analysis, possibly in a Financial Stability Report.

4. Unify the two entity-level supervisors at the State level

- Draft a State-level Banking Law that ensures adequate legal protection from political pressure.
- Place the new agency within the CBBH as the most reliable way to ensure independence.

5. Strengthen insurance supervision to avoid weakening confidence in the financial sector

- Issue the necessary technical regulations and upgrade supervisory enforcement capacity.

6. Enhance corporate governance to improve transparency of corporate sector risk

- Strengthen disclosure of beneficial owners, transparency and quality of financial reporting, and accountability of corporate boards and manages in line with the Corporate Governance ROSC.

I. Macroeconomic and Political Environment

1. **The BiH economy has made an impressive recovery since the end of the war.** GDP has tripled since 1995 and the consolidated fiscal deficit has fallen by 5 percentage points of GDP since 2001 so that the budget is now roughly in balance. The CBA, established in 1997, has contributed to low inflation and exchange rate stability. These gains have been underpinned by a reform process partly driven by the direct involvement of the international community. As this process evolves into one led by the authorities, strong ownership of the reforms will be required to ensure macroeconomic and financial stability, especially given the complex and decentralized structure of government in BiH where two largely autonomous regional entities and an autonomous district coexist with a relatively weak state level government. The reform process could be bolstered by negotiation of a Stabilization and Association Agreement with the European Union (EU), initiated in December 2005, with the ultimate objective of EU membership.

2. **The large current account deficit, at 21 percent of GDP in 2005, remains well above sustainable levels and represents a critical vulnerability (Table 1).** Low private sector savings relative to investment appears to be the principal counterpart of the external deficit since the general government budget is roughly in balance. FX reserves have risen, indicating that capital inflows have been more than sufficient to finance the current account deficit. In a CBA, however, the level of FX reserves should be compared to the monetary liabilities of the central bank,[1] which have increased in parallel with FX reserves (Table 1).

II. Structure and Development of the Financial System

3. **Banking sector assets are relatively high at 75 percent of GDP (Table 2).** There has been rapid consolidation in the banking sector facilitated by the privatization of state owned banks. The number of state-owned banks has fallen sharply and most of those remaining are under provisional administration. The outcome of this consolidation, which is still ongoing, is a financial system dominated by majority foreign-owned banks, with the six large foreign-owned bank subsidiaries accounting for 65 percent of total assets and deposits at end-2005. These banks have also been the main drivers of credit growth, holding more than 60 percent of total loans. Banks from four countries hold more than 70 percent of foreign-owned bank capital in BiH (Figure 1).

---

[1] Under the rules of the CBA, monetary liabilities composed of currency and deposits by banks at the central bank must be fully backed by the FX reserves. Thus, a decline in FX reserves will lead to a fall monetary liabilities and a monetary contraction through the operation of the CBA.

Table 1. Bosnia and Herzegovina: Selected Economic Indicators

	2001	2002	2003	2004	2005
			(percentage change)		
Real GDP	3.6	5.0	4.1	5.8	5.0
CPI	3.2	0.3	0.6	0.2	2.8
Credit to the private sector	13.7	36.2	24.8	27.5	27.5
			(in percent of GDP)		
General government balance	-4.5	-3.3	-2.0	-0.4	0.9
Current account balance	-13.3	-19.1	-20.9	-19.3	-21.3
FDI (net, bank and nonbank)	2.1	4.3	4.9	6.6	3.0
Foreign loans	15.9	4.6	6.0	2.5	8.5
Gross international reserves	22.5	19.4	20.8	24.0	27.1
Monetary liabilities of the CBBH	21.4	18.3	19.5	22.6	25.7

Source: Central Bank of Bosnia and Herzegovina.

4. **The nonbank financial sector is relatively underdeveloped.** Insurance sector assets are 3.4 percent of GDP. Most insurance companies focus on nonlife business, which accounted for 90 percent of premium income in 2004. Foreign-owned companies are increasingly important and now earn close to one-half of insurance premiums. Equity markets are relatively undeveloped, as indicated by the low turnover (Table 2), reflecting weaknesses in corporate governance.[2]

5. **The leasing market has experienced significant growth in the past few years.** Between 2004 and 2005, outstanding leasing contracts grew by 74 percent, reaching 190 million euros by end-2005. Three of the six leasing companies, all subsidiaries of foreign banks or leasing companies, account for over 95 percent of all leasing activity. They rely largely on their foreign parent institutions for funding.

6. **Micro credit institutions (MCIs) have a significant presence in BiH.** At end 2004, there were 46 registered MCIs, although the number of active institutions is significantly less. Their credit portfolio totaled over 130 million euros with a client base of about 100,000. MCIs do not take deposits and were mostly established with donor funds but over the last two years have shifted their funding source toward bank loans.

[2] The World Bank FSA and the attached Corporate Governance ROSC address the challenges associated with developing equity markets in BiH.

III. Financial System Risks and Vulnerabilities

7. **The domination of the banking system by large foreign banks has improved the soundness of the financial system but altered the nature of risks to financial stability.** The main risk is no longer a traditional banking solvency crisis but rather the risk to the sustainability of FX reserves arising from the potential for capital flow volatility. A key source of this risk is possible underestimation of a build up in credit risk from rapid credit growth (Section III.A). This contributes to the potential for a sharp slowing or fall in bank intermediated capital inflows if banks reduce credit growth (Section III.B). Another is the potential for regional contagion through foreign-owned banks, where developments elsewhere in the region could trigger reassessment of risks in BiH, leading to a slowing of credit growth and fall in capital inflows (Section III.C). The significance of these risks can be assessed using Financial Soundness Indicators (FSIs) and stress tests of a range of potential shocks (Section III.D and Appendix).

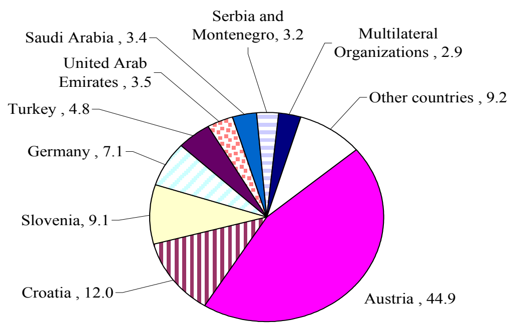
Table 2. Structure of the Financial System, 2000–June 2005

	2000	2001	2002	2003	2004	2005
Number						
Banks	57	51	41	37	33	33
Foreign-owned banks 1/	16	19	20	22	22	22
Domestic private banks	26	20	14	8	5	8
State banks	15	12	7	7	6	3
Insurance companies	20	19	19	18	18	17
Leasing companies	na	na	na	na	na	5
Investment funds (asset mgmt. companies)	na	na	na	na	na	24
Brokerage houses	na	na	na	na	na	64
Licensed Brokers	na	na	na	na	na	27
Micro-credit enterprises (SMEs)	na	na	na	na	na	46
Financial system assets (mill. KM)						
Banks	3,138	4,480	5,472	6,989	9,265	10,814
Foreign-owned banks 1/	951	2,971	4,197	5,571	7,489	9,321
Domestic private banks	970	768	929	1,048	1,402	1,089
State banks	1,216	742	345	370	373	404
Insurance sector 2/	na	279	311	339	423	486
Leasing companies 3/	na	na	na	na	na	370
Micro-credit enterprises (SMEs)	na	na	na	na	na	250
Market capitalization	na	na	na	na	na	9,100
Market turnover	na	na	na	na	na	0.008
Assets as percent of GDP						
Banks 1/	30.6	40.2	46.3	55.9	68.7	75.3
Insurance companies	na	2.5	2.6	2.7	3.1	3.4
Leasing companies	na	na	na	na	na	2.6
Micro-credit enterprises (SMEs)	na	na	na	na	na	1.7
Equity market capitalization	na	na	na	na	na	63.4

Source: Central Bank of Bosnia and Herzegovina.

1/ The foreign-owned banks are subsidiaries of large foreign banks.
2/ Excludes total assets from the Republika Srpska.
3/ Represents the total financed volume.

Figure 1. Ownership Structure of Foreign-Owned Banks, December 2005



Source: Central Bank of Bosnia and Herzegovina.

A. Credit Growth and Underestimation of the Build-Up in Credit Risk

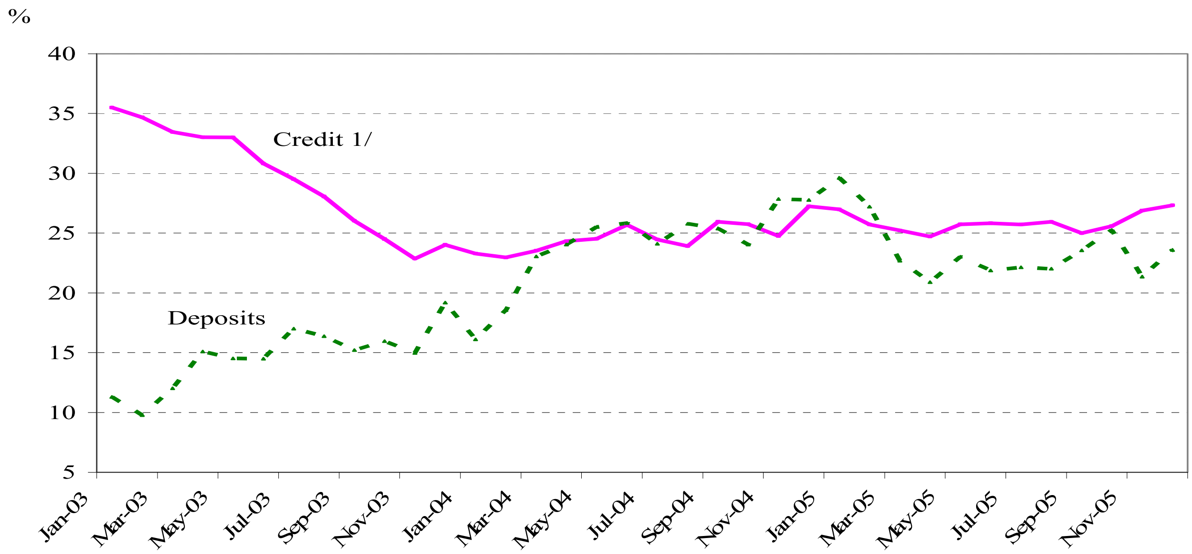
8. **Rapid credit growth, which was around 27 percent in 2005, can contribute to an unrecognized build-up in credit risk (Figure 2).** The increased volume of loans from rapid credit growth overstretches banks' credit assessment capacity. This deterioration in quality of disbursed credit is often not apparent as the increase in the share of new loans can temporarily depress reported nonperforming loans (NPLs) and credit quality problems typically emerge with a delay. Associated with this build up in credit risk is an increased risk of a credit crunch, where when banks recognize the extent of the build up they may sharply cut or reverse lending growth.

9. **Institutional weaknesses can contribute to the underestimation of the build up in credit risk.** They include a lack of adequate credit monitoring tools and corporate governance, reflected in weak accounting, auditing, financial reporting and disclosure, and opaque ownership structures. The poor quality of data on credit risk means that foreign owned banks' risk management and measurement systems designed for developed countries do not work well in many Central and Eastern European (CEE) countries.[3] This led banks to rely heavily on collateral and third-party guarantors to mitigate credit risk. There have been some improvements in credit monitoring tools with the establishment of a collateral registry and the CBBH credit registry covering firms. However, shortcomings in data availability

[3] Banks indicated that their credit risk models work well in more advanced CEE countries (e.g., Czech Republic and Slovenia) but not in countries with poor data, such as BiH, partly owing to the lack of an adequate credit bureau or register. Parent banks may therefore find it difficult to reliably estimate credit risk or risk adjusted return on equity (ROE) in their BiH subsidiaries and must rely largely on the judgment of local managers.

limit banks' capacity to monitor household credit risk.[4] For example, banks make extensive use of third party loan guarantees to mitigate household credit risk but sometimes cannot identify situations where the same person has guaranteed multiple loans.

Figure 2. Credit and Deposit Growth, 2003–05



Sources: Federation and the Republika Srpska Banking Agencies; and staff estimates.

1/ Credit data are adjusted so that government takeover of bank assets and liabilities in 2003 do not introduce structural breaks in the figure.

