FINANCIAL SOUNDNESS INDICATORS FOR FINANCIAL SECTOR STABILITY IN GEORGIA

ASIAN DEVELOPMENT BANK

ADB

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Note: In this publication, "$" refers to US dollars.

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Boxes

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Abbreviations

ADB	–	Asian Development Bank
AFC	–	Asia's financial crisis
DMC	–	developing member country
EBRD	–	Europe Bank of Reconstruction and Development
ERCD	–	Economic Research and Regional Cooperation Department
FSI	–	financial soundness indicators
FX	–	foreign exchange
GDP	–	gross domestic product
GeoStat	–	National Statistics Office of Georgia
IMF	–	International Monetary Fund
LLP	–	loan loss provision
MFI	–	microfinance institutions
NBG	–	National Bank of Georgia
TBC	–	Tbilisi Business Centre
WDI	–	World Development Indicators

Foreword

Since the outbreaks of the Asian financial crisis in the late 1990s and the global financial turmoil in 2007, assessing the strengths and weaknesses of a financial sector based on a set of financial indicators has become increasingly important. The assessment is needed mainly to identify any potential problems that may lead to vulnerability in the financial sector and cause a financial crisis. It is expected that by doing so a set of strategic policies and regulations, as well as actions, can be implemented to prevent the crisis.

Shortly after the Asian financial crisis in 1997, the Asian Development Bank (ADB) helped central banks of selected developing member countries to identify, compile, and analyze about 30 monetary and financial statistics and macroprudential indicators to identify potential problems in the financial sector to prevent another crisis. This was followed by an initiative on an early warning system, with a prototype developed to detect region-wide economic and financial vulnerabilities among members of the Association of Southeast Asian Nations, the People's Republic of China, Japan, and the Republic of Korea.

The development and analysis of a set of financial indicators should help policy makers identify the strengths and vulnerabilities of a financial system so that they can take preventive actions to avert a crisis. The International Monetary Fund (IMF) has initiated several initiatives in this area. In 1999, it initiated the collection and assessment of financial stability indicators by the joint IMF-World Bank Financial Sector Assessment Program, which was mainly to monitor financial system fragility. Following broad consultations in 2000, the IMF, in collaboration with the International Accounting Standards Board, the Bank for International Settlements, the Basel Committee for Banking Supervision, and other international and regional organizations, published a compilation guide on financial soundness indicators (FSIs), which were based on aggregate bank balance sheet and income statement information, and aggregate indicators of financial statements of nonfinancial firms and nonbank financial markets.

FSIs consist of two sets of indicators: core and encouraged indicators. The 12 core indicators measure potential vulnerabilities of deposit-taking institutions, covering capital adequacy, asset quality, earnings and profitability, liquidity, and sensitivity to market risks. Encouraged indicators are collected on a country-by-country basis to assess the soundness of other financial sectors such as other players (other financial corporations), borrowers (households and nonfinancial corporations), and related markets (securities and real estate). Currently, about 96 countries regularly report their FSIs to IMF, which maintains the database.

This report is the outcome of the regional technical assistance on Strengthening Institutional Capacity to Compile and Analyze Financial Soundness Indicators for Investment Climate Assessment (RETA 7743), which is supported by the Investment Climate Facilitation Fund under the Regional Cooperation and Integration Financing Facility. This report describes the development of FSIs for Viet Nam and analyzes FSIs to identify the key challenges faced by the financial sector that must be addressed to support the financial sector stability in the country.

This report provides an overview of the health of the Georgian financial sector and the key challenges it faces. Over the medium term, to increase domestic savings, reduce borrowing cost, and improve the credit risk, the report recommends facilitating property registration, improving the credit information-sharing mechanism, ensuring security of bank deposits, and legislating improvements in reporting standards for firms. In the longer term, the government needs to pay particular attention to diversifying its industrial base, setting clear development goals to encourage banks to finance innovation, and create a solid legal base for developing capital markets as an alternative source of firms' financing. Some financial sector problems, such as low domestic savings, may not be fixed easily, as they would require reducing the inequality in income and wealth. The government's economic strategies aimed at job creation and inclusive growth are part of the long-term solution.

To assess the investment climate in Georgia, a survey was conducted among large private firms and commercial banks. The firm survey focused on investment climate constraints, financing, business-government relationship, capacity innovation and learning, and labor relations. The bank survey inquired about constraints to investments faced by bank clients and obstacles to issuing loans. Among others, the main results show moderate-to-severe constraints in terms of the quality of labor (ability to find skilled workers), cost of financing, access to financing, economic and regulatory policies, macroeconomic instability, tax rates, and labor costs. On the bank survey, the limiting factors to doing bank business are the uncertainty about regulatory environment, property rights, and access to finance. At the same time, bank reveals that inadequate human capital and instability of income are other types of constraints, which are more limiting than collateral to finance the loan.

The results of this study can be used to strengthen the institutional and statistical capacities of Georgia to routinely collect, compile, analyze, and disseminate internationally comparable FSIs that will help improve the country's financial surveillance, investment climate assessment, and policy-making process in the financial sector that is key for financial sector stability and performance.

The insights contained in this report are the results of the collaborative efforts of many. In particular, we would like to express our appreciation to the government and nongovernment institutions for their contributions and participations in various workshops and seminars conducted under the project. Particular mention should be given to Grigolia Maya, Yaroslava Babych, Nino Sharumahsvili of International School of Economics in Tbilisi—Policy Institute in Georgia, Nana Aslamazishvili of the National Bank of Georgia, and Gogita Todradze of National Statistics of Georgia for their valuable contributions in preparing the reports.

Guntur Sugiyarto, as the project leader, edited the report with the help from Josef T. Yap and John West. Douglas Brooks, as the direct manager in preparing the report, provided insightful comments and suggestions throughout the various versions of the drafts. Eric Suan helped organize the day-to-day project implementation, as well as prepare this publication, while Modesta De Castro provided administrative assistance. To ensure the accuracy and consistency of the report, Karen Williams acted as the copy editor/proofreader. ADB's Department of External Relations (DER) helped in publishing the report, while Joe Mark Ganaban did the design, layout, and typesetting of the publication.

Rana Hasan
Director
Development Economics and Indicators Division
Economic Research and Regional Cooperation Department

Executive Summary

This report describes the development of financial soundness indicators (FSIs) for Georgia and the analysis based on them to show how FSIs can be useful for identifying the key challenges to support financial sector stability in the country.

The Georgian economy expanded significantly over the last decade, despite a 4.0% contraction in 2009 due to a combination of the global financial crisis and the armed conflict with the Russian Federation in 2008. After the 2003 Rose Revolution, the new government implemented radical reforms in the business regulatory regime and macroeconomic management, substantially improving economic performance. Despite good economic growth, the unemployment rate remained high (15.0%) in 2012. Urban unemployment was even higher, at 26.0%, and the rate is the highest (32.0%) among young people 20–24 years of age. With a trade deficit in recent years, external debt has increased even though still remains modest at 27.0% of GDP. The government's fiscal stance since 2010 can be described as prudent. The country has also managed to overcome the high inflation rates of the mid-1990s.

Georgia's financial sector is dominated by commercial banks, with 82.0% of the nation's financial assets concentrated in the five largest banks. The banking sector generally exhibits adequate capitalization levels, but the national standards for capital adequacy are more conservative than the Basel-I standard. During the global financial crisis, Georgian banks maintained good resilience. By international standards, Georgian banks exhibit comfortable levels of liquid assets to total assets, and the share of nonperforming loans shows the asset quality of Georgian banks is relatively better than many of its peer countries. Georgia's economy, however, has a number of inter-related financial market problems, such as the high cost of finance, prevalence of short-term financing, high dollarization of deposits and currency-induced credit risk, low levels of financial depth, and undeveloped capital markets. The high cost of finance is mainly attributed to the low levels of domestic savings, the high cost of foreign financing, and the high perceived risk of doing business.

The analysis on investment climate condition highlights the lack of business experience, qualified management and personnel, and bank clients' financial literacy as the main obstacles to securing bank credit for the SMEs. Uncertainty about property rights and legal status of borrowers' collateral assets also adds to the perception of risk that raises borrowing costs according to bankers. The Georgian banking system appears to be vulnerable to sudden movements in real estate market prices due to a high proportion of loans secured on commercial real estate, and to exchange rate fluctuations given the high amount of foreign currency borrowings.

The report recommends, over the medium run, facilitating property registration, improving credit information sharing mechanism, ensuring security of bank deposits and legislating improvements in reporting standards for firms as means to increase domestic savings, reduce

borrowing cost and improve the credit risk. Over the long run, the government needs to pay particular attention to diversifying the industrial base of the country, setting clear development goals to encourage banks to finance innovation, and creating a solid legal base for developing capital markets as an alternative source of firms' financing. Some financial sector problems, such as low domestic savings may not be fixed easily, as they would require reducing the inequality in income and wealth. The government's economic strategies aimed at job creation and inclusive growth could become part of a long-term solution.

1. Introduction

Financial systems of developing and emerging markets of Europe and Central Asia have been among those hard hit by the financial crisis of 2008. The ripple effect of the banking crises in Western Europe and the United States nearly devastated the highly leveraged and cash-strapped banking systems in Iceland, Ukraine, the Baltic states, Slovakia, and Hungary, to name a few.

The Georgian banking system may have been "fortunate" in the sense that the turbulence in the financial markets did not result in similar scale bank bailouts and bank runs that occurred in neighboring Ukraine. At least in part this may have been due to conservative capital buffers held by Georgian banks. Another factor was strong shareholders support. Yet, the global financial crisis had severe economic consequences even in Georgia. In 2009, growth of the country's gross domestic product (GDP) dropped to –4.0%, from an average of 9.3% since 2003. The recovery of 2010–2012 raised the growth rate to an average of 7.0%. The levels of foreign direct investment also declined to 6.9% of GDP in 2010, from the earlier peak of 17.2% in 2007. Domestic lending to the private sector has flattened out and remained well below the regional average. To compare, in 2012 Georgia's lending to the private sector was 34.5% of GDP while in the developing economies of Europe and Central Asia, the share of private lending in GDP was 49.9%.

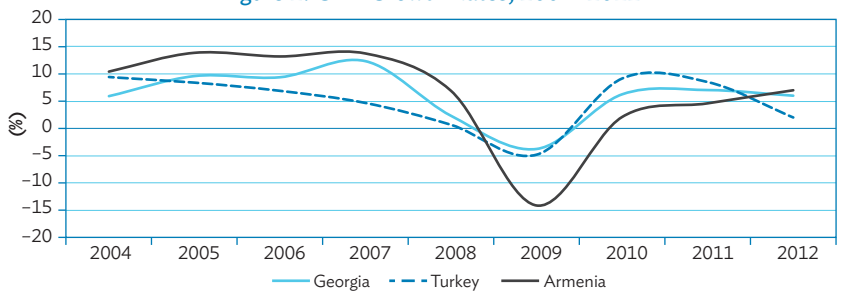
Since the 2008 crisis, the international regulatory and advisory authorities called for the improvement of financial regulations and supervision worldwide, and proposed reforms to rectify problems in the areas where systemic weaknesses were exposed. These reforms are reducing banks' liquidity risk, increasing capital adequacy and capital structure transparency, and placing safeguards against the buildup of leverage. Yet, any financial system's transparency remains in jeopardy until its immediate stakeholders, such as governments, private enterprises, and individuals, have the capacity to follow and monitor the developments in the financial sector.

This report aims to provide a broad and comprehensive overview of the Georgian financial sector's health, mainly using the financial soundness indicators (FSIs) complied by Georgia under the guidelines of the International Monetary Fund (IMF) (Appendix 3). In addition, we discuss the constraints facing the financial sector in Georgia, focusing on available growth opportunities and the structural changes needed to overcome financial bottlenecks.

2. Macroeconomic Environment

The Georgian economy expanded significantly over the last decade. After the 2003 Rose Revolution, the new government was able to implement radical reforms in the business regulatory regime as well as in macroeconomic management, substantially improving economic performance. Starting in 2003 and continuing until the financial crises of 2008, the average annual growth rate was 9.3%. In 2009, the economy contracted by 4.0%. This decline was driven in part by the global crisis and also by the armed conflict with the Russian Federation in 2008. Figure 1 shows the benchmarking of Georgian growth. Despite the double negative shock in 2008, Georgia's growth performance was comparable to that of other countries in the region (e.g., Armenia and Turkey).

Figure 1: GDP Growth Rates, 2004–2012



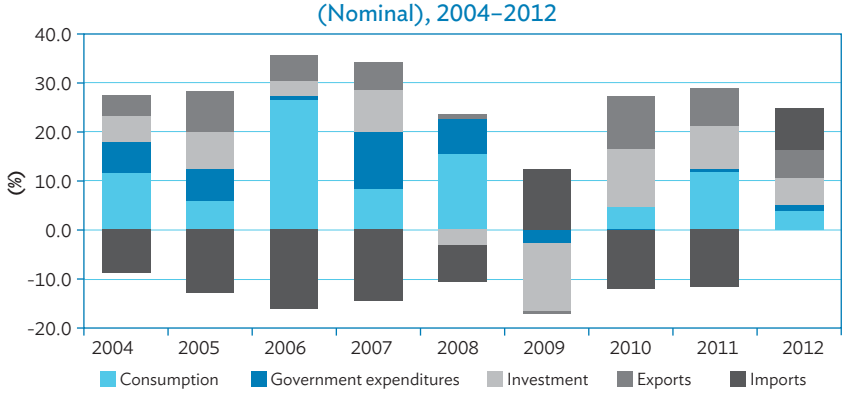
Source: World Development Indicators and International Financial Statistics.

The country's economy started to recover in 2010 but slowed again in the fourth quarter of 2012. This was primarily due to changes in the government as the opposition coalition "Georgian Dream" came to power, and the wave of reforms created a long period of political uncertainty. According to the latest National Statistics Office of Georgia (GeoStat) estimate, the annual growth rate in 2013 was 3.1%. This deceleration was mainly driven by a slowdown in private investment, weak credit growth, and budget underspending.

Financial intermediation experienced a significant decline during 2008–2009 but contributed positively to the economic recovery that began in 2010. The largest contributors to post-crisis growth were trade, manufacturing, transport and communication, financial intermediation, and construction sectors.

On the demand side, investment (both public and private), private consumption, and exports slowed significantly in 2009, but recovered subsequently in 2010 (Figure 2).

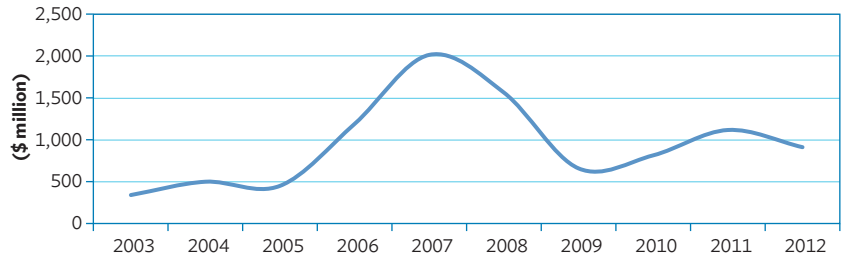
Figure 2: Contribution of GDP Components to Growth (Nominal), 2004–2012



Source: National Statistics Office of Georgia (GeoStat).

Since 2003, Georgia relied on foreign direct investment as the main source of foreign capital. Foreign direct investment constituted about 12.0% of GDP in 2007; this contribution declined during and after 2008 (Figure 3). In 2011, the same indicator was 4.6% and it decreased to 3.3% of GDP in 2012. The latest decline was associated mainly with the political uncertainty following the 2012 transfer of power.

Figure 3: Foreign Direct Investment, 2003–2012



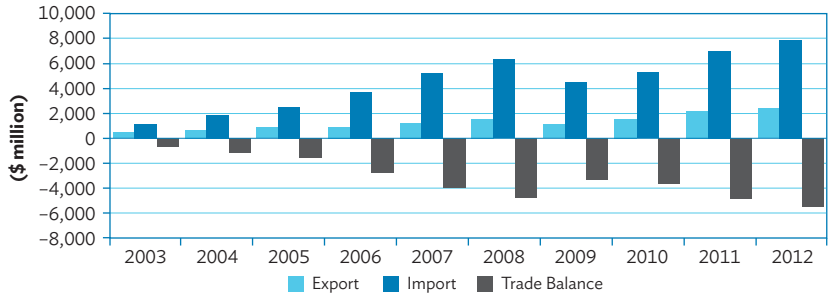
Source: National Statistics Office of Georgia (GeoStat).

Despite the growth gains of 2004–2007, the unemployment rate in Georgia remained very high. The official unemployment rate in 2012 was 15.0%. The urban unemployment stood even higher at 26.0% compared to the rural unemployment of 7.0%. The low rates of unemployment among the rural population could be explained by self-employment in the agricultural sector and subsistence farming. Therefore, the self-employment statistics may hide the real extent of unemployment in rural areas. Underemployment which was 32.2% in 2012, is highest among young people in the 20–24 age range.

As for the external sector, the Georgian economy remains highly dependent on imports (Figure 4). Although the total trade turnover increased, the trade deficit kept growing, maintaining the country's status as a net borrower from the rest of the world.

Since the Rose Revolution, the Georgian government managed to attract significant amounts of external financing and as a result, the country's external debt has increased. External debt currently stands at about 79.0% of the total government debt of Georgia. This figure, however, is still not too high compared to other countries in Europe (United Kingdom at 90.0%, Germany at 83.0%, Hungary at 74.0%, and Poland at 5.0%). Starting in 2003, the debt share of GDP (debt burden) at 44.9% was

Figure 4: Export, Import, Trade Balance, 2003–2012



Source: National Statistics Office of Georgia (GeoStat).

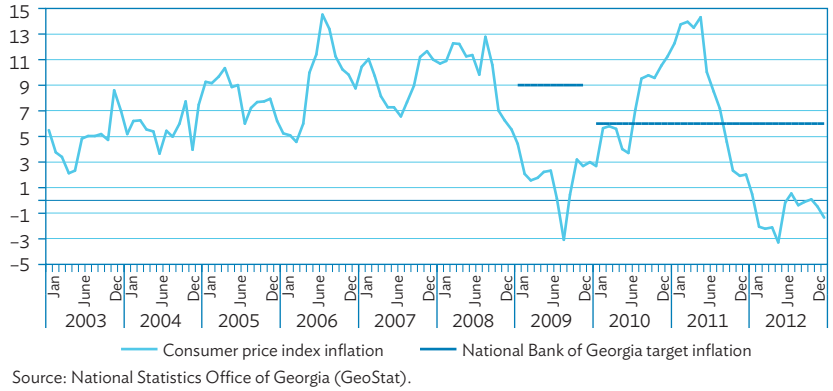
decreasing, reaching 16.8% in 2007. However, after the 2008 crises, both the absolute values of external debt and debt burden increased. In 2013, external debt as a share of GDP was already 27.0%.

Despite evidence of increased debt burden, the Georgian government's fiscal stance since 2010 can be described as prudent. After the budget deficit reached 9.3% of GDP in 2009, the government embarked on a policy of fiscal consolidation, managing to reduce the deficit to 3.3% of GDP in 2011. Currently, the overall projected government debt as a share of GDP in Georgia is 33.7% (in comparison for instance with Poland's 57.6% or Hungary's 79.8% of GDP). The average weighted interest rate on the public debt portfolio is 1.9%, and most of the debt is long-term in nature.

Georgia managed to overcome high inflation rates of the early and mid-1990s, and has stabilized price level growth. In June of 2013, the inflation rate was 0.2%, as reported by the National Bank of Georgia (NBG). The average inflation rate in 1996–2013 was 5.5%, ranging from 59.3% in 1996 to –3.3% in May 2012.

In 2009, NBG adopted an inflation-targeting monetary policy regime. Currently, the inflation target is set at 6.0% for the medium term (2011–2014) and 3.0% in the long run (Figure 5).

Figure 5: Consumer Price Index Inflation, 2003–2012



Source: National Statistics Office of Georgia (GeoStat).

Overall, Georgia's growth performance in the last decade has been quite impressive, and the macroeconomic environment remained stable despite the global economic crisis. Nevertheless, jobless growth remained a persistent problem. High unemployment rates coupled with generally high-skilled labor premiums reported by the firms highlight the need for new skills and new training programs to jumpstart growth in high-productivity sectors.

3. Georgian Financial Sector Structure and Trends

3.1 Overview of the Financial Sector Structure

The Georgian financial sector is mostly comprised of deposit-taking banking institutions. Insurance and microfinance institutions comprise a small proportion of the total financial sector, and indirect financing through a stock exchange is not prevalent among the Georgian companies. To assess the country's financial soundness, the current report will mostly focus on banking sector financial analysis.

The law on the National Bank of Georgia (NBG) defines the following financial sector representatives that are subject to either supervision or to simple registration procedures at NBG: a commercial bank, nonbank depository institution, insurance undertaking, reinsurance undertaking, brokerage company, independent registrar of securities, asset managing company, central depository, specialized depository, stock exchange, microfinance organization, founder of nonstate pension scheme, insurance brokerage company, accountable company, qualified credit institution, money transfer agent, and currency exchange points.

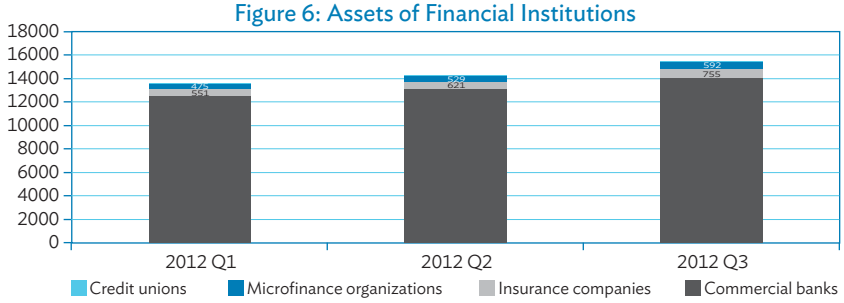
Table 1 show the sector structure in February 2013. Although a significant number of financial institutions other than commercial banks are active in the market, the banks comprise the biggest asset share of the sector around 95.0% (Figure 6).

Table 1: Number of Financial Institutions, January 2013

Institution	Number
Commercial banks	20
Nonbank depository institutions	18
Microfinance organizations	61
Exchange bureaus	1,020
Stock exchanges	1
Insurance companies	15
Pension funds	6

Source: National Statistics Office of Georgia.

Figure 6: Assets of Financial Institutions



Source: National Bank of Georgia.

Commercial banks in Georgia mostly engage in traditional banking activities (i.e., deposit-taking and lending with negligible trading book and asset Table 2). This implies the possibility of a more straightforward assessment of financial sector risks. Although 20 banks operate in the sector, most financial sector assets are concentrated in several largest banks in Georgia. In particular, 37.0% and 26.0% of assets belong to the two largest banks in Georgia (Figure 7). The 82.0% of the assets are concentrated in the 5 largest banks and the rest, 18.0%, is represented by the remaining 15 banks.