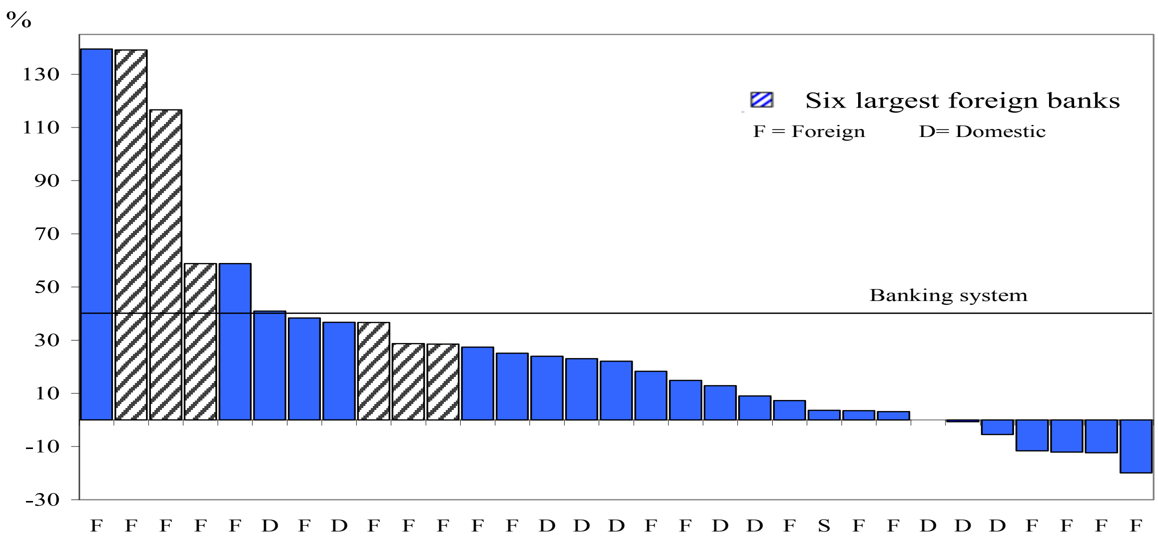
10. **Underestimation of credit risk may also result from the indexation of most KM loans to the euro.** Indexed loans are often made to borrowers that lack a hedge against FX risk, giving rise to indirect credit risk. This source of credit risk may be underestimated owing to moral hazard arising from a perception that the international community will not allow the CBA to fail, resulting in an underpricing and/or under-provisioning for this risk.

11. **Foreign-owned banks have been the main source of credit growth in BiH (Figure 3).** They account for 84 percent of loans, with the six largest foreign-owned banks alone accounting for 65 percent of total loans. Many of these banks are expanding credit in a number of CEE countries simultaneously as part of a broader long term regional strategy to raise the overall ROE of the bank group by using the higher ROEs in the CEE region to offset the relatively low ROE earned by parent banks in their home markets (Figure 4). This strategy appears to be successful with these banks earning a disproportionately large share of group profits in the CEE region. For example, in June 2005, Austrian bank groups earned

[4] Data quality should improve with the planned extension of the CBBH credit registry to cover individuals.

43 percent of their profits in the CEE region, although only 23 percent of their assets were invested there.

Figure 3. Bank-by-Bank Credit Growth, June 2004–June 2005



Sources: Banking Agency of the Federation and Banking Agency of the Republika Srpska.

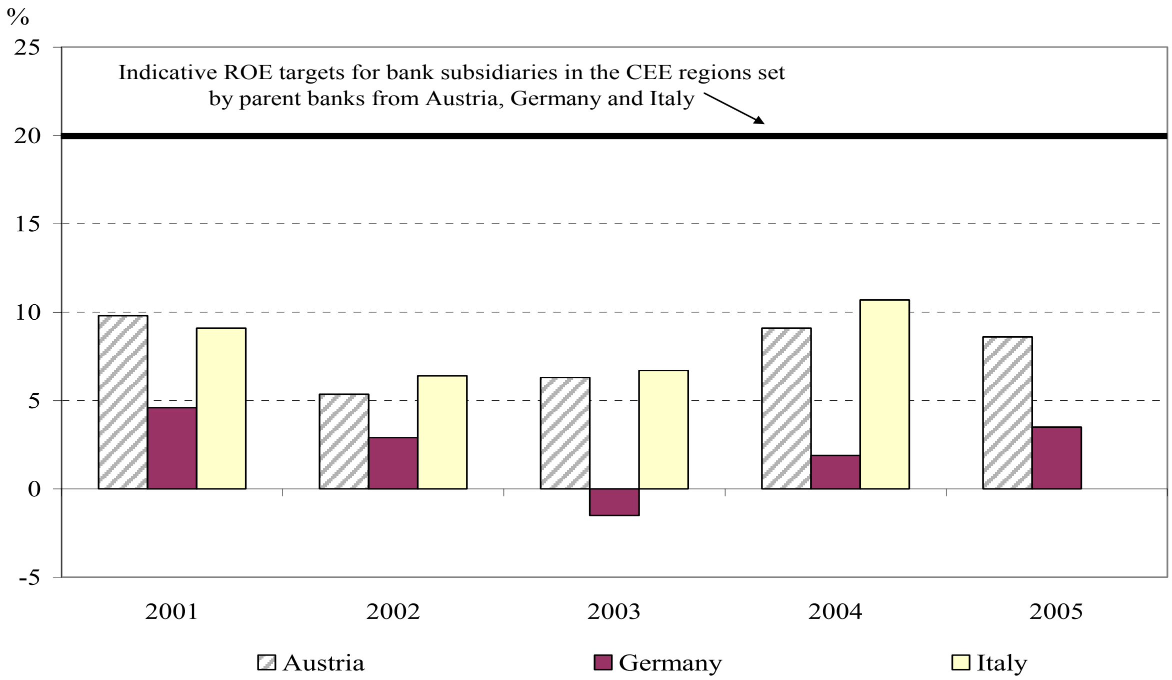
12. **Overambitious ROE targets set by parent banks for their subsidiaries in CEE countries could contribute to the risk of a sharp slowing of credit growth.** According to some banks, these targets are generally between 20 to 25 percent before tax in BiH. Banks that underestimate the build up in credit risk will tend to set overambitious ROE targets because they set provisioning rates that are too low. When the extent of underestimation is recognized (or when the risk materializes), banks have to increase their provisioning rate in line with their upward reassessment of credit risk, reducing ROE projections. This could lead management of large foreign bank groups to conclude that their ambitious ROE targets cannot be met. They may curtail lending growth in response, depending on the extent to which they reassess their long term strategic objectives in BiH and the region as a result.

B. Foreign Funding of Credit, Capital Flows, and Foreign Exchange Reserves

13. **Foreign-owned bank subsidiaries rely on long-term foreign funding, mostly from their parent banks, to finance credit growth.** This means that most lending is funded from abroad since domestically-owned private banks that generally use local deposits for funding represent only 9 percent of banking system assets. Moreover, much of this financing is parent banks funding of their BiH subsidiaries, which accounted for over 70 percent of all bank-related capital inflows in 2005. Reliance on foreign funding partly reflects its relatively low cost. A number of foreign-owned banks indicated that their cost of funding was EURIBOR plus 150-250 basis points. This resulted in 2005 in foreign funding costs of around 4-5 percent, which was below interest rates on local long-term euro denominated deposits in BiH. With lending rates on long-term euro-indexed loans reported

at between 7 to 11 percent, the wider lending margins provided by this foreign funding cost advantage contributed significantly to ROE.

Figure 4. Return on Equity Trends in Austria, Germany, and Italy, 2001–05 1/



Source: National sources.

1/ After tax ROE. The average indicative pretax ROE targets for their subsidiaries in the CEE regions indicated by the large Austrian, German, and Italian banks active in BiH is roughly 20 percent.

14. **The strict maturity and currency matching requirements have contributed to the reliance on foreign funding.** Specifically, the short maturity of local deposits limits their role in funding credit growth. Banks have long maturity loan portfolios and must rely on long maturity foreign funding to comply with the maturity matching requirements. Table 3 illustrates for the six largest banks how the stock of resident long term FX deposits falls well short of what is needed to fund long term FX (and indexed) loans.[5] In sum, the matching requirement result in a segmented bank balance sheet structure: euro-indexed loans are mostly funded through long-term euro deposits and loans from abroad; local short term KM deposits fund banks' excess reserves (the only short term KM asset); and, resident short term euro denominated deposits fund banks' correspondent banks euro deposits abroad (Figure 5). This segmentation contributes to the vulnerability of the financial sector

[5] Table 3 illustrate how the matching requirement work, however, in reality, it is considerably more complex as the requirements vary across maturity buckets.

by contributing to a tight link between bank lending and capital flows. It also leads banks to transfer euro deposits of residents abroad rather than use them to finance local lending. The policy recommendations below work partly by reducing this balance sheet segmentation.

Table 3. Maturity and Currency of Loans and Deposits: Six Largest Banks, June 2005 1/

	Loans (in percent of total)	Deposits (in percent of total)
By currency		
KM	29.2	32.6
FX	70.8	67.4
By Maturity		
ST	19.0	56.8
LT	81.0	43.2
By currency and maturity		
KM- ST	5.9	28.3
KM-LT	23.3	4.4
FX-ST	13.1	28.5
FX-LT	57.6	38.8
Resident		
KM - ST	5.9	27.7
KM - LT	23.3	4.0
FX - ST	13.1	25.9
FX -LT	57.6	18.0
Nonresident		
KM - ST	n.a.	0.6
KM - LT	n.a.	0.4
FX - ST	n.a.	2.7
FX -LT	n.a.	20.8

Sources: Banking Agencies of the Federation and Banking Agency of the Republika Srpska .

1/ FX loans include both FX loans and euro indexed KM loans—76 percent of all KM denominated loans made by the six largest foreign-owned banks in June 2005 were indexed to the euro and therefore are included in FX loans.

15. **Bank-intermediated capital inflows to finance credit account for a large share of the increase in FX reserves.** Banks typically receive funding as euro denominated-loans and deposits from abroad but lend mostly in KM indexed to the euro. Indexed loans are treated like euro loans in the currency matching requirement and thus can be financed with euro-denominated funding. Since indexed loans are denominated in KM, lending involves a conversion of euros into KM, which contributes directly to an increase in FX reserves. Figures 6 and 7 provide an estimate of the contribution of foreign funding to FX reserves.[6] They also show that FX reserves have increased for other reasons. Support from the

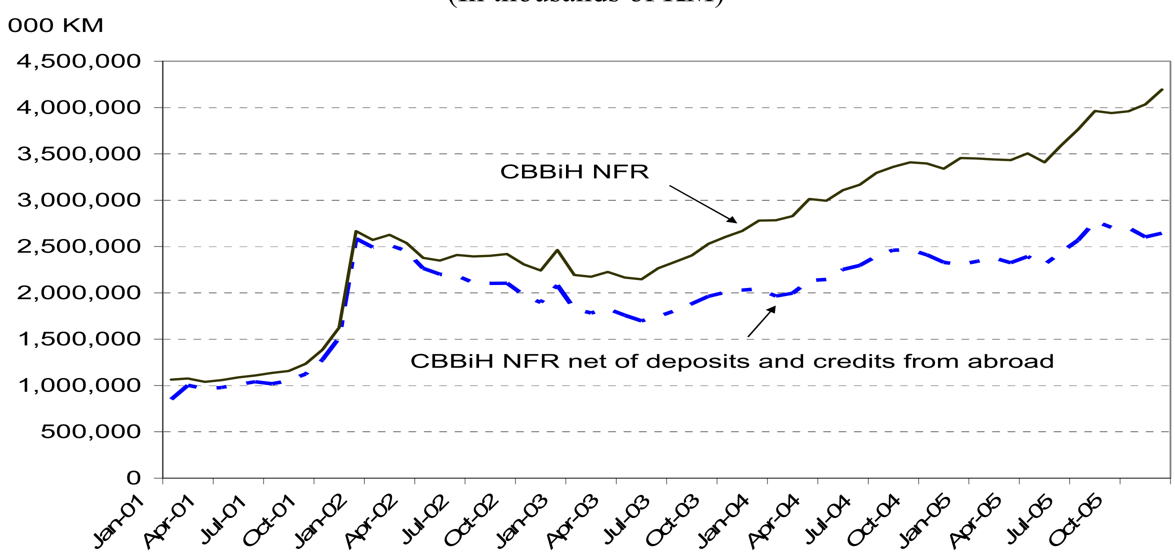
[6] Bank intermediated capital inflows in Figures 6 and 7 are larger than bank related portfolio capital flows reported in the balance of payments because they include deposits, loans and equity provided by parent banks to their BiH subsidiaries, which are included in foreign direct investment (FDI) in the balance of payments.

international community has been important in this regard but as it scales back its involvement in BiH its contribution to FX reserves should diminish.