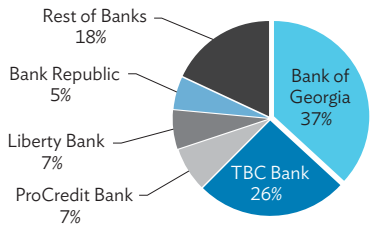
Table 2: Monthly Weighted Average Interest Rate Spread for Different Bank Groups

Item	'000 GEL	%
Cash	740,685	5.2
Balances on correspondent accounts	2,544,320	17.7
Securities for dealing operations	11,111	0.1
Investment securities	1,078,033	7.5
Net loans	8,124,213	56.6
Loans to government	284	0.0
Loans to nonfinancial sector and households	8,711,798	60.7
Interbank loans	21,173	0.1
Loan loss reserves (–)	609,041	4.2
Accrued interest and dividends receivable	115,674	0.8
Equity investments	369,406	2.6
Fixed assets	990,278	6.9
Other assets	380,981	2.7
Total assets	14,354,701	100.0
Liabilities	11,964,638	83.3
Deposits of banks	553,503	3.9
Nonbank deposits	7,649,851	53.3
Demand deposits	3,269,793	22.8
o.w. General government deposits	173,040	1.2
Term deposits of legal intities	1,310,111	9.1
o.w. General government deposits	247	0.0
Term deposits of individuals	3,069,947	21.4
Accrued interest and dividends payable	172,321	1.2
Borrowed funds	3,266,420	22.8
Other liabilities	322,543	2.2
Equity capital	2,390,064	16.7
Paid-in capital	849,327	5.9
Capital reserves	1,132,016	7.9
Retained profits	408,721	2.8
Total liabilities and equity capital	14,354,701	100.0

Source: National Bank of Georgia.

Direct financing is not a common source of funding for Georgian companies. This is clearly shown in the average daily turnover ratio in the Securities Market FSI indicator which measures the number of securities bought and sold during a trading period divided by the average number of securities outstanding at the beginning and the end of the trading period. Turnover ratio equals 0.3, which shows rather low depth of the market due to low trade volumes.

Figure 7: Bank Assets, Quarter 3 (2012)



TBC - Tbilisi Business Centre
Source: National Bank of Georgia.

3.2 Macroeconomic Environment: Impact on the Financial Sector

Macroeconomic environment is an important component of financial soundness in Georgia. Moderate country rating (Table 3) implies high cost of funds for Georgian commercial banks.

Table 3: Georgia Country Rating

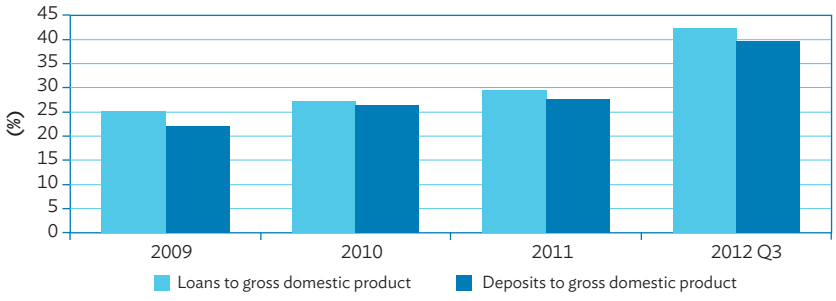
Country	Fitch		Moody's		S&P	
	Rating	Outlook	Rating	Outlook	Rating	Outlook
Georgia	BB–	Stable	Ba3	Stable	BB–	Stable

Source: S&P, Moody's Ratings, and Fitch Ratings.

High reliance on external funding poses some risks to system liquidity, especially in times of stress. However, with support from international financial institutions and financially strong shareholders, funding needs have usually been met in times of stress. For instance, during the 2008 financial crisis Georgian banks maintained high resilience and no major bailouts were necessary, unlike many economies worldwide. This was largely due to NBG policy, shareholder support, and high prevailing prudential ratios of commercial banks.

Small market size, as reflected in the total country GDP and commercial banks' asset size, prevents significant economies of scale, negatively affecting banking sector profitability. Low real sector penetration of Georgian banks further exacerbates the economies of scale problem (Figure 8).

Figure 8: Loans and Deposits to GDP Dynamics



Source: National Bank of Georgia.

The challenges in the country's macroeconomic environment described above imply shorter funding maturities for Georgian banks. This, in turn, implies the prevalence of short-term lending and prevents banks from expanding their financing opportunities based on the existing client base.

To answer these challenges, strategic long-term government policies need to be discussed and implemented. For example, lending to the real sector could be facilitated by government policies to increase industry's share in the economy. Such policies could potentially improve the demand for bank financing by domestic firms. At the same time, the increase in banks' exposure to diverse sectors could lead to a decrease in the firms' market "betas," thus reducing the firm's cost of capital and further encouraging lending.[1]

In addition, the right policies can also help Georgian banks take advantage of the current situation by expanding their client base to include borrowers who need long-term financing.

As a result, long-term financing is only denominated in foreign currency, implying foreign currency-induced credit risks.

NBG data shows that average loan maturity of loans is currently 15.8 months, while average

[1] A correlated volatility of the value of the firm relative to the volatility of the market portfolio value. A lower market beta implies greater stability for a particular firm.

interest rates are 19.4%. Savers refrain from saving in domestic currency, GEL, for the long-term, while wholesale lenders lend only in foreign currency.[2] In the meantime, the Central Bank has only short-term lending facilities in GEL.[3] Hence, long-term funding in local currency is virtually nonexistent, and the market does not give opportunities for currency transformation due to the absence of currency derivative products.

Loan to GDP and deposits to GDP ratios were 42.5% and 39.6% by the end of 2012 Q3, respectively, reflecting the low level of financial depth in the country (Figure 8). This, however, does not imply low indebtedness of the population; individual borrowers exhibit quite high debt to income ratios stemming from short-term lending.

Low financial literacy and lack of transparency on the financial products offered by the market contribute to low financial market penetration and asset quality. For example, throughout the last distress period (financial crisis of 2008), the highest deterioration in asset quality was observed for credit cards, which were the least transparent financial products at that time. Less internet/computer-friendly environment reflecting low literacy also implies high costs to commercial banks because financial literacy affects the use of various banking services, particularly internet banking. Heavy reliance on the traditional ways of conducting transactions with banks contributes to the high costs of financing.

Another important factor contributing to the high cost of finance is the low financial reporting standards among Georgian companies.[4] Substandard financial reporting significantly complicates loan evaluation for commercial banks, leading to higher administrative costs and lower asset quality. In this environment, the development of a stock exchange becomes infeasible, which at present is poorly capitalized. Box 1 reviews the economic literature on these issues.

Overall, the interrelationship between macroeconomic factors, commercial bank performance, and financial depth could be summarized in the following way (Figure 9):

- Influence of macroeconomic/systemic factors on the financial sector
  - Low level of local savings and their short maturity, as well as reliance on foreign funding, translates into short-term lending by banks. High debt service ratios and foreign currency induced credit risks of domestic borrowers adversely affect asset quality of the banking sector and raise the specter of liquidity risk.
  - Undeveloped capital markets imply that no source of additional funding exists for local corporations, which in turn necessitates their reliance on indirect financing, and contributes to the higher leverage of the firms. These factors also adversely impact the banks' asset quality. Development of local capital markets could mitigate these problems, and provide a much-needed source of liquidity for Georgian banks as well as corporations.

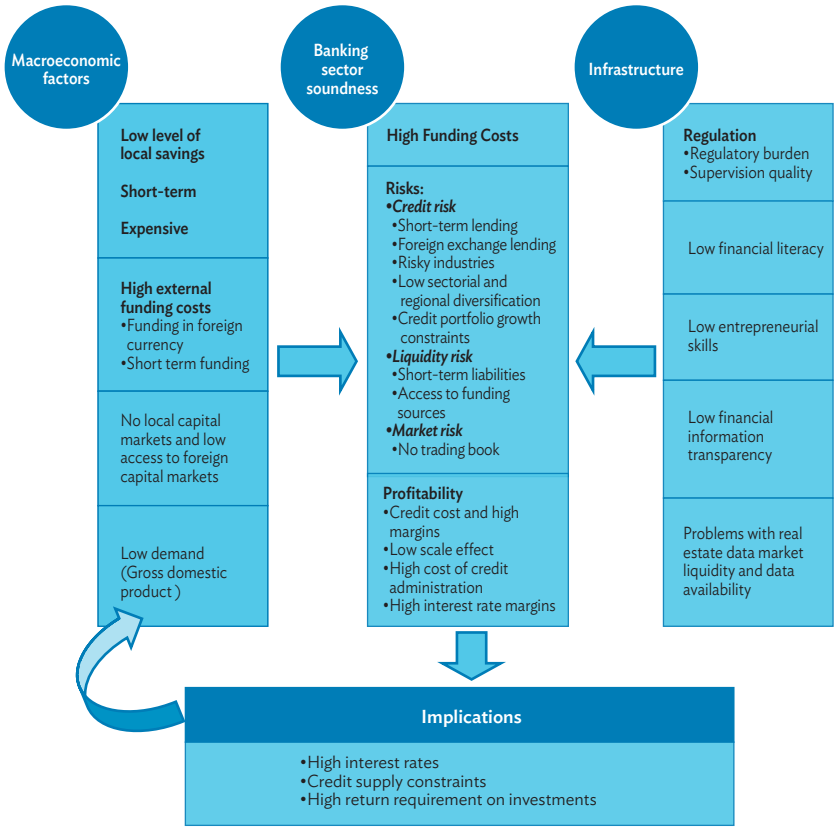
- Impact of soft infrastructure on the financial sector
  - Although high prudential ratios, such as liquidity and capital adequacy provisions, help safeguard the banking sector's soundness and resilience, they also imply higher operating

[2] This situation arises from the limitations brought about by the currency structure of liabilities. Regulations oblige banks to limit their open foreign exchange position to 20%. Moreover, credit in foreign currency is cheaper in terms of the nominal interest rate. This, and the lack of significant devaluations in recent years, encourage consumers to take foreign exchange-induced risk.

[3] NBG does not lend long-term to commercial banks. Its main monetary policy instrument is the one-week refinancing loans that are disbursed to commercial banks on an auction basis.

[4] Despite a government initiative to create an independent financial reporting and audit supervision agency, evidence on substantive implementation of recommendations and quality improvement remains missing.

Figure 9: Macroeconomic Environment Impact on Financial Sector



Source: Author's framework.

costs for the banks. This, in turn, negatively impacts on banking sector profitability and growth;

- Low financial literacy among the general population, and lack of in-depth knowledge of accounting standards among entrepreneurs have a negative impact on both the asset quality and profitability of commercial banks;
- Better financial information transparency standards and a better credit information-sharing mechanism could decrease the administrative costs and have a positive impact on bank profitability. Such measures could also help lengthen the maturity of bank credit to the private sector (Box 1).

- Market outcomes
  - Funding constraints, high cost of funds, and low economies of scale in the banking sector create inefficiencies and result in high market interest rates;
  - Due to the low levels of domestic industrial development, banks are reluctant to diversify their portfolio across economic sectors and across regions. This results in high interest rates for new industries. In the absence of clear development goals of the country, banks are understandably reluctant to commit to finance innovation;
  - The overall country risk and the relatively high risks associated with the banking sector further drive lending interest rates upward, as investors require high return on their capital.

Box 1: Determinants of the Maturity Structure of Bank Credit: A Brief Overview of Economic Literature

Economic research has identified several determinants of the maturity structure of bank credit to the private sector. Among these factors, the strong institutional protection of creditor's rights, as well as the banks' ability to monitor borrowers are most frequently associated with longer loan maturities.

For example, Coleman, Escho, and Sharpe (2006) find that banks' ability to monitor borrowers affects both loan maturity and the yield spreads for private credit, while Qian and Strahan (2007) find that strong protection of creditor rights influences maturity and lending rates received by the firms, subject to borrower's characteristics—such as size of the firm, and the tangibility of assets.