Figure 5. Illustration of the Segmented Balance Sheet Structure of the Banking System

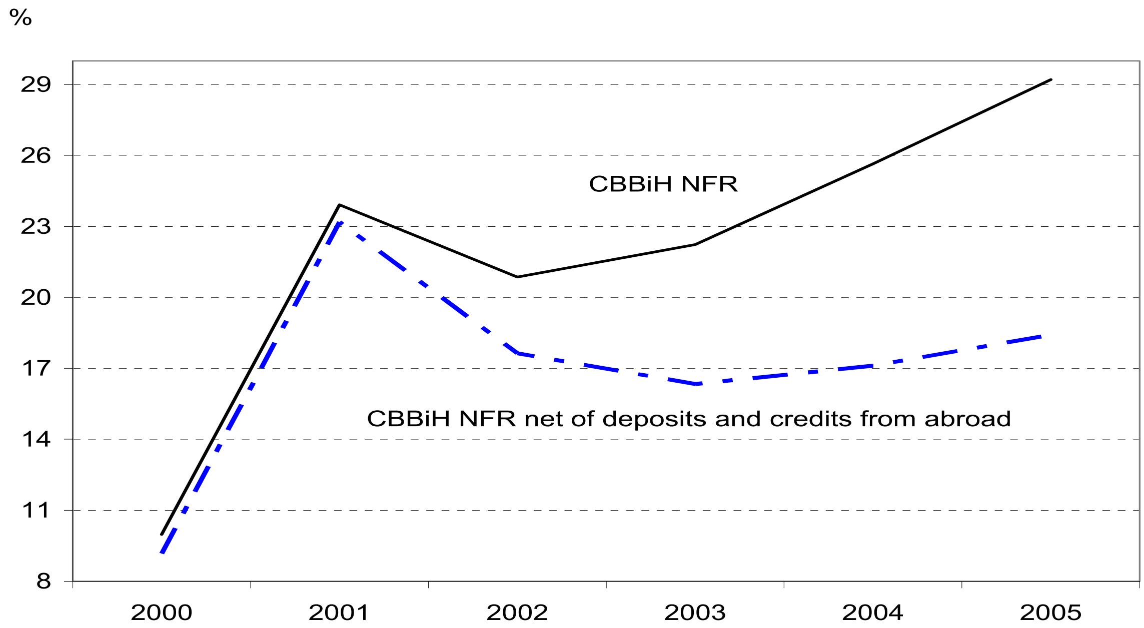
Assets	**Liabilities** (sources of financing)
Euro and euro-indexed long-term loans	Non-resident euro long-term deposits and loans
Euro deposits in correspondent bank accounts abroad	Resident euro short-term deposits
Excess reserves (held at the CBBH)	Resident KM-denominated short-term deposits
Other assets	Other liabilities

Figure 6. CBBH Net Foreign Reserves Net of Bank-Related Capital Inflows
(In thousands of KM)



Sources: Central Bank of Bosnia and Herzegovina; and Fund staff estimates.

Figure 7. CBBH Net Foreign Reserves Net of Bank-Related Capital Inflows
(In percent of GDP)



Sources: Central Bank of Bosnia and Herzegovina, and IMF staff estimates.

16. **This link between FX reserves and bank-intermediated capital flows has so far contributed to a rise in FX reserves but could also work in the opposite direction, and thus represents a risk to the sustainability of FX reserves.** Specifically, a reduction in bank intermediated capital inflows would result in a drawdown in FX reserves to finance the large current account deficit. Continued confidence in the local currency should help to limit the drawdown in FX reserves, but if there is an associated shift by residents from KM currency into euro cash, and KM bank deposits into euro deposits, FX reserves could fall further.[7]

17. **The risk to the sustainability of FX reserves is exacerbated by a larger current account deficit.** Specifically, the size of the deficit determines the rate at which FX reserves are drawn down to finance the current account in place of the lost external (bank-intermediated) financing. This macro-financial linkage highlights the importance of macroeconomic policies to narrow external imbalances owing to their role in reducing risks to financial stability. The significance of this risk to FX reserves reflects a number of underlying financial and macroeconomic features of BiH (i) high euroization; (ii) a fixed exchange rate regime (i.e., the CBA); (iii) a largely foreign-owned banking system reliant on external funding; and (iv) large external imbalances.

[7] A shift from KM deposit into euro deposits would necessitate a corresponding shift on the asset side of banks' balance sheet from KM excess reserves to euro correspondent bank deposits abroad (Figure 5) owing to the currency matching requirement. FX reserves would decline as banks move these assets abroad.

C. Potential for Contagion through Foreign-Owned Banks

18. **The rapid expansion of foreign-owned banks in BiH (Figure 8) has contributed to financial stability but also to potential channels for contagion from shocks in other CEE countries.** Contagion depends partly on the operation of foreign bank groups' risk management systems. Specifically, rapid credit growth across the region has contributed to a build up of credit risk in these other countries as well (Figure 9), and contagion could occur when the recognition or materialization of risk in these countries triggers a reassessments that leads these banks to also view their exposures in BiH as more risky and to slow, or reverse, credit growth in BiH. Similarly, developments in the banking system in the home country of these banks could lead them to cut exposures in BiH.

19. **The large asymmetry in the relative importance of bilateral credit exposures to BiH and to foreign-owned banks means that changes in parent bank lending policies that are modest from the perspective of the bank can have a big impact on BiH.** For example, Austrian banks' exposure to BiH is only 2 percent of their total CEE regional exposure but represents 68 percent of BiH borrowing from foreign banks (Figure 10). This asymmetry could have implications for contagion because it may make it less likely that foreign banks groups will internalize the impact of a reduction in their exposures on capital inflows and credit growth in BiH and moderate the reduction to lessen the impact.

D. Assessing Risks to Financial Stability[8]

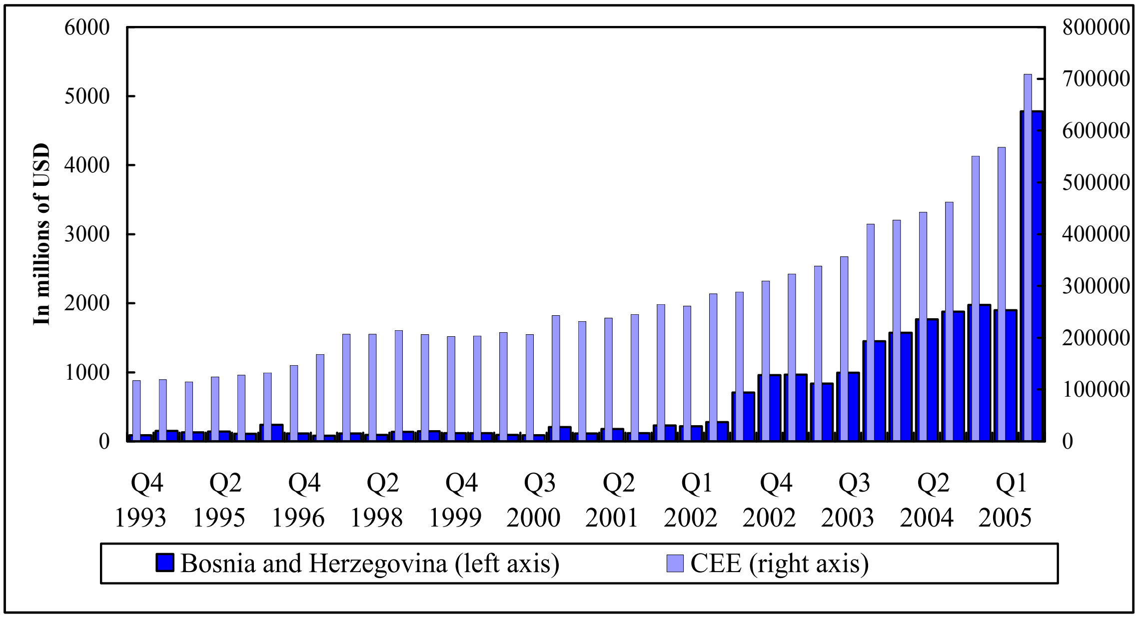
20. **The combination of robust FSIs and the capacity of foreign-owned banks to draw support from their strong foreign parents suggests that the banking system is highly resilient to a traditional solvency crisis.** Reported capital adequacy ratios (CARs) are above the 12 percent minimum required by supervisors in all three key peer groups (Table 4). While the CAR for the peer group of reputable foreign-owned bank is significantly lower, this reflects banks' strategy of maintaining relatively low capital ratios in their BiH subsidiaries to raise reported ROE since the parents typically can be expected to provide additional funding or capital when needed.[9] The resilience of the banking system is confirmed by stress tests (presented in the Appendix) of a reclassification of performing and watch category loans into the non-performing loan (NPL) categories resulting from a recognition of the extent of a build up in credit risk. For example, a 15 percent reclassification would push CARs below the regulatory minimum only for large foreign-owned subsidiaries who can typically draw capital from their parents.

---

[8] Details of the stress test methodology and results are presented in the Appendix.

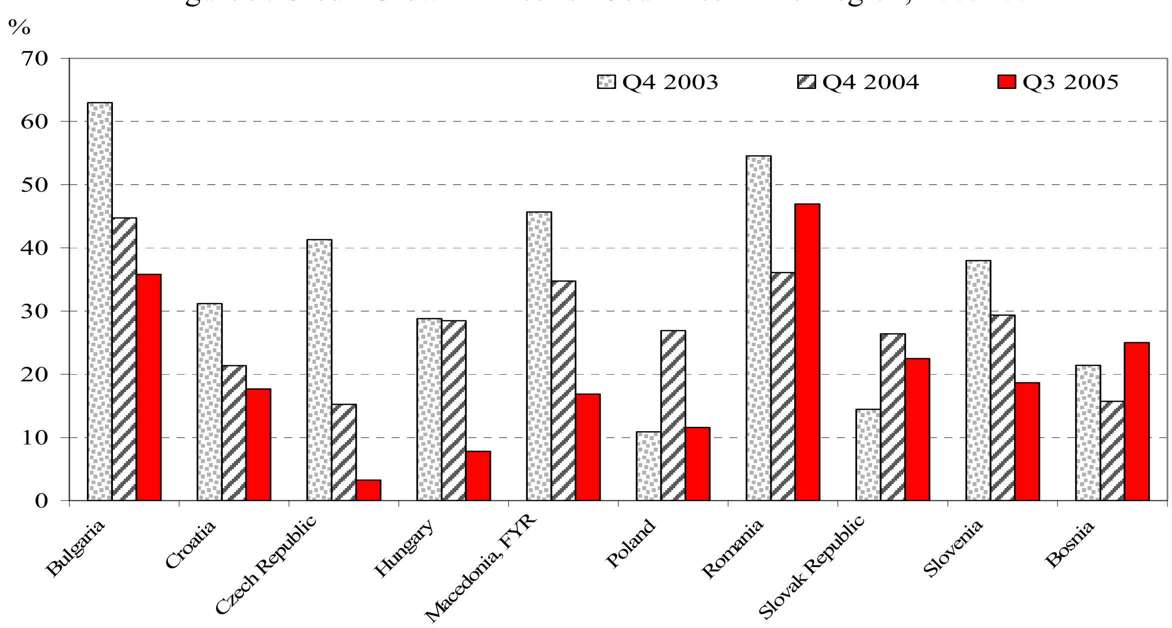
[9] This was emphasized by banks. Of course, parent banks might not come to the aid of their subsidiaries and local depositors in special circumstances, such as when a government freezes, expropriates or devalues bank assets, imposing losses on the banks (e.g., Argentina in 2001), or when losses occur due to fraud in a privatized bank that the foreign parent did not detect in the takeover (e.g., Rijecka Bank in Croatia in 2002).

Figure 8. Bank Foreign Claims on Central and Eastern European Countries and Bosnia and Herzegovina, 1995–2005



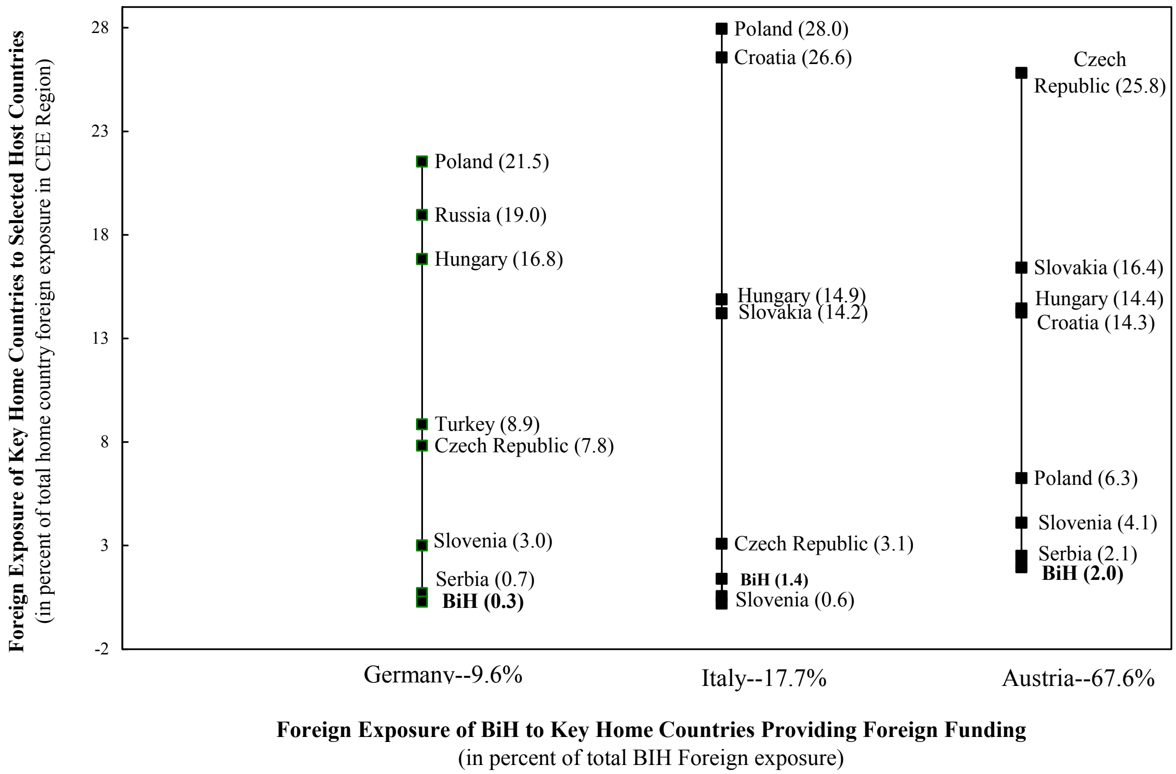
Source: Bank for International Settlements.