Tasic and Valev (2008) find that political and institutional environment, credit information sharing along with macro determinants such as low inflation, and the degree of the country's financial development affect credit maturity for the private sector. Their study also confirms the link between the maturity structure of banks' credit and economic growth outcomes. The latter finding receives strong support in the empirical literature. For example, Demirguc-Kunt and Maksimovic (1996) find that more long-term finance to manufacturing firms is associated with higher productivity (although, as the authors point out, the effect on productivity is reversed when long-term credit is subsidized by the government).

The study by Ortiz-Molina and Penas (2008) cite the information quality coming from the firms as an important factor in determining the maturity structure, while Demirguc-Kunt and Maksimovic (1999) find that the size of the banking sector is correlated with the long-term debt levels of small firms.

These findings have an important implication for the Georgian lending market. The borrower's risk and asymmetric information problems associated with the inability to effectively monitor borrowers, inadequacy of firms' financial reporting as well as weakly developed information sharing mechanism appear to be the most important constraints on the loan maturity structure. In addition, the small size of the banking sector (lack of economies of scale) and the underdeveloped financial markets can also be cited as contributing factors.

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Coleman, Anthony DF, Nil Esho, and In G. Sharpe. "Does bank monitoring influence loan contract terms." *Journal of Financial Services Research* 30.2 (2006): 177–198.

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Maksimovic, V, and Ai Demirgüç-Kunt. "Financial Constraints, Uses of Funds, and Firm Growth: An International Comparison." *World Bank Policy Research Working Paper* 1671 (1996).

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Valev, N, and Na Tasic. "The maturity structure of bank credit: Determinants and effects on economic growth." *Andrew Young School of Policy Studies Research Paper Series* 08–12 (2008).

Qian, Jn, and p E. Strahan. "How laws and institutions shape financial contracts: The case of bank loans." *The Journal of Finance* 62.6 (2007): 2803–2834.

- Self-fulfilling macroeconomic outcomes
  - High interest rates and the low supply of financing to diverse industries keeps demand at low levels and undermines growth potential. Additional financing to firms via the stock exchange is unavailable due to the inefficiency of the small market size.

3.3 Ownership Trends

The Georgian banking sector ownership structure has improved in recent years. Several years ago, bank ownership was mostly concentrated in the hands of local individual investors. Currently, the largest bank of Georgia is listed on the London Stock Exchange, and a significant portion of the shares of the second largest bank is owned by international financial institutions. Foreign banks and holdings are majority owners in large domestic banks, while other institutional investors are represented in the ownership of various Georgian banks. Some significant acquisitions are listed in Table 4.

Table 4: Bank Ownership-Related Changes

2000	On May 26, the International Finance Corporation (IFC) and the German Investment and Development Company (DEG) became the holders of shares at TBC Bank, with participation of 10% each.[a]
2001	Commerzbank becomes a shareholder of MBG, a Georgian Bank.[b]
2005	In January, the major strategic shareholders of ProCredit Bank IMI AG, which owns 39% of the shares, changed its name to ProCredit Holding AG. Since then, the holding has increased its shares in Procredit Bank Georgia.[c]
2006	Bank Republic entered into agreement with Societe Generale Group and EBRD on acquiring 70% of the BR shares.[d]
	Bank of Georgia lists its shares in the form of GDRs on the London Stock Exchange (LSE: BGEO)
2009	EBRD, FMO, JP Morgan and Ashmore became the shareholders of TBC Bank.[e]
2010	Oikocredit, Ecumenical Development Co-operative Society U.A., came in as the first foreign shareholder of Bank Constanta.
2012	China's Xinjiang Hualing Industry & Trade (Group) Co. Ltd (the "Hualing Group") acquired 90% equity stake in JSC Basisbank.[f]
	JSC Bank of Georgia's UK incorporated holding company Bank of Georgia Holdings PLC is listed on the main market of the London Stock Exchange (BGEO LN) since February 2012.[g]

[a] http://tbcbank.ge/en/about/bank_overview/history/?id=370.
[b] History of Procredit Bank, Georgia. (n.d.). http://procreditbank.ge/index.php?lang=ENG&item_id=25&component=STATIC_CONTENT&menu_id=14&sub_menu_id=48#2001E (accessed 7 April 2014).
[c] History of Procredit Bank, Georgia. (n.d.). http://procreditbank.ge/index.php?lang=ENG&item_id=25&component=STATIC_CONTENT&menu_id=14&sub_menu_id=48#2001E (accessed 7 April 2014).
[d] http://www.republic.ge/index.php?sec_id=304&lang_id=ENG.
[e] http://tbcbank.ge/en/about/bank_overview/history/?id=1924.
[f] History of Basis Bank. (n.d.). http://basisbank.ge/en/about_bank/history/ (accessed 7 April 2014).
[g] Bank of Georgia Listing and Quotation. (n.d.). http://bankofgeorgia.ge/en/ir/shareholder-information/listing-and-quotation (accessed 7 April 2014).

This trend in ownership structure reflects foreign investors' increasing trust toward the Georgian financial sector, as well as an opportunity for better integration into the global financial market. Sound and experienced global investors bring expertise to the local market, which can in turn lead to product diversification, better risk governance and improved corporate governance, practices.

3.4 Capital Adequacy

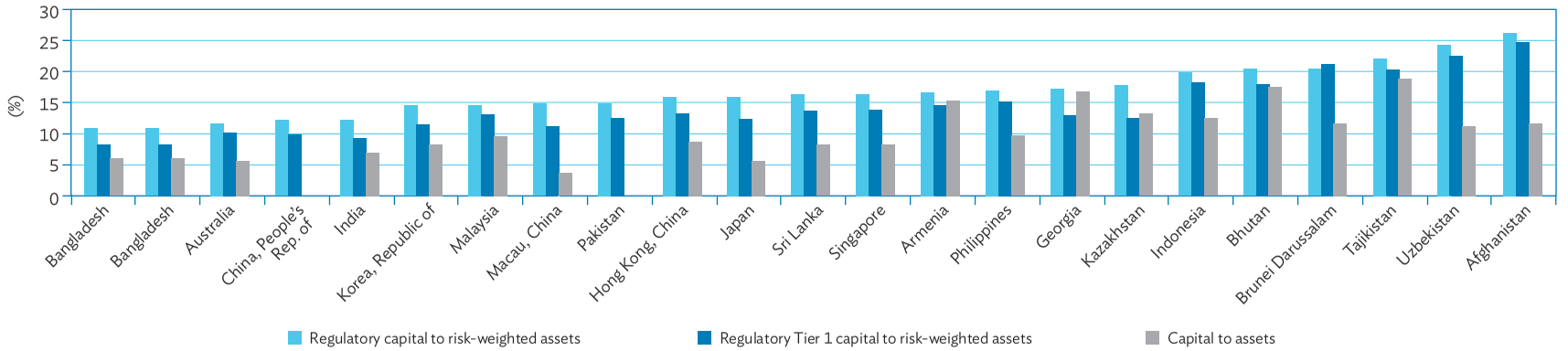
Georgian commercial banks are adequately capitalized, as reflected in the following financial soundness indicators:

- Regulatory Capital to Risk-Weighted Assets ratio has stably remained above 16.0% in past years;
- Regulatory Tier 1 Capital to Risk-Weighted Assets ratio has stably remained above 11.0% in past years; and,
- Capital to Assets ratio has stably remained above 16.0% in past years.

Figure 10 shows capital adequacy ratios over time and in comparison with other countries. The banking sector has comfortable levels both at the Tier 1 level and total regulatory capital level. This implies sound loss absorbency both on a going-concern and gone-concern basis. However, the comparison should be performed with because capital requirements are not currently based on Basel II standards but rather on Basel I standards, with some additional differences from Basel I (Box 2). When looking at the share of nonperforming loans to total regulatory capital, and at capital to assets leverage ratio, Georgia does well among a group of comparable countries (Figure 11). The former, however, should be analyzed with care, as long as the past-due-day based criteria do not usually adequately reflect the quality of assets.

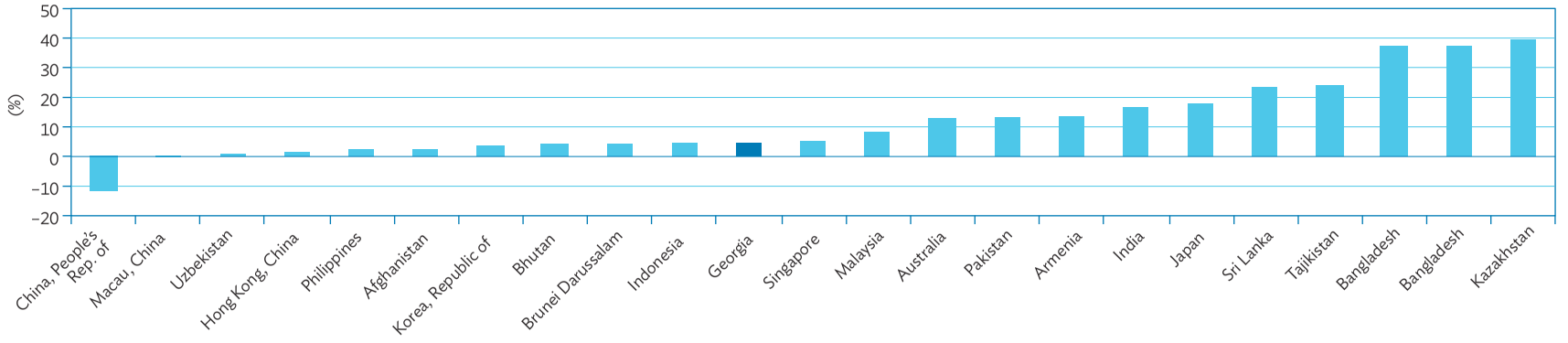
Regarding the leverage ratio, Georgia actually outperforms its peers, which increases confidence in the soundness of the domestic banking sector (Figure 12).

Figure 10: Capital Adequacy Related FSIs by Economy, 2013



Source: International Monetay Fund Data (Available: http://data.imf.org/, accessed 9 January 2015)

Figure 11: Nonperforming Loans Net of Provisions to Capital, 2013



Source: International Monetay Fund Data (Available: http://data.imf.org/, accessed 9 January 2015)

Box 2: Capital Adequacy Regulatory Requirements in Georgia

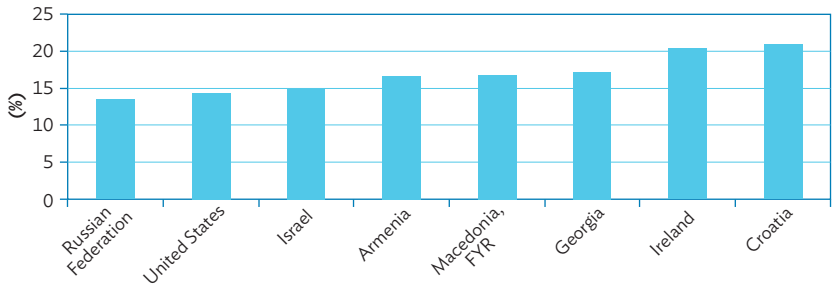
The National Bank of Georgia (NBG)'s capital adequacy standards mandate higher quality core capital, and the ratios are more conservative than the relevant BIS (Basel I) requirements. NBG risk weights assets for currency-induced credit risk. In addition, this risk weight has changed over time for supervisory policy purposes. In line with countercyclical prudential policy during the recession, NBG lowered the abovementioned risk weights, from 100.0% to 50.0%. The required risk weight for foreign currency-induced credit risk rose to 75.0% from January 2011. Additionally, the regulation does not permit lower risk weighting for mortgages or the inclusion of the revaluation reserves of a bank's own premises in the calculation of regulatory capital. All of the above effectively raises the prudentially mandated ratio well above the corresponding BIS (Basel I) requirement.

Although conservative capital adequacy ratios raise the regulator's comfort and improve resilience of the system, they come at a cost. High capital levels are additional costs for commercial banks that are accounted in their pricing models. The current capital requirement framework is not well matched with the risks of commercial banks and it is more likely that despite the large difference in their risk appetites, they might be required to hold the same levels of capital.

Currently, NBG is implementing the Basel II/III capital adequacy framework, which is more adjusted to the individual risk profile of commercial banks. It is supposed to ensure relatively high levels of capital for riskier banks, as well as capital relief and the opportunity of achieving efficiency in costs for the banks with lower risk-taking appetite. The main changes that commercial banks will face could be summarized as follows:

- The definition of regulatory capital components will change. If up until the present only the accounting name was the major factor in the decision to include a capital instrument in the regulatory capital, now it will have to meet certain criteria to qualify as being eligible.
- Credit ratings are to be used for risk-weighting purposes.
- Exposures secured on residential mortgages and retail are to be risk weighted at 35.0% and 75.0%, respectively, which represent significant capital relief for the banks.
- Banks should hold capital for operational risks.
- Banks will be able to decrease capital charge, provided that eligible mitigation techniques are in place.
- Banks should hold economic capital and should have internal capital adequacy assessment process in place to account for all major additional risks that have not been considered under Pillar 1 requirements.
- Banks would have to disclose their main risks and risk governance practices.

Figure 12: Regulatory Capital to Risk-Weighted Assets, 2013

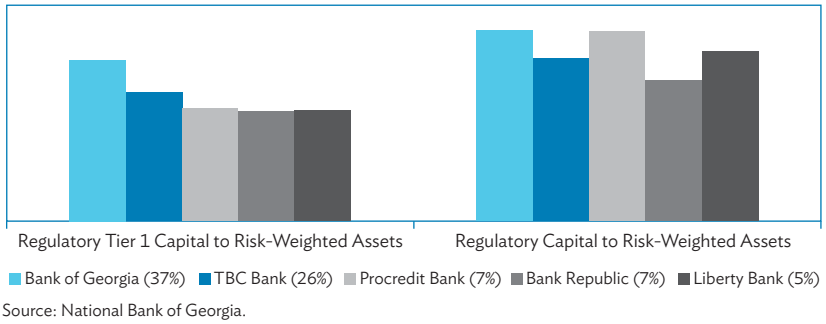


Source: International Monetay Fund Data (Available: http://data.imf.org/, downloaded 9 January 2015)

For ease of comparison, a look at the Basel I ratios might be helpful. Conservative capital adequacy ratios of Georgian banks are apparent for the year 2005.

Despite the presence of 20 banks in the market, the Georgian banking sector's main market share belongs to the five largest banks. The high industry concentration, however, may not be a problem as long as these banks manage to carry major sector risks effectively. To this end, it would be important to consider their individual capital adequacy ratios. The largest banks maintain comfortable levels of capital adequacy (Figure 13). The biggest bank has the highest Tier 1 and regulatory ratios equal to 15.9% and 13.4%, respectively.

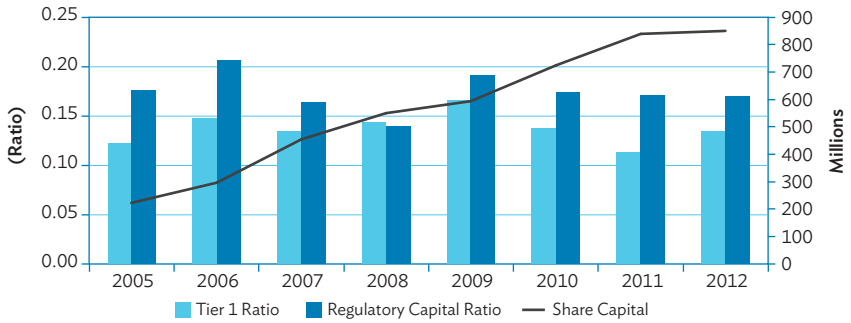
Figure 13: Capital Adequacy Ratios of the Largest Georgian Banks, Quarter 3 (2012)



Source: National Bank of Georgia.

It should be noted that there have not been bank failures or major bailouts in the recent decade. On the one hand, it could be due to the conservative capital buffers held by Georgian banks; on the other hand, it could be the result of strong shareholder support, (Figure 14).

Figure 14: Share Capital and Capital Adequacy Ratio Trends



Source: National Bank of Georgia.

3.5 Asset Quality of the Banking Sector

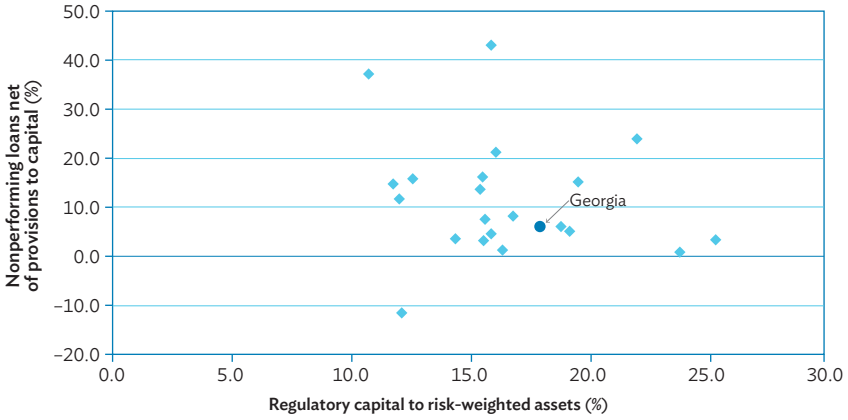
Loans comprise up to 60.0% of the Georgian banking sector's total assets, followed by claims on commercial banks (up to 20.0%) and fixed assets (up to 0.8%). Other types of assets account for the remainder. As a result, the asset quality of Georgian banks is primarily determined by the quality of loans. Georgia performs impressively in asset quality, as demonstrated by the relevant FSI indicators (Nonperforming Loans Net of Provisions to Capita l; Nonperforming Loans to Total Gross Loans).

Nonperforming loans to total gross loans ratio is equal to 4.0% (Figure 15) and Nonperforming Loans Net of Provisions to Capital ratio is 5.7% (Figure 11). Given the asset quality, Georgian banks hold relatively high levels of capital compared to the overall trend. This implies high buffers that can absorb losses from nonperforming loans.

The nonperformance criteria to calculate the above-mentioned FSI indicators are based on the 90 days past due criterion. It may not be adequate to use such a unified criterion across countries. In some economies, delinquency of even a few days might imply that a client can no longer service the debt, while in others even 90 days past due loans might have a high chance of performance.

Besides, the growth and economic cycles have an important influence on those ratios. During aggressive growth and boom periods, banks usually have a positive outlook on borrower performance,

Figure 15: Nonperforming Loans to Total Gross Loans



Source: International Monetay Fund Data (Available: http://data.imf.org/, accessed 3 March 2015).

and the ratios are further improved due to the increased portion of the new performing loans. During times of distress, however, the trend is reversed.

Rather than using a simple 90 days overdue criterion to qualify loans as nonperforming, the Georgian legislation relies on a different approach. Nonperforming loans are determined based on the regulation on "Asset classification and the creation and use of reserves for losses by commercial banks."[5] According to the regulation, loans are classified into 5 categories: standard, watch, substandard, doubtful, and loss.

Two percent (2.0%) of general provisions are created upon origination of the loan. Specific provisions (10.0%, 30.0%, and 50.0%) are created respectively on loans in different classes. Loss loans are written off the balance. Nonperforming loans are those belonging to substandard, doubtful, and loss categories. It should be noted that the provisioning rules of NBG are much more conservative than those based on IMF guidance.[6] In light of this, it is worthwhile looking at the share of nonperforming loans that are calculated based on the local accounting rules. Arguably, such rules may better reflect the true asset quality. According to the more stringent local accounting standards, nonperforming loans comprise up to 10.0% of the total loans and loan loss reserves are around 7.0% (Figure 16).

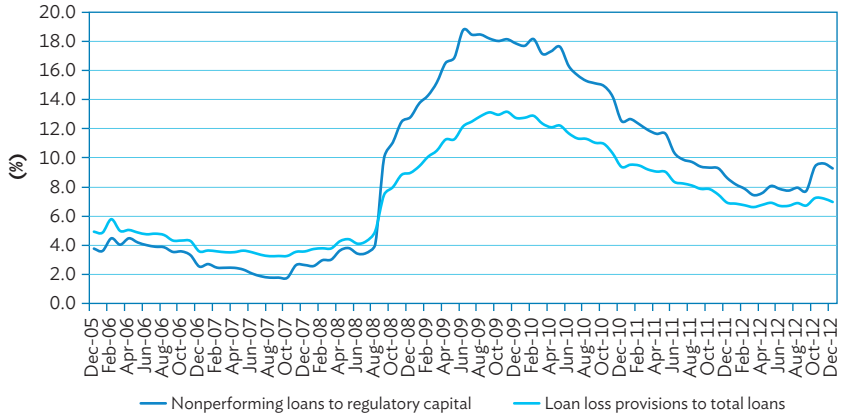
At the same time, even though Georgia outperforms many of its peers (such as Ukraine, Slovenia, Romania, Moldova, Macedonia, Latvia, Lithuania, Kosovo, Kazakhstan, Croatia, Cyprus, Bulgaria) based on the 90-day criterion, its nonperforming loans to total loans ratio is still far greater than that of the developed economies (such as Australia, Austria, Canada, Japan, The Republic of Korea, The Netherlands, United States, and others).

For commercial banks, the quality of assets is highly dependent on various external factors, macroeconomic, as well as infrastructure-related factors. High asset quality is usually achieved

5 http://www.nbg.ge/uploads/legalacts/supervision/nbg1.4.5.1regulation_on_assetseng.pdf.

6 Under the existing regulation, loan classification is based on (i) days in arrears, (ii) the financial strength of a borrower, and (iii) collateral. According to the prudential guidelines on assets classification, days in arrears is one of the most important indicators in terms of classification, but such delay in payment should not represent the sole or principal reason for this type of classification. This implies that even if the loan is not past due, it might not be classified as a standard loan if the current cash flows, or expected cash flows, are not sufficient to satisfy all liabilities. In fact, plausible market and macroeconomic conditions are also taken into account and the loan can qualify for "standard" category only if the borrower is able to absorb particular market/macroeconomic shocks and meet its obligations against the bank in the future.

Figure 16: Asset Quality Dynamics, 2013

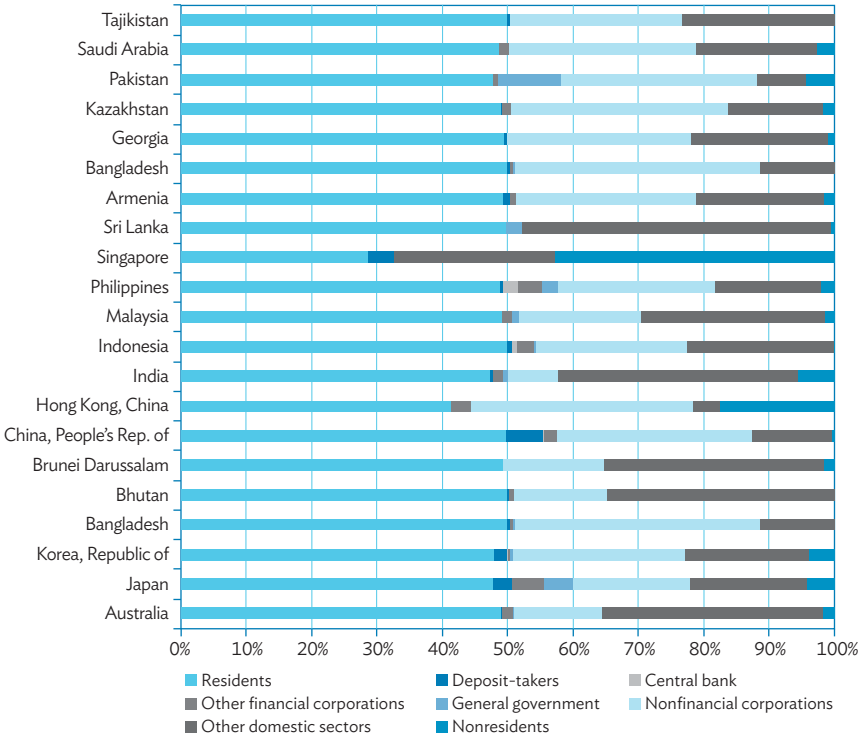


Source: National Bank of Georgia.

through diversified investments and the large base of financially strong households and firms. In addition, the banks' ability to assess the soundness and creditworthiness of borrowers through credit reference agencies and available financials plays an important role in the determination of the asset quality. Such preconditions are highly relevant for developed economies, and Georgia has significant room for improvement in these areas.