Figure 9. Credit Growth Rates for Countries in the Region, 2003–05



Sources: International Financial Statistics (IMF); and Central Bank of Bosnia and Herzegovina.

Figure 10. Relative Size of Home and Host Country Exposures, September 2005



Source: Bank for International Settlements.

21. **In view of the apparent soundness of the banking system, stress testing focused on risks to financial stability arising from the heavy reliance on potentially volatile bank-intermediated capital inflows to finance rapid credit growth.** The above analysis highlighted liquidity risk arising from (i) a slowdown in credit growth that reduces capital inflows, and (ii) the potential second-round effect if this triggers a shift from KM into euros, although the latter would be limited by continued confidence in the currency. These two shocks could result from a recognition of the extent of a build up in credit risk or by contagion from abroad. They have a direct macroeconomic impact through the credit crunch but can also have an indirect effect through the impact on capital flows, which contributes to the potential for financial instability. Since the stress testing exercise is concerned with risks to financial stability, it focuses on the latter effect.

22. **The financial system appears resilient to these sources of risk.** The stress tests suggest that the financial and monetary system would be able to absorb the relatively modest loss in foreign exchange reserves associated with a fall in credit growth and the capital inflows financing them. However, when this loss is combined with the effect of a shift from KM into euros the overall impact may be large enough to warrant more concern. Although it is very difficult to assess the likelihood of financial instability, this does highlight the importance of maintaining confidence in the currency. For example, ignoring probable offsetting effects, a scenario combining the two—credit growth slowing to zero

and a 10 percentage point shift of KM currency and deposits into euros—could reduce FX reserves by as much as 29 percent, or 7.6 percentage points of GDP (see Appendix). It is important to emphasize that these stress tests are hypothetical and do not in any way constitute a prediction. In particular, they ignore macroeconomic feedback effects that reduce the impact of shocks, where the slowdown in credit could induce a recession that would narrow the trade balance and slow the loss in FX reserves. Nevertheless, the stress tests do highlight the need for enhanced financial surveillance to assess these risks and to develop policies to contain them and maintain confidence.

IV. Policies to Strengthen Financial Stability and Supervision

A. Policies Targeting Risks to Financial Stability

23. **The above analysis suggests that policy should focus on risks related to potential volatility in bank-intermediated capital inflows as the risk of a traditional banking system solvency crisis is very low.** These risks arise from the potential underestimation of the build-up of credit risk associated with rapid credit growth and foreign funding of most of this credit growth. Policies need to target these sources of risk directly rather than try to slow credit growth as foreign-owned banks have proved adept at circumventing measures to control credit growth (Box 2). This will require a strengthening of the surveillance capacity of the CBBH to properly assess these risks and policy options through the creation of a new financial surveillance unit. The analysis of this unit must be integrated into the discussion of policies by the CBBH Governor and Directors of the Banking Agencies, reflecting the greater importance of prudential policy to financial stability in a CBA owing to the constraint on monetary policy.

24. **The potential for underestimation of a build-up in credit risk can be addressed through policies that strengthen oversight of banks' management of credit risk.** A number of specific measures should improve banks' evaluation of credit risk:

- **Supervisors' monitoring and enforcement of provisioning and loan evaluation needs to be upgraded** in line with recommendations in the BCP assessment. This will help ensure that banks hold sufficient regulatory capital consistent with the underling risks, including indirect credit risk from euro-indexed lending to unhedged borrowers. Adequate provisioning for expected losses should contribute to more accurate (and presumably lower) parent bank ROE projections, discouraging overambitious credit expansion plans.

- **BiH supervisors' cooperation with the home supervisors of foreign owned banks needs to be strengthened** to ensure effective oversight of foreign owned subsidiaries in BiH. Home supervisors can provide information on the potential for contagion through these banks and help ensure that parent banks are adequately managing risks in their subsidiaries. To ensure effective consolidated supervision of these banks, MOUs must be signed and implemented with all home supervisors.

- **Improving the quality of creditor information**, including by requiring companies to provide accurate financial reports and extending the new CBBH credit registry to cover households as well as corporations. Better data on borrowers' and guarantors' debt, debt repayment, and income should facilitate a more realistic assessment of credit risk. The improvement in parent bank risk measurement should reduce the scope for subsidiaries to underprovision in order to report higher ROE.

- **Supervisors should encourage banks to tighten limits on debt-to-income and/or debt service-to-income ratios.** If there are signs of an unsustainable build up in credit risk, supervisors could require banks to use more reliable household debt and income data on prudential grounds to strengthen their credit risk management.

25. **These prudential measures, which serve as the primary instruments to limit risks to financial stability, can be reinforced by policies to reduce risks from volatile bank-intermediated capital inflows.** These policies encourage banks to diversify funding sources by fostering a shift from foreign to local financing of credit growth. They can be justified by the failure of foreign bank groups to fully internalize risks associated with reliance on foreign funding of euro lending owing to: (i) moral hazard arising from a perceived guarantee of the CBA by the international community; and, (ii) the fact that foreign banks' exposure to BiH represents a small share of their overall exposure, which may limit the attention paid to this risk.

26. **Policies that address the potential for capital flow volatility arising from the link between credit growth and capital inflows seek to reduce the segmentation in banks' balance sheet structure, by:**

- **Relaxing the very tight limits on maturity and currency mismatches and adopting a capital charge for market and other risks that arise from such mismatches.** This would provide banks with more flexibility to rely on shorter maturity local funding while the capital charge would provide a buffer against these risks and an incentive to limit them. Such an adjustment in prudential policies is appropriate as these tight limits are no longer fulfilling their purpose of protecting the CBA by ensuring that the largely domestically owned banking system was highly liquid and hence less vulnerable to a deposit run. These limits force banks to be highly liquid (see Table 4) by holding substantial excess reserves and deposits abroad (see Figure 5), despite their access to liquidity from their parents, and to rely on foreign funding of credit, which may unintentionally contribute to system risk.

- **Allowing banks to treat a proportion of sight and savings deposits that are statistically very stable as "core deposits"** (a widely used practice known in the banking industry as "mapping" used in the home countries of many foreign owned banks). These deposits could be used to fund medium and long term loans and would be an attractive funding source as the interest rates on these deposits are lower and comparable to those on foreign funding.

Table 4. Financial Soundness Indicators: Current Quarterly Data 2005–06
(In percent)

	2005 I				2005 II				2005 III				2005 IV				2006 I			
	State-Ownec Banks	Dom. Banks	Foreign Owned Banks	Total BiH	State-Ownec Banks	Dom. Banks	Foreign Owned Banks	Total BiH	State-Ownec Banks	Dom. Banks	Foreign Owned Banks	Total BiH	State-Owned Banks	Dom. Banks	Foreign Owned Banks	Total BiH	State-Owned Banks	Dom. Banks	Foreign Owned Banks	Total BiH
Number of banks	6	10	17	33	6	9	18	33	6	8	19	33	6	7	20	33	6	7	20	33
Capital																				
Tier 1 capital to RWA	55.2	17.7	12.7	15.2	53.7	17.9	12.3	14.6	52.5	18.6	12	14.2	54.9	19.7	11.7	13.7	53.1	19.7	12.7	14.5
Net capital to RWA 1/	56.3	18	16.5	18.4	54.8	17.9	16.4	18.1	53.8	18.3	16	17.6	57.3	19.1	16.2	17.8	55.2	18.2	16.2	17.7
Quality of assets																				
NPAs to total assets 2/	8.6	5.9	3	3.6	6.1	5.9	2.9	3.4	7.7	7	2.8	3.4	8.8	7.1	2.9	3.3	8.6	6.6	2.6	3
(NPAs-provisions) to Tier 1	9.5	28.5	17	17.8	8.2	30.4	17.2	17.9	12.1	34.9	17.5	18.8	15	28.9	20.5	20.4	13.7	26.4	17.1	17.4
NPLs to total loans 3/	12.9	10.7	4.5	5.7	9.3	11.4	4.3	5.3	12.3	13.3	4.3	5.3	15.4	12.5	4.5	5.3	14.4	11.3	4.2	4.9
Profitability																				
ROA 4/ and 5/	0	0.1	0.2	0.2	0.6	0.2	0.5	0.5	0.7	0.4	0.8	0.8	0.6	-2.7	0.9	0.7	-0.1	0.2	0.3	0.3
ROE4) 5/ 6/	0	0.4	2.3	1.7	1.5	1.7	5	4	7-Jan	3.1	8.6	7	1.4	-15.2	9.7	6.2	-0.3	1.1	3.5	2.8
Net interest income to gross income	38	47	57.9	55	31.3	43.5	55.2	52.3	34.5	44.7	56.8	54.3	35.6	40.6	56.3	54.1	43.4	46.4	56.2	55
Non-interest expenses to gross income	99.7	97.4	86.7	89.2	88.5	94.3	86.9	88	90.7	92.8	84.5	85.7	88.9	127	86.9	90.1	105.7	92.1	80.2	82
Liquidity																				
Liquid assets to total assets 7/	28.6	38.4	34.3	34.7	27.9	42.6	33.5	34.5	30.8	43.6	34.7	35.5	36	38.9	35.9	36.1	34.2	36.9	36.4	36.3
Liquid assets to short-term financial liabilities	76.1	52.2	60.6	59.4	75.8	56.5	56.9	57.3	81.5	59	56.6	57.5	102.9	54.6	61.5	61.9	99.5	53.6	60.7	61
Short-term financial liabilities to total liabiliti	66.7	85.4	63.6	67	65.2	86.7	66.1	68.8	64.9	86.1	68.7	70.3	58.6	84.6	65.2	66.1	57.5	81.6	66.6	67.2
Forex risk																				
Forex and indexed loans to total loans 8/	39.3	28.3	72.6	65.3	38.8	25.6	72.5	66	38	25.5	72.4	67.1	40.2	30.1	71.8	68.7	36.3	29.8	71.7	68.5
Forex liabilities to total liabilities	65.1	36.2	69.8	64.6	65	37.7	69.8	65.4	61.8	37.3	67.6	64.5	60	35.9	66.1	64.4	56.8	37.5	66	64.3
Net open position	16.3	17.7	6.8	10.1	13.1	18.8	4.8	8.1	13.2	18	7.5	9.6	19.3	-7.7	7.9	8.3	17.4	19.4	2.5	2.8

Sources: Central Bank of Bosnia and Herzegovina; Banking Agency of the Federation; and Banking Agency of the Republika Srpska.

1/ net capital equals regulatory capital and representes the sum of Tier 1 and Tier 2 net of supervisory deductions.
2/ Total assets are net amounts.
3/ Total loans are gross amounts.
4/ The numerator is net income after extraordinary items and taxes.
5/ The coefficient is calculated by using average assets to equity for the period in question.
6/ Equity consists of permanent priority shares, ordinary shares, premium on permanent priority and ordinary shares, undistributed profit and capital reserves.
7/ Liquid assets represent the core measure of liquid assets and consist of currency and deposits and other financial assets with maturity up to three months, excluding deposit-takers' deposits with other deposit-takers.
8/ Foreign currency and indexed loans are reported in net amounts.

27. **These policies should not have much impact on FX reserves but need to be implemented gradually to assess their impact as they will alter banks' balance sheet structure and tend to make the banks less liquid.** As balance sheet segmentation is relaxed, banks are likely to rely more on shorter maturity local euro deposits to fund loans. They can easily do this by liquidating their deposits in correspondent banks abroad (Figure 5). This will contribute to FX reserves at the CBBH as these deposits are repatriated and converted into euro indexed loans. However, this effect should be largely offset by smaller capital inflows from parent banks to fund credit growth. The primary benefit from this shift in funding sources is to weaken the link between credit growth and capital inflows. This will contribute to financial stability by reducing the potential negative impact of a sharp fall in credit growth on capital inflows and FX reserves and by helping to maintain confidence in the currency.

B. Strengthening Banking Supervision

28. **Banking supervision in the Federation and the RS has made substantial progress in the last few years, but key institutional weaknesses need to be addressed for supervision to play its role in limiting risks to financial stability.** These are identified in the BCP assessment and include a lack of independence and legal protection from political interference, and unification of supervision.

29. **The discretionary powers of supervisors need to be strengthened by eliminating uncertainty with respect to their legal immunity.** Lifetime immunity should apply to banking supervisors who conduct their supervisory duties in good faith. Supervisors also need the authority to levy higher fines, which are now too low to deter imprudent activities.

30. **Supervision should be unified at the state level to ensure adequate independence and to adapt to what is now a single national banking market dominated by foreign-owned banks.** The current situation with two relatively small-sized supervisory agencies is not compatible with a supervisory regime that meets international standards. It is also not sustainable; banking sector consolidation may shift the headquarters of even more banks to Sarajevo, which could reduce the revenues of the RSBA below levels necessary for its operational independence.

31. **While there are several options for unifying supervision, unification within the CBBH can best assure in the present circumstances adequate independence and protection from political interference.** While in principle these objectives could be achieved in a separate independent agency, this might not be the outcome of the political process. In a country of relatively weak institutions, the CBBH has a high degree of operational independence, putting it in a strong position to provide protection from political interference that could not be easily guaranteed if supervision were unified outside the CBBH. Unification in the CBBH would also facilitate the closer cooperation between supervisors and CBBH staff essential to strengthen surveillance and oversight of foreign owned banks.