Georgian banks' exposures are mostly to resident persons (Figure 17). Share of nonresident lending is relatively higher in more developed economies such as Canada, Denmark, Germany, Sweden, as well as in some developing economies. In practice, nonresident lending contributes to the diversification of assets in terms of their risks. It also contributes to the diversification and expansion of revenue generation sources.

Figure 17: Sectoral Distribution of Loans to Total Loans, 2013

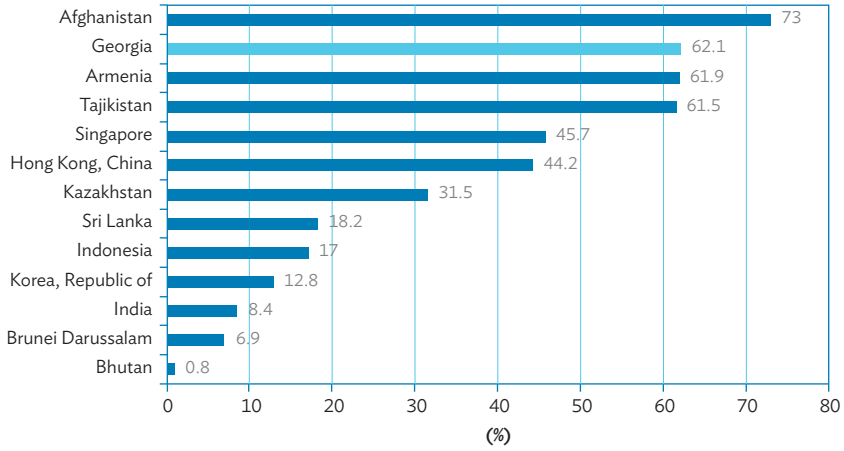


Source: International Monetay Fund Data (Available: http://data.imf.org/, accessed 9 January 2015).

Georgia's low share of nonresident lending on the one hand could be explained by high interest rates stemming from high funding costs. In the longer term, the option of nonresident lending could be a source of growth potential for commercial banks. Georgian banks have no major exposures to government or financial sector enterprises. Government loans are considered to be exhibiting low risks and they are considered to be a stable source of revenue for commercial banks in the developed economies. Nonresident loans in Georgia are 1.5% of the total loans, out of which 0.6% is to advanced economies and the rest (0.9%) is to emerging economies.

The asset quality of Georgian banks depends to an important extent on exchange rate fluctuations. Although commercial banks' borrowers are mainly residents, 68.0% of total loans are denominated in foreign currency, generating income in the national currency (Figure 18). As a result, borrowers' repayment capabilities depend on the stability of the exchange rate. Thus, domestic borrowers, with the exception of exporter industries and industries with non-elastic demand structures, are vulnerable to local currency depreciation.

Figure 18: Foreign Currency-Denominated Loans to Total Loans, 2013



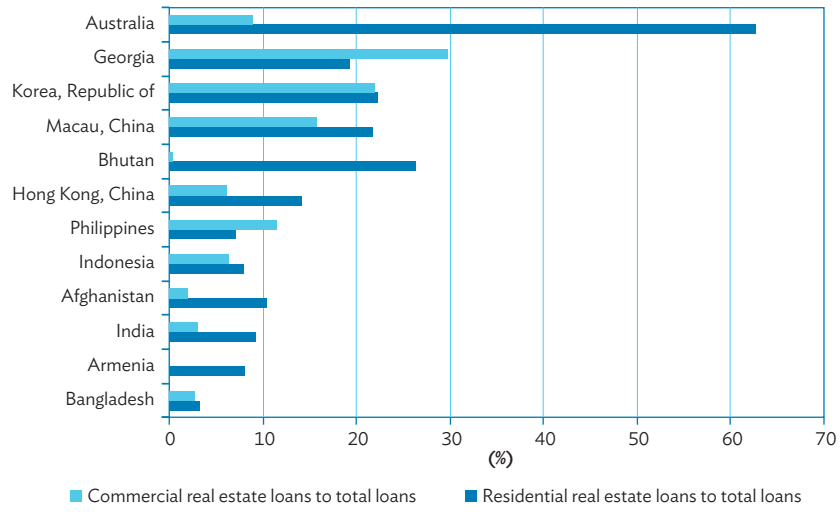
Source: International Monetay Fund Data (Available: http://data.imf.org/, accessed 9 January 2015).

The problem stems from the fact that the Georgian banking system relies primarily on external funding, which is 100.0% foreign-exchange-denominated. Trust in the local currency among the population appears to be an additional constraint because foreign exchange effectively dominates a significant portion of local savings.

Despite the fact that the GEL exchange rate has been quite stable since its introduction, minor currency shocks and political instability have prevented the creation of trust among savers. The absence of developed financial products (such as foreign currency swaps and forwards) to hedge currency risk prevents banks from managing currency transformation. As a result, dollarization on the liability side leads to dollarization on the asset side. The banks attempt to decrease their currency risk exposure by lending in foreign currency but, at the same time, shift the currency risk to borrowers, making themselves vulnerable to the foreign currency-induced credit risk.

In addition to the problems described above, commercial banks in Georgia are vulnerable to adverse developments in real estate markets, as evidenced by the loan concentration on residential and commercial real estate markets. In general, residential real estate loans comprise an important portion of loan portfolios in developed countries. Georgia has significant room for development in this type of lending market (Figure 19). Currently, residential real estate loans comprise only 17.9%

Figure 19: Real Estate Markets, 2013



Source: International Monetay Fund Data (Available: http://data.imf.org/, accessed 9 January 2015).

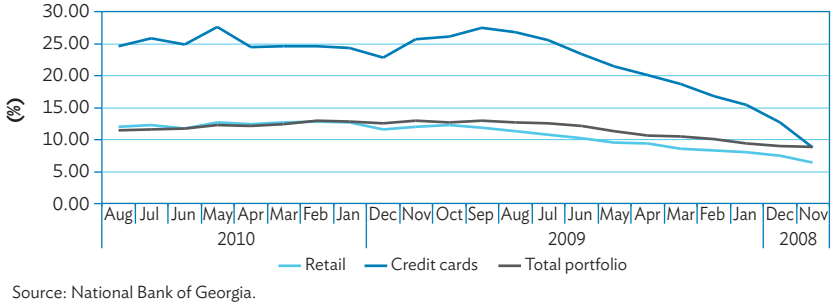
of total loans. This makes the banks less vulnerable toward adverse developments on the residential real estate market.

However, Georgia has a substantially high proportion (31.5%) of loans secured on commercial real estate. This implies that recoverability of the nonperforming loans depends to a great extent on the stability of the commercial real estate sector.

Historical and current real estate price trend analyses could shed light on the extent of banking sector vulnerability to the real estate market fluctuations. Unfortunately, such financial soundness indicators (FSIs) are currently unavailable.

Finally, low financial literacy and lack of transparency in financial products contribute to low financial market penetration and asset quality. As per NBG's 2010 presentation, during the financial crisis the highest deterioration of asset quality was seen in credit cards, which were among the least transparent financial products at the time (Figure 20). Low financial literacy is further evidenced by low reliance on internet banking services, which tends to drive up costs for commercial banks.

Figure 20: Credit Portfolio Loan Loss Provision Dynamics



Source: National Bank of Georgia.

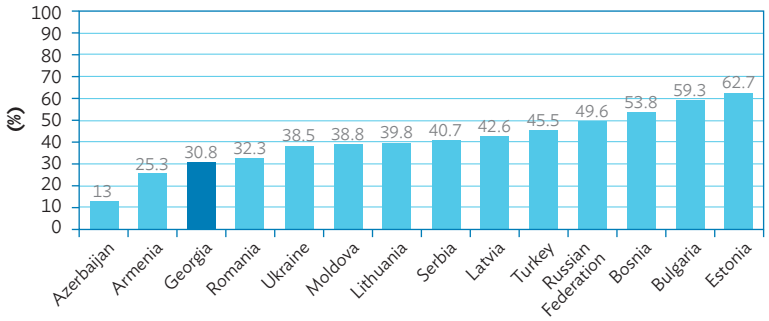
Box 3 presents the results of the financial literacy survey performed by the International School of Economics at Tbilisi State University–Policy Institute (ISET-PI) and discusses the implications for the banking sector.

Box 3: Financial Literacy in Georgia

"EVERYBODY wants it. Nobody understands it. Money is the great taboo. People just won't talk about it. And that is what leads you to subprime. Take the greed and the financial misrepresentation out of it, and the root of this crisis is massive levels of financial illiteracy."

John Bryant

Box Figure 3.1: Deposits per GDP, 2011



Source: National Bank of Georgia and International Monetary Bank.

Does Georgia have a well-developed financial sector? Certainly, proliferation of bank branches and automated teller machines in the capital city of Tbilisi might suggest that it does. And yet, the data indicate that for a country of its size, Georgia has a relatively small financial sector. One of the measures used to approximate financial development or financial depth of the economy is the deposits to GDP ratio. According to the International Monetary Fund (IMF) data, this ratio in Georgia 30.8% in 2011—one of the lowest indicators among the economies at similar stages of development. What might be the reasons behind the low levels of financial development? Here I will focus on just one aspect and a possible determinant of the financial depth—financial literacy.

Financial literacy means financial awareness and knowledge. Not only the knowledge of financial products, institutions, and concepts, but also financial skills, such as the ability to calculate compound interest payments; and more generally, financial capability in terms of money management and financial planning. This type of knowledge can create faith in financial institutions and thus increase financial activity, lending support to economic growth and development.

In addition, low levels of literacy in the use of computer technology affect financial awareness and imply high costs to commercial banks. This is because they affect the use of various banking services, particularly internet banking. Heavy reliance on the traditional ways to conduct transactions with banks contribute to the high cost of financing, which can also drive the interest rate up.

Financial literacy programs are fast becoming a key ingredient in financial policy reform worldwide. How is financial literacy measured? Usually via surveys that ask questions about compounded interest, real interest rate, and risk diversification. The International School of Economics at Tbilisi State University (ISET) Policy Institute conducted a financial literacy survey on March 2013 using an internationally established methodology.

The comparable surveys find that financial literacy is low everywhere, though still lower in the low-income countries. ISET-PI found that 71.0% of respondents in Georgia correctly answered the question about the interest rate and money accumulation. Less than half (46.0%) can understand how inflation affects the return on deposits with fixed nominal interest rate.

In response to the third question, Georgia exhibits the lowest correct answer response rate among the lower-middle income countries. The question asked the respondents was whether they knew about the risk differences between bonds and non-bond financial assets (such as stocks). Yet the low correct response rate is to be expected in a country where the stock exchange market is undeveloped.