Box 2. Using Reserve Requirements to Slow Credit Growth: The Risk of Circumvention

Some countries have experimented with higher reserve requirements to slow credit growth but experiences have been mixed due to the circumvention of them by banks. In particular, circumvention is likely when reserve requirement are increased on non-resident funding sources (e.g. parent banks' deposits in their local subsidiaries) but not on resident deposits, which is why this policy is not being recommended for BiH. Experiences with high reserve requirements targeted at credit growth in CEE countries point to a number of potential channels for circumvention:

1. The parent bank lends to borrowers directly rather than through its local subsidiary so the loan and funding does not appear on the latter's balance sheet;

2. The parent bank channels funds through nonbank corporations that it controls in the country, which then are deposited in, or lent to, the subsidiary;

3. The parent bank funds local nonbank institutions it controls (e.g., a leasing company) or has an arrangement with (e.g., a guarantee), which lend directly to borrowers;

4. The subsidiaries borrow from, or sell securities to, unaffiliated nonbank institutions with access to low cost funds from abroad; and

5. Foreign owned nonbank financial institutions without links to large foreign owned banks provide credit directly to borrowers within the country (e.g., leasing firms).

The BiH authorities capacity to control circumvention of higher reserve requirements (assuming the 20 percent cap on required reserves in the central bank law is removed) is constrained by limits on the coverage of the base of the reserve requirement to banking activities within BiH and the lack of data on foreign parent banks' financing activities. Similarly, circumvention through unaffiliated, foreign owned nonbank institutions could probably not be controlled, since these flows would not covered by reserve requirements and are very difficult to detect.

32. **Unification within the CBBH requires a legal and governance framework that ensures the operational independence of banking supervision.** Supervision should be directed by its own banking supervision board and management committee and be administratively separate from the rest of the CBBH with a separate salary structure. Regulatory decision making authority would be assumed by an executive committee rather than vested entirely in the agency directors. This framework would also need to provide adequate protection to the CBBH from potential legal actions against the supervisors.

C. Building Insurance Supervision Capacity[10]

33. **While the insurance sector is too small to be systemically important, rapid change and weak supervisory capacity poses a threat to confidence in the financial system.** Fierce competition to capture premiums, particularly in motor third-party liability, and the lack of supervisory enforcement and regulation has enabled unscrupulous

[10] An FSAP Technical Note on insurance provides detailed analysis of the sector and policy recommendations.

companies to offer discounted premiums well below the prescribed floor price that would be required to ensure their solvency. This could reflect an intention not to pay future claims.

34. **State and entity insurance laws provide the legal framework for insurance but many technical regulations and an enforcement capacity urgently need to be put in place.** The state level and two entity level insurance supervision agencies have recently been given more autonomy under the new legislation. However, the process of appointing members of all three agencies has been very slow and they are not yet fully functional.

D. Progress in Anti-Money Laundering and Counter Terrorist Financing

35. **A detailed assessment of compliance with the FATF 40+8 recommendations for Anti-Money Laundering and Combating the Financing of Terrorism (AML/CFT) by MoneyVal was reviewed in its July 2005 plenary.** Since this assessment, the authorities have made significant progress, including development of an effective state level Financial Intelligence Unit. However, additional progress is needed and, while a new assessment is not required, technical assistance could provide support in developing AML/CFT capacity, building on the recommendations in the MoneyVal assessment.

E. Enhancing Corporate Governance

36. **A lack of transparency and the opaque ownership structure of the corporate sector make it difficult for banks to assess their corporate sector risk exposures.** While improvements in the intermediation infrastructure have resulted in increased ability of the banks to mitigate credit risks—and may have contributed to the recent growth of credit to the corporate sector—these weaknesses are likely to continue to limit corporate sector access to credit. Specifically, with opaque ownership structures, banks cannot accurately monitor their maximum group exposures, nor can they assess the risks posed by intra-group transactions for enterprises under a common owner. Recommendations to address these weaknesses in corporate governance are provided in the attached ROSC.

ANNEX I: SUMMARY ASSESSMENT OF THE OBSERVANCE OF STANDARDS AND CODES: ASSESSMENT OF THE BCP AND TRANSPARENCY OF BANKING SUPERVISION

Institutional setting, market structure—overview

37. **The banking sector dominates the financial system in BiH.** Bank assets are roughly 75 percent of GDP, which is relatively high for a country at the level of development of BiH, while the nonbank financial sector is very small. Capital markets are still in their early stages of development. The banking sector is now largely foreign-owned, which has contributed to the soundness of the financial system.

38. **Credit to the private sector is growing rapidly and registered an increase of around 27 percent in 2005.** This represents a welcome expansion of financial intermediation but requires a strengthening of bank risk management and supervision to avoid an unsustainable build-up in credit risk.

39. **Banking supervision in BiH is conducted by two supervisory agencies in the Federation of Bosnia and Herzegovina (FBiH) and the Republika Srpska (RS), respectively, which are each governed by separate entity-level legislation.** While there is good cooperation between the agencies and efforts have been made to harmonize regulation and supervision, the differences are sufficient to warrant the two detailed assessment and sets of recommendations. Due to the harmonization, the same comment below often applies to both agencies and the reader is referred to the original comment.

General preconditions for effective banking supervision[11]

40. **The Banking Agencies of the FBiH and the RS are empowered to grant and revoke banking licenses, to take enforcement measures against banks and to issue secondary legislation.** The law empowers the CBBH to coordinate the activities of the two entity agencies. There is also a Cooperation Agreement between the Republika Srpska Banking Agency (RSBA) and the Federation Banking Agency (FBA) that has contributed to a high level of cooperation between the two agencies. An agreement has also been concluded between the two agencies and the Deposit Insurance Agency (DIA) and there is close collaboration in the field of training of staff, communication of prudential reporting and coordination of supervisory action.

Main findings

41. **While the banking supervisors in the FBiH and the RS are among the better regulators in BiH and have made substantial progress in the last few years, there are still significant weaknesses that undermine their effectiveness.** These are identified in

[11] See Core Principles for Effective Banking Supervision (Basel Core Principles), September 1997 and Core Principles Methodology, October 1999.

the assessment of compliance with the BCP, which also provides recommendations to address them.

42. **Supervision needs to be unified at the state level to ensure adequate independence, legal protection and resources, and to enable supervision to adapt to what is now a single national banking market dominated by foreign-owned banks.** The current situation with two relatively small supervisory agencies is not compatible with an effective supervisory regime that meets international standards. Of the possible options for unification, adequate independence and protection from political interference for supervisors can probably only be guaranteed in the present circumstances if supervision is unified within the CBBH. A draft banking law to implement this option was prepared some time ago but was not approved by both entity parliaments and will likely need to be revised.

Federation Banking Agency—Summary Assessment

Objectives, autonomy, powers, and resources (CP 1)

43. **Prudential regulations are generally sound in FBiH.** The FBA has to be commended for its continuous proactive approach to enhance the Federation's regulatory regime and its efforts to involve the RSBA in the process. However, a key weakness is the inadequate legal protection for supervisors, which compromises their independence and jeopardizes the effectiveness of banking supervision. Arrangements for information sharing with foreign supervisory authorities are lacking and need to be developed, including an MOU with the supervisor of the Austrian banks, which has major presence in FBiH.

Licensing and structure (CPs 2–5)

44. **An effective licensing authority is in place.** It is supplemented by fair and equitable criteria to ensure a consistent approach is applied to permissible activities, ownership and investment criteria.

Prudential regulations and requirements (CPs 6–15)

45. **Market, country, and transfer risks are not accounted for in capital analysis or requirements.** An adequate reporting system for country and transfer risk is lacking. Bank supervisors lack familiarity with market risk and should issue regulations covering the monitoring and management of such risks. Also, with respect to credit risk, the current definition of special mentioned loans should not include any loans that are past due more than 30 days. Information in the credit bureau and in the registry of movables is inaccurate and there are difficulties in arriving at an accurate value of collateral to loans.

46. **The FBA effectively carries out its obligations for AML/CFT.** However, the main responsibility for compliance with requirements of the Law "On Measures to Prevent Legalization of Criminal Proceeds" is assigned to the State Agency for Investigation and Security (SIPA), which has established a financial intelligence unit (FIU). The FIU, together with the FBA and the RSBA, perform supervision and activities that relate to

prevention, investigation, and detection of operations of money laundering and financing of terrorist activities. Thus, the assessment of CP 15 does not represent a comprehensive evaluation and implementation of anti-money laundering measures in BiH. Rather, this is provided by the assessment of AML/CFT by MoneyVal that was endorsed at their plenary in July 2005.

47. **Through a combination of full scope and targeted on-site examinations, off-site surveillance and regular formal and informal meeting with banks, senior management of the FBA have a thorough understanding of the activities of the banks they supervise.** The onsite examination process is comprehensive and covers a wide range of banking areas, including risk management systems, internal controls, management systems, compliance with prudential requirements, and asset quality and provisioning. The FBA conducts full scope on-site examinations of banks including targeted examinations There is also a comprehensive system of off-site monitoring of banks, involving the analysis of a wide range of information provided to the bank supervisors by banks on a monthly and quarterly basis with some information provided at more frequent intervals. A weakness in the supervisory area is the lack of support of electronic systems specialists who can assess the reliability and accuracy of financial institutions information. The FBA and the RSBA do not conduct consolidated supervision and should be authorized to impose prudential standards on a consolidated basis and be given direct unlimited access to subsidiaries of banks.

Information requirement (CP 21)

48. **The FBA should also clarify its guidance to banks on the accounting methods that they are required to use in the preparation of supervisory reports.** The LOB requires that a bank and its subsidiaries maintain accounts and records in accordance with International Accounting Standards and bank regulations. However, full implementation of IAS, especially those that relate to valuation of financial assets and instruments (MRS 32 and MRS 39) and audit standards is needed. The FBA should proceed with full implementation of IAS and the International Standards for Audit in all banking entities particularly where it pertains to the evaluation of assets quality.

Formal powers of supervisors (CP 22)

49. **Legal provisions allow the FBA to take regulatory action against non compliant banks and it has used these powers on several occasions.** However, the monetary fines that can be imposed at present on the managers and staff of banks are relatively low and may not work as a deterrent for improper professional behavior.

Cross-border banking (CPs 23–25)

50. **The absence of formal MOUs with supervisors of some of the foreign owned banks that are important to the financial system in BiH is an impediment to the achieving compliance with best international practices.** The FBA has confirmed its intention to pursue the necessary contacts in order to conclude a MOU but some of the

larger supervisory authorities appear somewhat reluctant to enter in MOUs with BiH. The presence of two bank supervisory authorities in BiH and their perceived lack of independence has discouraged foreign supervisors from signing an MOU with the FBA.

Table 5. Federation of Bosnia and Herzegovina: Recommended Action Plan to Improve Compliance with the Basel Core Principles

Reference Principle	Recommended Action
Independence (CP1.2)	-Strengthen corporate governance
Legal protection (CP 1.5)	-Provide comprehensive legal protection and coverage of legal defense costs
Information sharing (CP1.6)	-Conclude MOU with the Security Agency
Capital Adequacy (CP6)	-Account for market risk, country risk, and transfer risks in capital analysis and requirements. While very low at present, such risks could grow and should be incorporated in the capital requirements. -Consult Rating Agencies regarding ratings for Government and the Central Bank obligations.
Credit policies (CP7)	-IT specialists to assess the reliability and accuracy of the information supplied by the banks related to lending are required.
Loan Loss Provisioning (CP8)	-Revise definitions of loan categories and revise percentage of loan loss reserves. - Establish reserves for foreign currency indexed loans.
Large Exposure Limits (CP9)	-Analyze large exposures on a consolidated basis. -Improve the quality of the information required to evaluate collateral.
Connected Lending (CP10)	- Analyze connected lending on a consolidated basis.
Country Risk (CP11)	-Issue a decision specifically addressing country risk.
Market Risk (CP12)	-Introduce capital charges for foreign exchange and other market risks.
Other Risks (CP13)	-Issue specific standards for risk management that cover and better enforce interest rate, operational and systems risks. -Establish capital requirements for other risks. -Training should be increased and the guidelines for examination procedures for other risks should be incorporated in the Onsite Supervision Manual.
On site and offsite supervision (CP16)	-Supervisors should enhance their expertise in verifying the accuracy of financial statements and management information. -Supervisors require targeted training in the areas of market risks.

Reference Principle	Recommended Action
Off site Supervision based on bank reports (CP18)	-Supervisors should collect, review and analyze reports from banks on a solo and a consolidated basis.
Validation of Supervisory Information (CP19)	-IT specialists who can assess the reliability and accuracy of the information supplied by the banks in the loan area are required.
Consolidated Supervision (CP 20)	-Implement a supervisory framework for evaluating risks arising from the non-financial activities of a banking group.
Accounting Standards (CP21)	-Implementation of IAS is required and should become effective in 2007. -Formally define qualifications of external auditor, and grant FAB the power to revoke an auditor's license.
Remedial Measures (CP 22)	-Increase maximum amount of fines.
Supervision Over Foreign Banks' Establishments (CP 25)	-Establish formal relations with foreign supervisors, including through MOUs.

Authorities' response

51. The authorities indicated verbally that they were satisfied with the assessment and did not raise any particular issues with respect to the ratings. They were informed on several occasions about the opportunity to provide written comments but choose not to do so.

Republika Srpska Banking Agency—Summary Assessment

Objectives, autonomy, powers, and resources (CP 1)

52. **Prudential regulations are generally sound in the RS.** A key weakness is the inadequate legal protection for supervisors, which compromises their independence and may jeopardize the effectiveness of banking supervision. In the past, the effectiveness of supervision may have been undermined by a failure to confirm acting appointments for long periods of time. Independence may also be weakened by a lack of resource as revenues may fall short of what is needed to support an adequate level of supervision. A related weakness is the relatively low salary scale for RSBA staff, which prevents the Agency from recruiting and retaining the qualified staff. This should be addressed without further delay given existing vacancies and planned retirements, and the need to attract high quality staff capable of addressing the challenges arising from the expansion of banking activities.

Licensing and structure (CPs 2–5)

53. Comments made with respect to the FBA above also apply to the RSBA.

Prudential regulations and requirements (CPs 6–15)

54. Comments made with respect to the FBA above also apply to the RSBA.

Methods of ongoing supervision (CPs16–20)

55. Comments made with respect to the FBA above also apply to the RSBA.

Information requirement (CP 21)

56. Comments made with respect to the FBA above also apply to the RSBA.

Formal powers of supervisors (CP 22)

57. Comments made with respect to the FBA above also apply to the RSBA.

Cross-border banking (CPs 23–25)

58. Comments made with respect to the FBA above also apply to the RSBA.

Table 6. Republika Sprska: Recommended Action Plan to Improve Compliance of the Basel Core Principles

Reference Principle	Recommended Action
Independence (CP1.2)	-Guarantee adequate financial resources for the RSBA, review salary scales and staffing needs. -Ensure acting appointments to the RSBA are converted into regular appointments without excessive delay.
Legal framework (CP1.3)	-Amend secondary legal framework and ongoing supervisory practice.
Legal protection (CP1.5)	-Amend law in order to ensure legal protection to supervisors.
Information Sharing (CP.6)	-Conclude MOU with the Securities Agency.
Capital Adequacy (CP6)	- Account for market risk, country risk, and transfer risks in capital analysis and requirements. While low at present, such risks could grow and should be incorporated in the capital requirements. -Consult Rating Agencies in order to establish rating of obligation of the Government and of the Central Bank.
Credit policies (CP7)	-Hire IT specialists who can assess the reliability and accuracy of the information supplied by the banks in the loan area.
Loan Loss Provisioning (CP8)	-Revise definitions of loan categories and revise percentage of loan loss reserves. - Establish reserves for foreign currency indexed loans.
Large Exposure Limits (CP9)	-Analyze large exposures on a consolidated basis. Improve quality of the information requested from banks to adequately evaluate collateral.

Reference Principle	Recommended Action
Connected Lending (CP10)	-Analyze connected lending on a consolidated basis.
Country Risk (CP11)	-Issue a Decision to specifically address country risk.
Market Risk (CP12)	-Introduce capital charges for foreign exchange and market risks.
Other Risks (CP13)	-Issue specific standards for risk management and for better enforcement to include interest rate, operational and systems risks. -Establish capital requirement to cover other risks. -Increase training in this specialized area. -Issue guidelines for the examination procedures of other risks and incorporate instructions in the Onsite Supervision Manual.
On site and offsite supervision (CP16)	-Hire IT experts to participate with the onsite and off site supervisors in the verification of the financial information submitted by the banks. -Supervisors require targeted training in the areas of market risks. -Enhance their expertise in procedures to verify the accuracy of the financial statements and of management information systems.
Off site Supervision based on bank reports (CP18)	-Supervisors should collect, review and analyze reports from banks on a solo and a consolidated basis.
Validation of Supervisory Information (CP19)	-Ensure and verify implementation of all IAS and International Auditing Standards. -Establish limit on number of consecutive external audits carried out by the same firm and establish strict conditions for the reappointment of an External Auditor.
Consolidated Supervision (CP20)	-Implement consolidated supervision. -Provide for a supervisory framework evaluating risks of non-financial activities of a banking group.
Accounting Standards (CP21)	-Ensure Implementation of IAS by 2007. -Formally define qualifications of external auditor, and grant the Agency the power to revoke an auditor's license.
Remedial Measures (CP22)	-Increase maximum amount of regulatory fines.
Supervision over Foreign Bank establishments (CP25)	-Establish formal relations with foreign supervisors.

Authorities' response

59. The authorities indicated verbally that they were satisfied with the assessment and did not raise any particular issues with respect to the ratings. They were informed on several occasions about the opportunity to provide written comments but choose not to do so.

Annex II: Summary Assessment of the Observance of Standards and Codes: Assessment of the OECD Principles of Corporate Governance

60. **The ROSC assessment of BiH's corporate governance benchmarks laws and regulations, enforcement, and common business practices against the OECD Principles of Corporate Governance.** The report also makes recommendations for policy and institutional reforms. The focus is on publicly-traded companies, although many of the recommendations may also be applicable to closely-held and state-owned enterprises. Related recommendations are presented in the BiH Accounting and Auditing ROSC (2004).

Institutional background

61. **Both the Sarajevo Stock Exchange (SASE) in FBiH and the Banja Luka Stock Exchange (BLSE) in RS began operating in 2002.** Over the last two years each exchange has experienced significant increases in the number of traded companies, turnover, market capitalization, and the main market indexes. At end-2005, 1579 companies were available for trading on the two exchanges, including 24 privatization investment funds (PIFs). All PIFs and three additional companies in RS are listed on the "official market".[12] Only companies on the official market must meet listing requirements. On a typical day the shares of 45 to 55 companies are traded on the SASE and 35 to 45 on the BLSE.

62. **All traded companies are fully or partly privitazed state-owned enterprises (SOEs) or PIFs established to hold the shares of privatized companies.** State (entity and canton) capital remains substantial, with state shares as high as 90 percent in publicy traded companies in FbiH and 65 percent in RS.

63. **There are hundreds of thousands of shareholders in each entity.** Practically all companies have some small shareholders, including employees. Some large companies have thousands of shareholders, and PIFs can have tens of thousands. Significant and controlling shareholders include company management, entrepreneurs who bought a large stake of the company during privatization, the entity or canton, and PIFs in the RS. According to market participants, foreign investment is growing. There are no legal limits on foreign ownership in BiH.

64. **Each entity has a distinct Law on Enterprises (LE) and Law on Securities (LS).** The differences between the LE and LS are particularly significant, and can be source of confusion amongst market participants. Some elements of the legal framework are "harmonized" with similar provisions across the two entities. This includes the Laws on Public Enterprises (LPE)—which govern SOEs—the Laws on Banking, and the Laws on Insolvency. New Laws on Accounting and Auditing will place accounting and auditing

---

[12] This includes 774 companies (including 11 PIFs) on the SASE and 805 companies (including 13 PIFs) on the BLSE.

standards, testing, and oversight under the authority of a single state-level commission. A state-level electronic platform for the local court registers is also being introduced. As an aspirant for membership in the EU, harmonization and moving functions to the state level are likely to continue to achieve compliance with the *Acquis Communautaire.*

65. **Each entity has its own securities commission (SC) that is responsible for regulating capital markets and protecting investors.** Each entity uses a "triple registry" system for companies, with founding documents filed at a local court register, share ownership recorded in an entity-wide central registry of securities (CRS), and issuers tracked in an entity wide register of issuers maintained by the SCs.

Investor protection

66. **Each entity has established its own framework for investor protection, with important differences in law and regulations.** Both shareholders and issuers have a limited awareness of their rights and obligations. Shareholders have standard powers to place items on the agenda of the General Meeting of Shareholders (GMS), and through the GMS approve changes to the company's statutes, authorize dividends, approve increases to authorized capital and mergers, and appoint the company's auditor. Under the law, shareholders may also call exceptional meetings, inspect certain company documents, call for a special audit of the company, and approve remuneration for board members. Shareholders also have limited preemptive rights during capital increases. The exact procedures to exercise these rights differ between the two entities.

67. **Shareholders in each entity participate both directly in GMS and through proxies or in some cases by mail.** Some companies have shareholder associations that pool the votes of small shareholders. The great majority of shareholders have ordinary, single vote, shares. Pyramid structures and similar mechanisms designed to allow for disproportionate control are not widely used. However noncontrolling shareholders face certain barriers to full participation in the GMS. There are no rules on the timing of the meeting in RS and those in FBiH are unclear, which allows for significant variability and delay. Agendas are often adhered to rigidly, with little or no opportunity for general questions. The rules for cumulative voting in FBiH are not well understood and, while mandatory, not always followed.

68. **In each entity, related party transactions are supposed to be disclosed by the company in financial statements, but compliance is poor.** Neither entity requires shareholder approval or explicit board approval of such transactions. Each entity has different rules for major transactions, and shareholder approval of large transactions is only required in FBiH. Under the current regime, there is a real possibility of abusive transactions. However, market participants have reported a limited number of such transactions.

69. **If experience in other transition economies is any guide, many publicly traded companies will ultimately leave the two exchanges as controlling shareholders increase their positions.** To protect small shareholders, each entity has a mandatory bid rule where

shareholders with at least 30 percent (FBiH) or 25 percent (RS) of a company's shares must make an offer to the other shareholders. Each entity has different rules for conversion to a limited liability company, and there have been complaints that some conversions have not allowed small shareholders to exit.

70. **PIFs participate in shareholder meetings, influence the choice of board members, and in the process represent hundreds of thousands of shareholders.** Some concern has been expressed that PIFs are not active enough in pushing companies to restructure. PIFs in the RS are allowed to take controlling stakes in companies, FBiH PIFs are not. While closely regulated by the SCs, PIFs are not required and do not disclose or develop policies on voting or other corporate governance related issues, and legal provisions regarding conflicts of interest may be inadequate given their large role in capital markets.

Transparency and disclosure

71. **Each entity has a number of corporate reporting requirements. In practice companies do produce basic financial statements.** Omissions in annual reporting include company objectives, foreseeable risk factors, stakeholder issues, and governance structures and policies. Other forms of reporting tend to be minimal.

72. **Ownership of companies remains opaque.** Only direct ownership is reported, and compliance is far from perfect. While law refers to "indirect ownership", this is not defined and not used in practice. The recent decisions of the two CRSs to list the top ten owners of each company should significantly improve corporate transparency.

73. **Until recently, each entity had its accounting standards, based on outdated translations of IFRS.** Audit standards were based on old translations of International Audit Standards (IAS). Implementation was limited and auditor oversight poor. In practice, only companies with foreign owners or investment produced financial reports based on international standards of accounting and auditing. The new state-level independent standards commission (ISC) requires full IFRS and IAS compliance for all companies in BiH with revenue of one million KM or greater or 50 or more employees. This legislation has yet to be fully implemented at the time of this assessment. Implementation will be a challenge for companies and auditors not connected to the "big four" international network firms.

74. **Shareholders can access data from a variety of sources, but information is fragmented and can be incomplete.** Basic company documents can be inspected at the local court register, but cannot be accessed online or through other means. Full financial statements are available from specialized agencies. Shareholders can request information directly from the JSC at their own expense. Many required reports are published in daily newspapers. The websites of the exchanges and securities commissions also contain a growing amount of company data.

Company oversight and the board

75. **Companies in BiH have a number of different board structures.** Companies in FBiH have a single "supervisory" board of nonexecutives. Companies in RS have both a supervisory board and a management board, though RS companies with fewer then 100 shareholders can choose not to have boards. RS companies may also have an optional committee of executives distinct from the management board. SOEs which fall under the Law on Public Enterprises in each entity have a supervisory board and a management board, but the management board is chosen by the supervisory board, not directly elected by shareholders as in (other) RS companies. As in FBiH, banks in each entity have a single supervisory board. The net effect is multiple board structures in each entity, company organs with the same name that perform different functions, and limited understanding by market participants of legal requirements for and powers of boards. Few companies have specialized board committees made up of supervisory board members.

76. **The LE in FBiH requires supervisory board members to act in the interest of shareholders and the company.** In the RS, management board members are to act in the interest of the company. In practice, these duties have few practical implications. While board members in each entity can be found liable for negligence and in some other specified cases, suits against board members by the company or shareholders are rare.

77. **There is no definition of or requirements for "independent" board members in BiH.** Management may not serve on the supervisory board in FBiH or RS, and if an RS company has an executive committee, its members are limited to one third of the management board. SOE Board members may not be civil servants, members of government or parliament. In practice many companies also have board members that are considered "minority representatives". There is also no local training for board members that would enhance the skills or perspectives needed for independent judgment.

78. **The 2004 LPEs require an open process for choosing members of the SOE supervisory board and gives the audit board greater powers, including oversight of an independent internal auditor.** SOEs have been corporatized and separated from the public administration. State-owned utilities now have independent regulators. These and other recent reforms address concerns about inefficiency and political interference in SOEs. However governments and political parties still exercise significant direct influence through the ministers or others who vote state capital in the GMS, and SOEs continue to have non-commercial objectives that are often not explicit or consistent through time.