The cross-country surveys found that the quality of responses vary demographically. Women have lower levels of financial literacy almost everywhere. In Georgia, the share of correct answers for women is less than that for men. Moreover, women are more likely to say that they don't know the answer. The gender gap in financial literacy is of particular concern, because women are also more likely than men to become economically vulnerable due to longer life spans, shorter work experiences, and other economic and social factors.

continued

Box 3: continued

The Georgian survey finds that financial literacy is higher for adults in the mid-life cycle and tends to be lower among younger and older people. Thus, financial literacy follows an inverted-U shape with respect to age. This illustrates the effect of knowledge accumulation over time, which tends to decay as people age.

Box Table 3.1: Compounded Interest, Inflation, and Risk Diversification

Country (Year of Survey)	Question 1 Compounded Interest	Question 2 Inflation	Question 3 Risk Diversification
High Income			
United States (2009)	65	64	52
Italy (2006)	40	60	45
Germany (2009)	82	78	62
Sweden (2010)	35	60	68
Japan (2010)	71	59	40
New Zealand (2009)	86	81	27
The Netherlands (2010)	85	77	52
Upper-middle income			
Russian Federation (2009)	36	51	13
Romania (2010)	24	43	--
Azerbaijan (2009)	46	46	--
Chile (2006)	2	26	46
Lower-middle income			
Georgia (2013)	71	46	19
Indonesia (2007)	78	61	28
India (2006)	59	25	31
West Bank and Gaza (2011)	51	64	--

Source: Country-level data.

Generally, people with lower educational attainment are less likely to answer questions correctly. The difference is very pronounced in Georgia. Also, respondents with secondary education are more likely to report the "do not know" option.

The final demographic characteristic of the survey is regional distribution of correct answers. The country surveys indicate strong regional disparities in financial literacy, particularly between the capital city and other areas of the country. This likely mirrors the differences in access to finance, and the differences are especially prominent in the developing countries. However, in Georgia the regional disparities seem to be less pronounced. This is likely due to the fact that education levels of the overall population are still comparable across different regions in Georgia.

The Georgia survey found that out of 161 respondents, only 18.0% made a savings deposit in a bank during the last 12 months. Among the "bank savers," 76.0% have higher education, while the rest only completed secondary education. The result is hardly surprising, considering a positive correlation between incomes and the level of education. Among the respondents who did deposit money in the bank in the last 12 months, 83.0%, 69.0%, and 31.0% correctly answered Question 1, Question 2, and Question 3, respectively. This can be interpreted as the initial evidence for the relationship between financial literacy and the likelihood of saving in financial institutions. However, more research needs to be done to control for other factors that may influence both the financial literacy and the likelihood of bank savings.

In addition, 54.0% of Georgian respondents reported taking out loans during the last 12 months. Among the borrowers, the correct response rates were 69.0%, 44.0%, and 13.0% for Question 1, Question 2, and Question 3, respectively (the correct response rates being lower than for deposit-makers). This can again reflect the fact that people in need of loans have lower incomes and possibly lower levels of education.

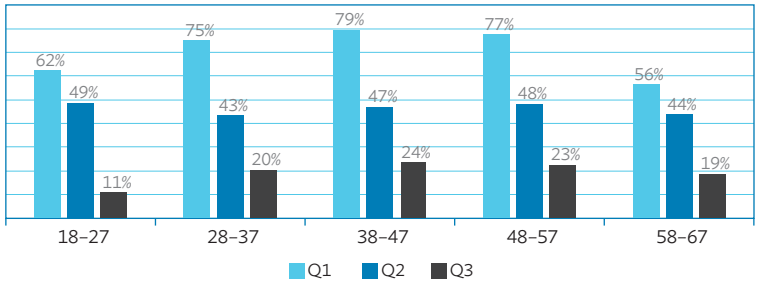
The result, however, gives a reason for concern, as the low levels of financial literacy are generally associated with higher credit risk. This is further evidenced by the US experience, where the financial crisis of 2008 has been blamed in part on low levels of financial literacy, especially among households who defaulted on their mortgages.

In light of this evidence, it may not be too early to start a discussion on the need to promote financial awareness among the general population in Georgia. This is especially so since a possible side benefit of such education could be a stronger, healthier, more efficient financial system.

continued

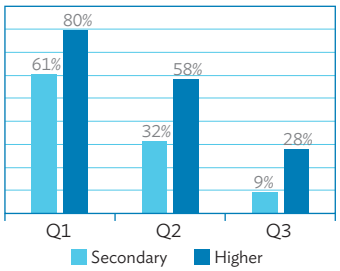
Box 3: continued

Box Figure 3.2: Proportions of Correct Responses by Age



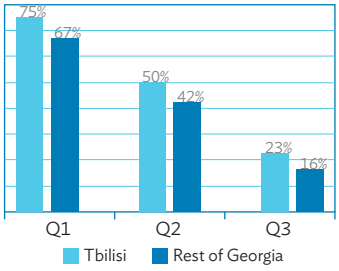
Source: National Bank of Georgia and International Monetary Bank.

Box Figure 3.3: Proportions of Correct Responses by Education



Source: National Bank of Georgia and International Monetary Bank.

Box Figure 3.4: Proportions of Correct Responses Among Georgia

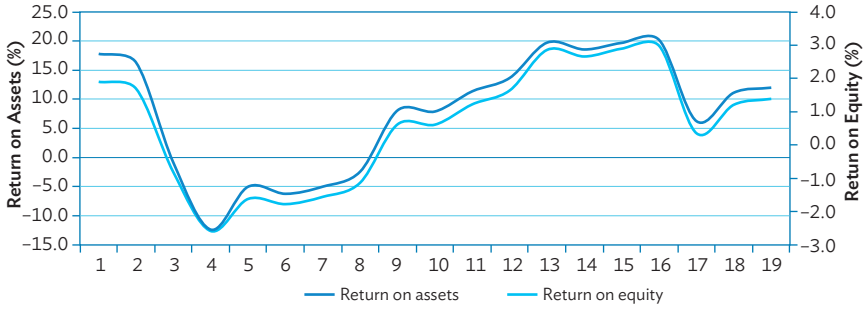


Source: National Bank of Georgia and International Monetary Bank.

3.6 Profitability

Profitability and efficiency of the Georgian banking sector is expressed in terms of the two core FSIs: return on equity and return on assets. Apart from crisis times, the banking sector in Georgia exhibits very competitive profitability ratios compared to average worldwide standards (FIgure 21). Average ratios for the compilation period equal 1.01 and 5.93, respectively.

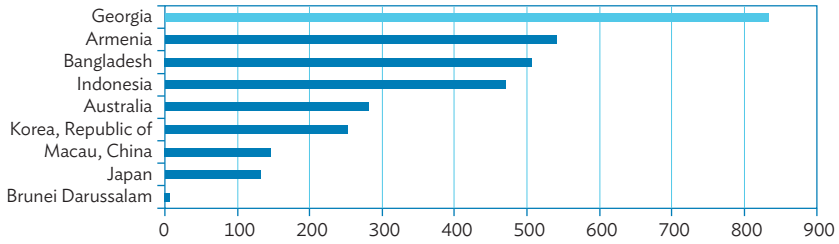
Figure 21: Return on Assets and Return on Equity



Source: International Monetay Fund Data.

Average interest margin to gross income and noninterest expenses to gross income for the compilation period equal 65.0% and 59.0%, respectively, which is close to the world average standards. However, Georgia has significantly higher interest rate spreads compared to its peers. The spread between reference lending and deposit rates is equal to 795.9 basis points (Figure 22).

Figure 22: Spread Between Reference Lending and Deposit Rates (Basis Points), 2013



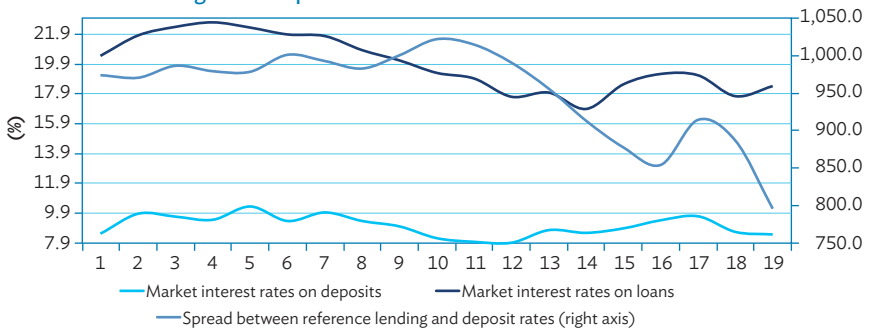
Source: International Monetay Fund Data (Available: http://data.imf.org/, accessed 9 January 2015).

One could cite different reasons for the high interest rate spreads in Georgia. First, the banking sector lacks competition. The industry concentration indicators seem to support this view. However, a highly concentrated banking sector does not automatically imply lack of competitiveness, especially in the presence of low barriers to entry into the financial market. While the concentration in the industry could be justified by the returns to scale argument, the threat of entry would deter noncompetitive behavior among the few large players.

Looking at the dynamics of the spreads and the structure of competition among banks, one can conclude that the financial services market is fairly competitive. The interest rate spreads have exhibited significant downward trend in past years, possibly reflecting the increasing competition among commercial banks. Excessive representation of bank branches in Tbilisi and in the country's regions in the vicinity of other banks also indicates competitive market behavior. Moreover, the year 2011, marked by the largest decline in spreads, also saw large decreases in lending interest rates as commercial banks attempted to compete for clients.

High interest rate spreads could also be explained by the lack of efficiency in the financial market. The small size of the Georgian economy, coupled with the small size of the banking sector, prevent local banks from achieving economies of scale and thus increase the cost of lending (Figure 23).

Figure 23: Spread and Market Interest Rate Trends

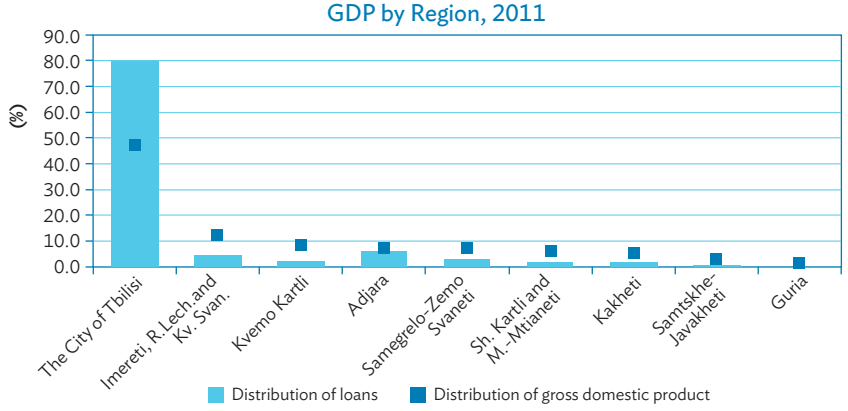


Source: International Monetay Fund Data (Available: http://data.imf.org/, accessed 9 January 2015).

As discussed earlier, diversification could be an important source of achieving the economies of scale in the Georgian banking sector. Geographical and sector diversification could lead to a virtuous cycle of lower lending rates, decreased interest rate spreads, and further increase the demand for loans.

Currently, banks' regional and sector diversification is very low (Figure 24). For example, gross lending to the capital city, Tbilisi, comprised 80.0% of the total loan portfolio in 2011, while the gross value added of Tbilisi constituted only 47.0% of GDP in the same year.