Enforcement

79. **Under the law shareholders in each entity can call an extraordinary GMS, request the company be audited, and challenge the decisions of the GMS.** Shareholders in FBiH can demand the company buy back their shares in certain cases; and shareholders in RS can bring suits against directors. However restrictive and divergent legal provisions, the limited specialization of the courts, and the costs of going to court to have limited the impact of these shareholder powers. Each SC actively polices brokers and the PIFs.

However, they cannot levy fines or bring cases directly against companies, which is the responsibility of local prosecutors. The SCs also have limited resources, and would have difficulty in providing more oversight for BiH's large number of companies.

80. **There are few other sources of redress.** The stock markets only have a basic surveillance function, and no other regulator except the SCs has authority over capital markets or a mandate to protect shareholders. Recently each entity has issued a new code of corporate governance but these have yet to be fully implemented.

Table 7. Recommendations of the Assessment of Compliance with OECD Principles of Corporate Governance

Recommendation	How to be Introduced	Priority/Status
Institution Building		
Strengthen the institutional capacity & competence of the Securities Commissions.	Securities Commissions prepare & adopt Institutional Development Plans	Immediate
Prepare recommendations to improve corporate governance of state-owned enterprises.	Diagnostic of state owned enterprise corporate governance based on OECD Guidelines	Immediate
Raise awareness of corporate governance.	Corporate governance seminars, discussions, and relevant training (ex. through IFC PEPSE)	Immediate
Give Securities Commissions the authority to levy sanctions and take direct action against issuers (with appeals to courts).	Revisions to Securities and related law.	Medium term
Prepare a phased-in program to move securities, and related supervision to state-level regulators.	Review of costs and benefits of program. Possible revisions to Securities and related law.	Long term
Legislative Framework		
Develop a strategy for the introduction of closed companies and other elements of a new Law on Enterprises.	Establish a state-level working group supported by local and international consultants.	Immediate
Introduce a new state-level or tightly harmonized Law on Enterprises based on EU requirements and guidelines.	Through broad based, state-wide consultation with relevant international support.	Medium term
Upgrade and harmonize Laws on Securities and Investment Funds.	Through broad based, state-wide consultation with relevant international support.	Medium term
Boards and Oversight		
Introduce a single BiH Code of Corporate Governance covering traded companies, PIFs, state-owned enterprises & banks.	Extensive consultations with private sector including SASE and BLSE, building on current standards.	Immediate
Increase training for management and supervisory board members. Establish a domestic governance institute.	Private initiatives, including those led by IFC PEPSE	Immediate
Encourage independent members of boards.	Part of Corporate Governance Code	Immediate
Introduce common board structure for all traded companies, including banks and state-owned enterprises.	New Law on Enterprises, revisions to Law on Public Enterprises, Law on Banks	Medium term
Introduce board member duties in light of practice in EU countries.	New Laws on Enterprises	Medium term
Transparency and Disclosure		
Fully implement the new regime for accounting and auditing.	Based on current efforts.	Immediate
Introduce a standard annual report format.	New regulation based on current efforts.	Immediate
Improve direct disclosure through central registries.	Initiative by securities registrars based on current efforts. Revisions to Securities and related laws.	Immediate
Require disclosure of significant indirect ownership in line with EU Transparency Directive.	Revisions to Securities and related laws.	Medium term
Improve access to company information, including online court register & web portals.	Based on current efforts. Develop integrated interface covering both SASE & BLSE.	Medium term
Introduce "one window" for company information.	State and entity-level legal changes and the commissions, central registries, and stock exchanges	Long term
Investor Protection		
Adopt common and improved procedures for major and related party transactions, shareholder redress & changes in share capital.	New Laws on Enterprises.	Medium term
Adopt common provisions for tenders, control transactions, and company conversion.	Revisions to Securities and related laws. Harmonized Law on Takeovers	Medium term
Facilitate shareholder participation in shareholders' meetings.	New Laws on Enterprises with additional guidance from the Code.	Medium term
Consider "mandatory tender offer" and "squeeze-out" rights.	Revisions to Securities and related laws.	Long term
Require investment funds to disclose and develop policies on ownership and conflicts of interest.	Revisions to Securities and related laws based on current efforts with additional training and support	Long term

Appendix: Macro-Prudential Analysis and Stress Testing Methodology and Results[13]

81. **Financial Soundness Indicators (FSIs) show the banking sector to be sound (Tables 4 and 8).** Reported capital adequacy ratios (CARs) are above the 12 percent minimum required by supervisors in all three key peer groups—foreign-owned bank subsidiaries, domestically owned private banks and state-owned banks. While the CAR for the foreign-owned bank peer group is significantly lower, this does not imply that these banks are less sound. Banks indicated that this reflects parent banks' strategy of maintaining relatively low capital ratios in their BiH subsidiaries to raise their reported ROE and that more capital would be provided as needed. The relatively poor asset quality of state-owned and domestic private banks does not pose a risk to financial stability as most of the former are under provisional administration while the latter make up only a small part of the system. NPLs for foreign-owned banks are low but could underestimate the build up in credit risk in the system.

82. **Foreign owned banks' capacity to draw support from strong foreign parents suggests that the banking system is highly resilient to a traditional solvency crisis and the focus should be on liquidity risk related to foreign funding of credit.** Parent banks operate their subsidiaries in the CEE region much like branches with capital and funding allocated at the group level. Thus, if a problem were to arise in a subsidiary they typically would provide additional capital or liquidity. Recent trends in indicators used to monitor liquidity risk, such as FX reserves and the contribution to them of bank foreign funding (see Figures 6 and 7), and euroization ratios (FX loans/loans and FX deposits/deposits (see Tables 3, 4, and 8), have been favorable. However, they can worsen sharply in response to shocks (noted above), and to assess liquidity risk stress tests of the impact of shocks on these indicators need to be used.

83. **The stress tests assess risks to financial stability from the build up in credit risk and the heavy reliance on potentially volatile capital inflows to finance rapid credit growth.** They involve several interrelated shocks: a deterioration in asset quality; an associated slowdown in credit growth that reduces capital inflows; and a potential loss in confidence in the local currency involving a shift from KM into euros. These are combined into two basic scenarios. The first scenario starts with a sharp deterioration in asset quality in BiH (the first shock) that triggers a reassessment of lending policies leading to a halt in credit growth and fall in FX reserves (the second shock), which may be amplified by reduced confidence in the currency reflected in a shift from the local currency into euros (the third shock). In the second "regional contagion" scenario, losses elsewhere in the region trigger this reassessment, which also results in a slowdown in credit growth in BiH

[13] Illustrative stress tests involving hypothetical shocks can be used to explore potential vulnerabilities but do not constitute a prediction. Experiences in the region are too limited to provide much guidance on the size of shocks for a country like BiH so sensitivity analysis involving different sized shocks was used for each stress test.

(the second shock) and second round effects involving a loss of confidence in the local currency (the third shock).

84. **The banking sector appears resilient to a deterioration in loan quality.** The shock represents a recognition of the extent of the build up of credit risk that precipitates a reclassification of a share of performing and watch category loans into the NPL categories (substandard, doubtful, and loss). Shocks corresponding to a 5, 10, and 15 percent reclassification reduces the average CAR for each of the three peer groups, but only for the large foreign owned banks does this ratio fall below the regulatory minimum (Figure 10). However, this result is largely a consequence of the fact that they tend to maintain CARs just above the regulatory threshold to maximize their ROE. Since they can obtain additional capital and liquidity from their parent bank as needed, they are unlikely to experience distress but may respond by reducing credit.

85. **The second shock involving a slowdown in credit growth and the capital inflows financing this credit growth, shows that the financial and monetary system would be able to absorb the associated loss in foreign exchange reserves.** The shock takes the form of a slowdown in credit growth to 10, 0, and -10 percent, respectively (Figure 12). The shocks result in declines in FX reserves that are modest relative to the overall stock and only partially reverse the recent build up in FX reserves from bank-intermediated capital inflows (see Figures 6 and 7). However, they probably are large enough to induce a modest monetary contraction through the operation of the CBA, since FX reserves only exceed the monetary liabilities they back by around 5 percent (see Table 1). A variation of the stress test assumes that share of credit growth funding from abroad falls to 50 percent (versus 100 percent) to explore the impact of policy measures that shift funding towards local deposits (lower panel, Figure 12, zero credit growth shock only), which reduces the loss in FX reserves by half.

86. **The third shock is a shift from KM cash into euro cash and a shift from KM bank deposits into euro bank deposits, which could be triggered by a large enough fall in FX reserves in the above second shock.** The shift into euro cash reduces FX reserves directly. The shift into euro deposits reduces FX reserves because the prudential currency matching requirement forces banks to exchange their KM excess reserves at the CBBH for FX reserves and place them abroad in correspondent banks (the only short term euro asset available). By itself, the shock has a moderate impact on FX reserves that could probably be absorbed; as shown in Figure 13 for a 5, 10, and 15 percentage point shift of KM currency and deposits into euros, respectively.

Table 8. Financial Soundness Indicators: Historical Annual Data 2001–04

(In percent)

	2001				2002				2003				2004			
	State-owned banks	Dom. Banks	Foreign-owned banks	Total BiH	State-owned banks	Dom. Banks	Foreign-owned banks	Total BiH	State-owned banks	Dom. Banks	Foreign-owned banks	Total BiH	State-owned banks	Dom. Banks	Foreign-owned banks	Total BiH
Number of banks	12	15	21	48	6	12	22	40	7	10	19	36	6	10	17	33
Capital																
Tier 1 capital to RWA	27.2	29.3	18.7	22.4	27.7	24.8	15.9	18.2	36.9	21.4	13.4	15.9	57.8	18.0	12.2	14.9
Net capital to RWA 1/	27.9	32.1	22.1	25.1	27.2	27.0	18.5	20.5	37.9	24.2	18.3	20.3	59.1	18.7	16.7	18.7
Quality of assets																
NPAs to total assets 2/	24.1	13.5	4.4	9.2	14.9	7.6	6.0	6.9	12.8	8.2	4.1	5.2	8.8	5.7	3.2	3.8
(NPAs-provisions) to Tier 1	74.6	36.8	20.6	37.6	34.7	22.3	28.1	27.5	24.3	28.8	24.3	25.2	9.6	26.6	20.0	19.5
NPLs to total loans 3/	36.8	23.2	9.9	17.9	21.2	12.5	9.7	11.0	19.8	13.5	6.7	8.4	13.4	10.3	5.0	6.1
Profitability																
ROA 4/ and 5/	0.2	0.1	-1.8	-1.1	-1.1	-0.4	-0.2	-0.3	0.6	-0.5	0.6	0.4	0.8	0.7	0.7	0.7
ROE4) 5/ 6/	0.6	0.4	-11.5	-4.8	-4.7	-2.1	-1.4	-2.0	2.2	-2.6	5.6	3.4	1.7	4.9	7.2	5.8
Net interest income to gross income	42.7	35.8	40.5	39.9	39.2	33.9	41.4	39.62	32.1	40.2	47.9	45.2	33.5	41.8	53.0	49.7
Non-interest expenses to gross income	97.6	98.5	114.5	106.4	106.7	102.4	101.3	101.9	92.2	103.4	93.3	95.2	89.0	92.9	91.1	91.3
Liquidity																
Liquid assets to total assets 7/	25.8	39.5	50.7	44.6	18.1	33.5	35.2	33.8	25.7	34.0	35.9	35.1	29.6	37.0	35.8	35.7
Liquid assets to short-term financial liabilities 7/	47.0	58.6	70.1	65.1	45.3	50.8	52.0	51.5	67.9	52.0	59.7	58.7	83.8	52.1	60.5	59.5
Short-term financial liabilities to total liabilities	74.3	86.8	84.3	83.2	53.6	82.8	78.2	77.6	53.6	80.0	67.9	69.0	63.2	82.9	66.3	68.7
Forex risk																
Forex and indexed loans to total loans 8/	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	23.0	34.6	73.3	64.9	36.4	28.0	73.1	65.4
Forex liabilities to total liabilities	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	64.7	38.5	65.4	61.5	62.0	38.9	68.6	64.0
Net open position	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-56.7	49.9	58.7	42.2	12.5	5.8	12.9	11.6

Sources: Central Bank of Bosnia and Herzegovina; Banking Agency of the Federation; and Banking Agency of the Republika Srpska.

1/ Net capital equals regulatory capital and represents the sum of Tier 1 and Tier 2 net of supervisory deductions.
2/ Total assets are net amounts.
3/ Total loans are gross amounts.
4/ The numerator is net income after extraordinary items and taxes.
5/ The coefficient is calculated by using average assets to equity for the period in question.
6/ Equity consists of permanent priority shares, ordinary shares, premium on permanent priority and ordinary shares, undistributed profit and capital reserves.
7/ Liquid assets represent the core measure of liquid assets and consist of currency and deposits and other financial assets with maturity up to three months, excluding deposit- takers' deposits with other deposit- takers.
8/ Foreign currency and indexed loans are reported in net amounts.

87. **While the system appears resilient to each shock individually, their combined impact in the two scenarios on FX reserves is substantial enough to justify careful surveillance of these sources of risk.** The medium-sized shocks (asset quality worsens by 10 percent, credit growth slows to zero and a 10 percentage point shift of KM currency and deposits into euros) have a cumulative impact that reduces FX reserves by 29 percent, or 7.6 percentage points of GDP (Table 9). While this impact is substantial (and the same) under both scenarios, it is important to recognize that it could be softened by offsetting effects. Specifically, as credit growth slows imports should fall (although with a lag), which would reduce the current account deficit and, therefore, the loss in FX reserves associated with the shocks. It is of course impossible to estimate the probability or size of these shocks with any degree of precision, which is why close surveillance of these risks is essential.

Figure 11. Stress Test 1: Shift of Performing and Watch Loans into NPL Categories

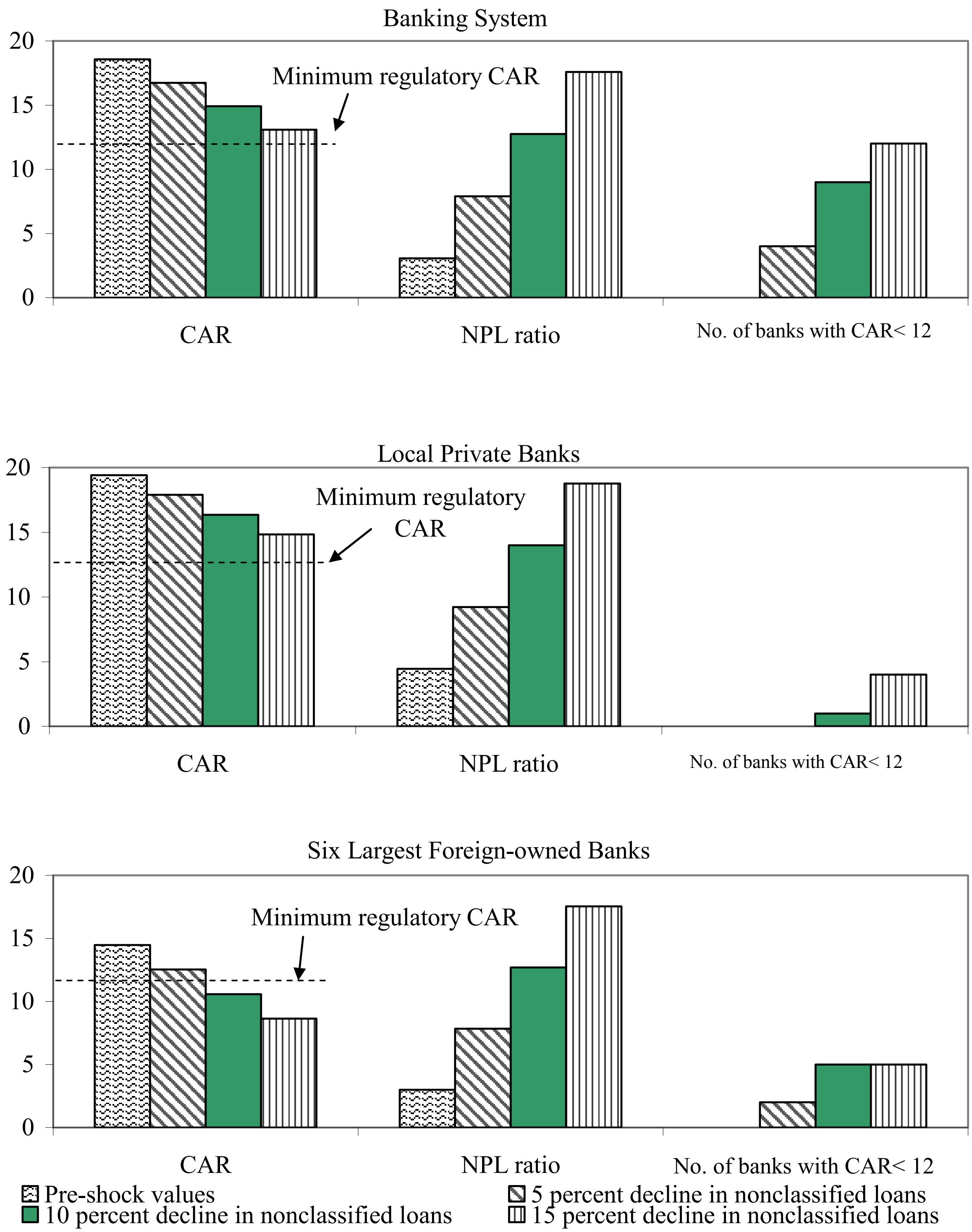
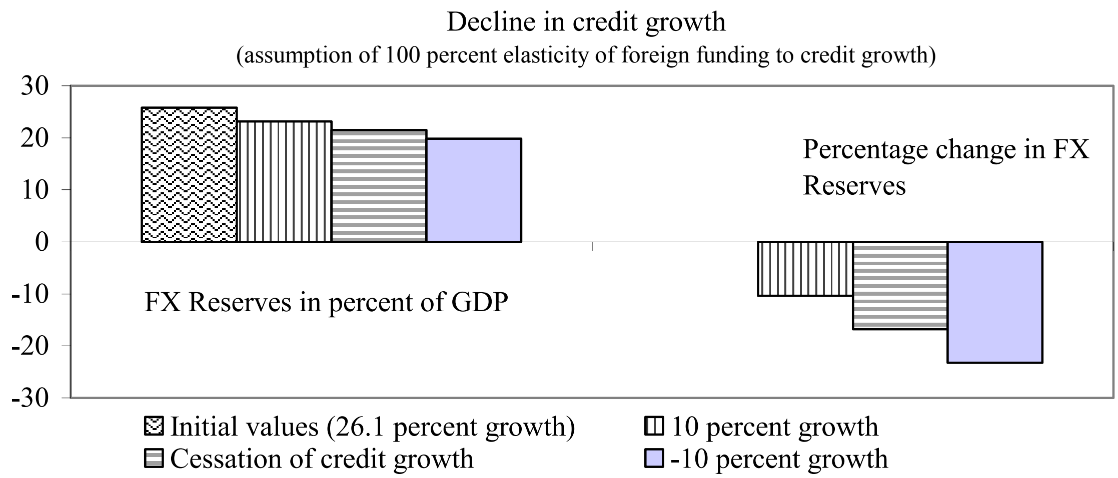
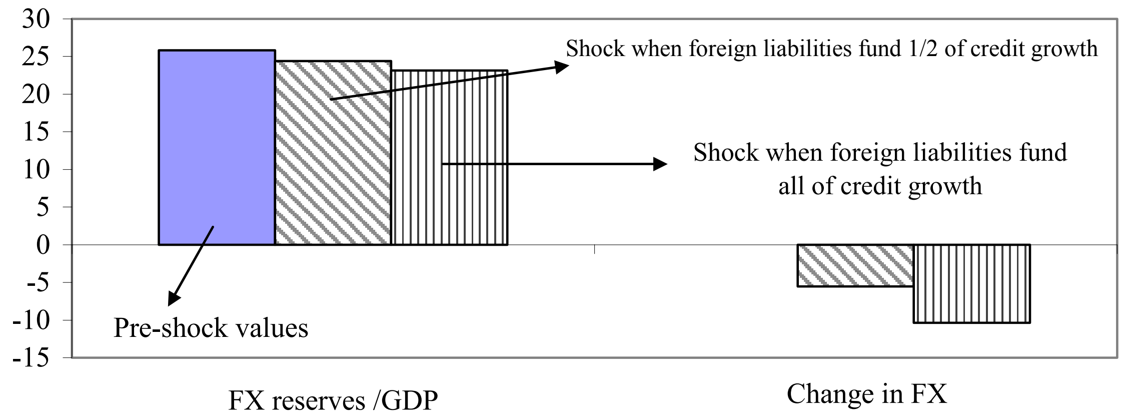


Figure 12. Stress Test 2: Slow Down of Credit Growth Under Different Assumptions Regarding the Share of Foreign Funding of Credit Growth 1/

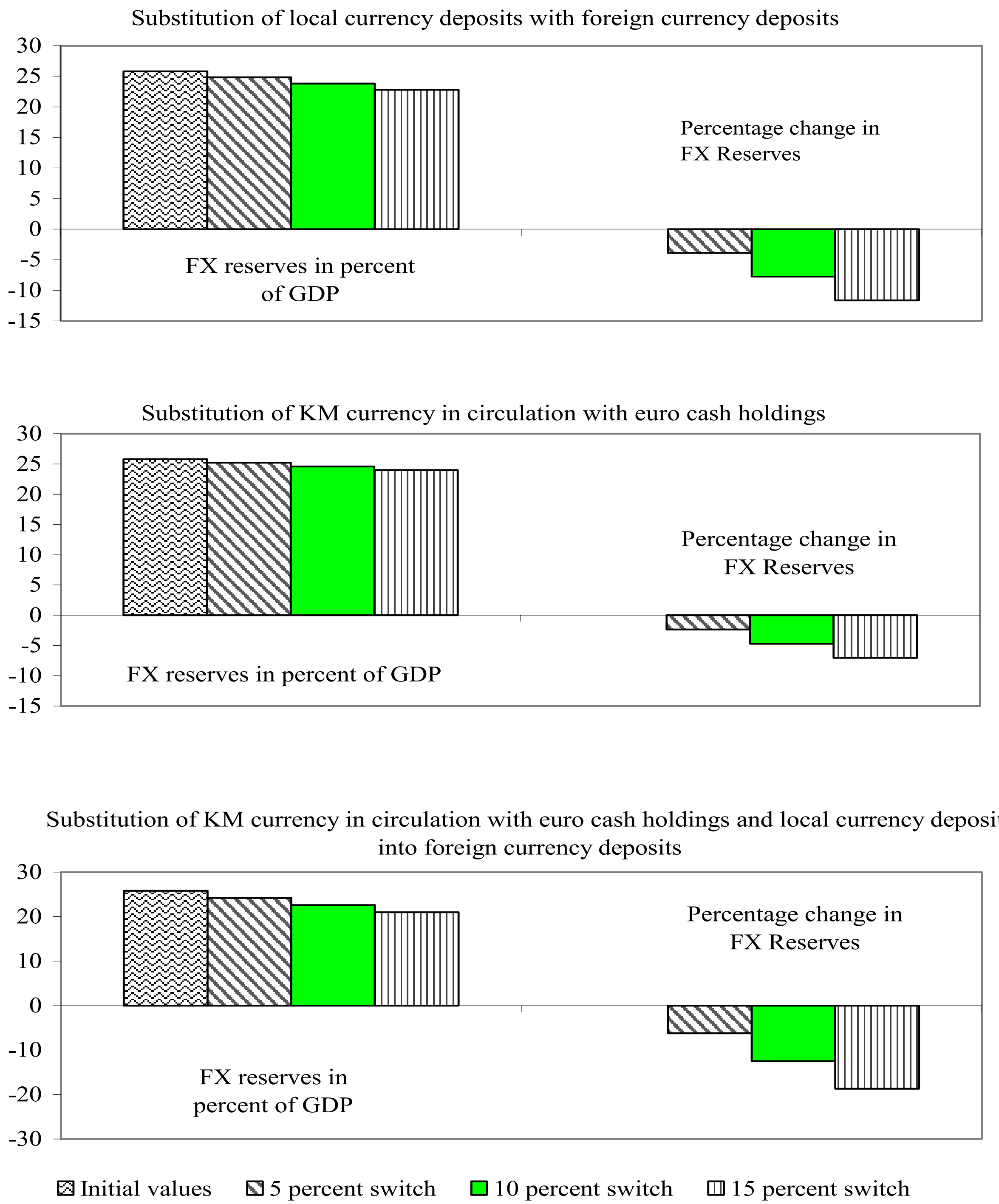




Sources: Banking Agency of the Federation and the Republika Srpska; Central Bank of Bosnia and Herzegovina; International Financial Statistics (IMF); and staff estimates.

1/ Shown for a slowdown in credit growth to zero percent (panel 2).

Figure 13. Stress Test 3: Shift of Deposits and Cash From Local Currency to Euros



Sources: Banking Agency of the Federation; Banking Agency of the Republika Srpska; Central Bank of Bosnia and Herzegovina; International Financial Statistics (IMF); and staff estimates.

Table 9. Stress Test Scenarios of a Slowdown in Credit Growth and Reduced Confidence

Stress Test Shocks	FX Reserves (In months of imports)	FX Reserves/GDP (In percent)	Change in FX Reserves (In percent)	Change in Capital Inflows (In mill. of KM)
Pre shock	4.57	25.8	---	---
1. Slowdown in credit growth	3.8	21.5	-16.8	-603.5
2. Deposit shift from KM to euros	4.2	23.8	-7.8	-279.2
3. Exchange of KM for euro cash	4.4	24.6	-4.7	-169.1
Combinations of 1, 2, and 3	3.2	18.3	-29.3	-1,051.7

Notes: The scenarios are an ex-post assesment of the impact of lower credit growth on reserves. The growth rates compare hypothetical credit growth at end-June 2005 with the actual credit growth.
Stress test 1: Assumes a slowdown in credit growth to zero.
Sress test 2: Assumes a 10 percent switch in deposits from local currency to euro deposits.
Stress test 3: Assumes a 10 percent switch from KM cas to euro cash.
Pre shock growth rates: M0=9.1 percent, m2=18.5 percent, and GDP growth=6.5 percent.