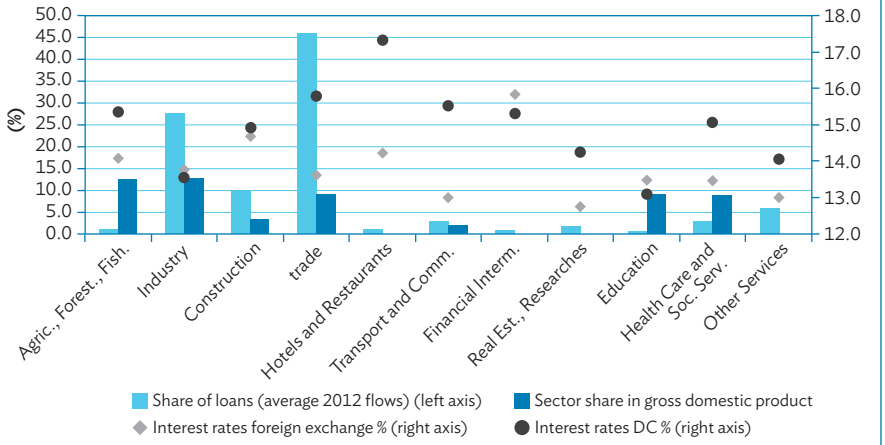
Figure 24: Distribution of Commercial Bank Loans and GDP by Region, 2011



Source: International Monetay Fund Data (Available: http://data.imf.org/, accessed 9 January 2015).

The sector gap between the bank lending allocation and value added is also apparent. Commercial banks lend mainly to trade and service sectors, while the trade sector's value added in GDP is only 10.0%. (Figure 25) Interest rates to other sectors remain high, explaining the lack of sector diversification in lending.

Figure 25: Loans and Interest Rates by Sectors



Source: International Monetay Fund Data (Available: http://data.imf.org/, accessed 9 January 2015).

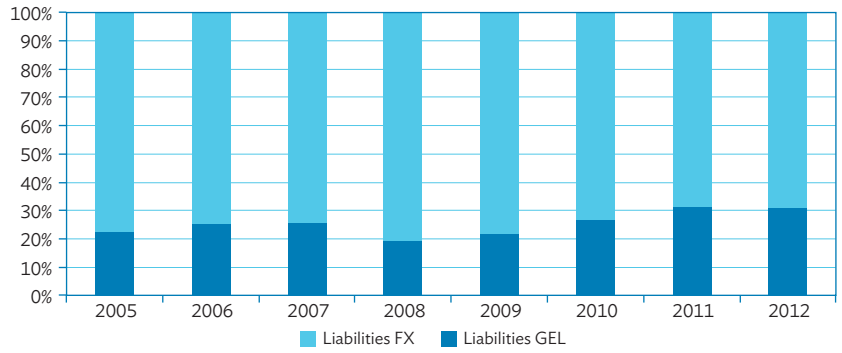
The domestic credit market seems to be caught up in the vicious cycle of low sector and geographic diversification, which translates into high credit risk for commercial banks. Increased riskiness feeds into high lending rates and perpetuates the low demand for bank financing from underdeveloped industries. This, in turn, makes it even more difficult for banks to diversify. A possible

solution to this problem would be to develop a policy mix that could stimulate and encourage the development of a well-diversified industrial base in the country.

3.7 Liquidity and Market Risks

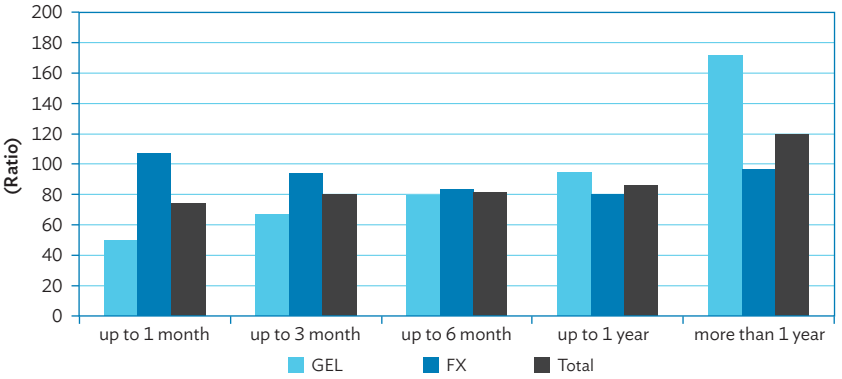
Georgian banks have comfortable levels of liquid asset ratio. The ratio of liquid assets to total assets is 22.0% and liquid assets to short term liabilities ratio is 35.0% as of the third quarter of 2012. The figures vary across countries to a great extent, and Georgia performs worse than many developed economies. However, this is largely due to the calculation methodology. Most of the countries include securities that are traded in liquid markets (including repo markets) in the definition of liquid assets, which is not the case in Georgia. Georgian banks' main funding is in foreign currency and currently amounts to 69.0% of total funding (Figure 26). Debt instruments and deposits, except for current accounts, are essentially denominated in foreign currency. The asset/liability structure is relatively well matched according to the maturities (Figure 27). However, differences may exist between banks, and it would be important to analyze these indicators individually for each bank.

Figure 26: Liability Structure in Currency



Source: International Monetay Fund Data (Available: http://data.imf.org/, accessed 9 January 2015).

Figure 27: Cumulative Assets/Cumulative Liabilities

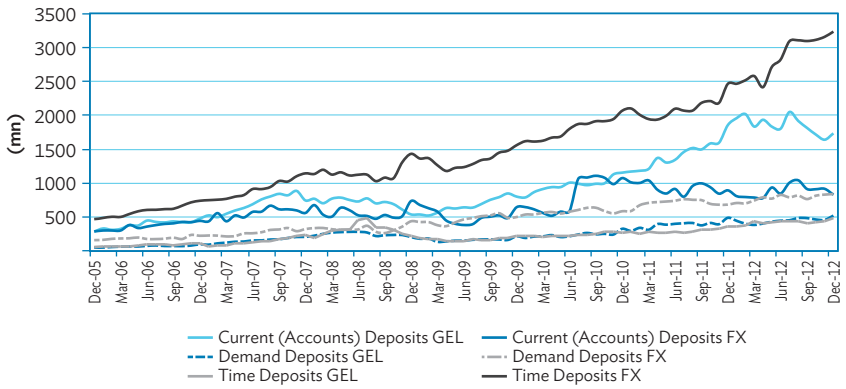


Source: National Bank of Georgia.

Potential risks from foreign funding are different for retail deposits and wholesale debt instruments. While borrowings and subordinated debt instruments expose banks to the risks of refinancing, retail deposits exhibit risks of potential bank runs. In particular, foreign deposits could have "hot money" character and might exhibit higher outflow risks. The issue is exacerbated almost all term deposits can be demanded before the maturity date. However, looking at the dynamic of

the retail deposits, no significant runs were observed even throughout the last shock period, which included both a war and an economic crisis (Figure 28).

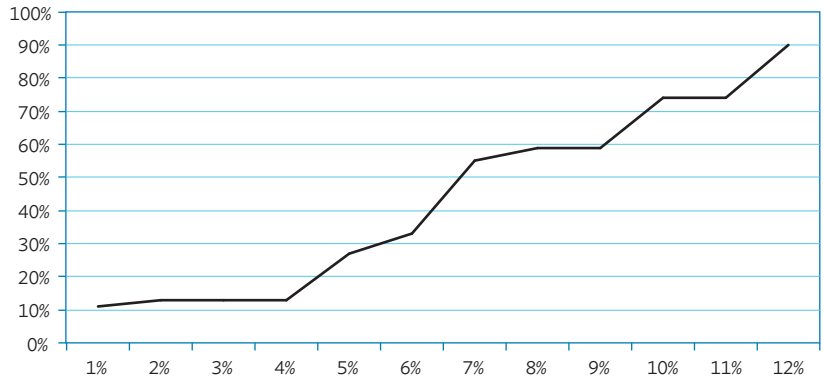
Figure 28: Real Liability Trends



Source: National Bank of Georgia.

Dollarization on the liability side is partially driven by the attitudes of the depositors. The survey on "Mobilization of Savings and Financial Capability" shows that a mere 10.0% of respondents would be willing to switch theirs savings to GEL before the premium reaches 400 basis points (bps) (Figure 29). Banks, on the other hand, are not willing to pay such large premiums on GEL deposits, because cost incentives alone do not allow for higher premiums on GEL.

Figure 29: Share of Respondents Willing to Switch



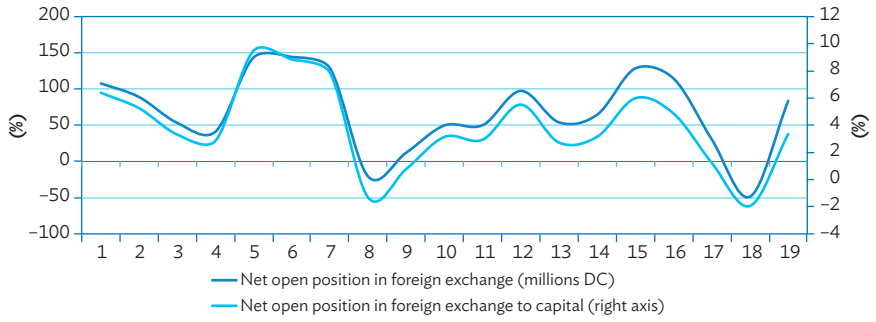
Source: Mobilization of Savings and Financial Capability Survey.

Creating in the local currency deposits would be an alternative way to deal with liability dollarization. However, the creation of trust is a slow process, and may demand decades of stability. Tough policy measures to force the public to save in GEL are not considered as options, because they are likely to produce numerous adverse effects and may, in fact, work to counter the intended policy goal.

The analysis suggests that neither monetary nor regulatory incentives or trust creation are expected to result in a significant de-dollarization and creation of long-term GEL funding in the desired (short) term. Hence, the policy interventions that might be more effective would directly target the root of the dollarization problem-solving market failure caused by the misalignment of market expectations and actual monetary policy.

In conclusion, the major market risk for Georgian banks stems from its heavy foreign exchange position. As long as Georgian banks focus on core banking activities and basically have no trading book, sensitivity to market risk is rather low. However, the amount of foreign exchange relative to regulatory capital has yet to be maintained at a moderate level (Figure 30).

Figure 30: Open Foreign Exchange Position



Source: International Monetay Fund Data (Available: http://data.imf.org/, accessed 9 January 2015).

3.8 Cost of Finance

Private investment can be constrained by the high cost of financing new projects, which is manifested primarily in high lending rates and low domestic credit. Both domestic and external factors can cause financial bottlenecks. This section analyzes the state of Georgia's private credit market and the possible constraints.

3.8.1 Georgia's Private Credit Market

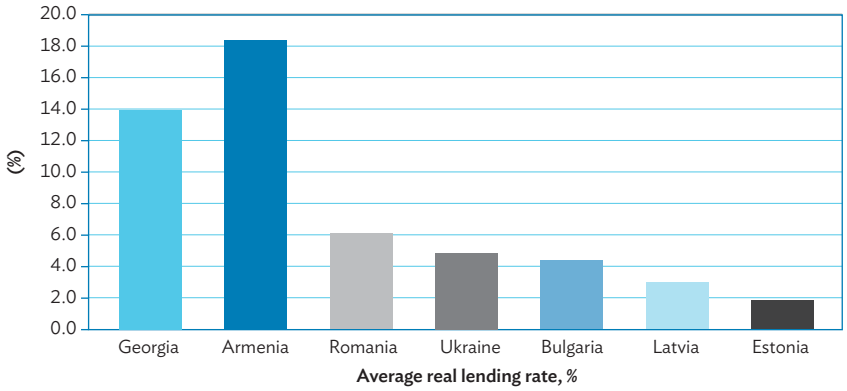
According to the most recent data from both the World Bank's World Development Indicators (WDI) database and the National Bank of Georgia (NBG), Georgia's real lending interest rates are quite high relative to other developing countries in Europe and Central Asia. In 2012, the real lending interest rate was 15.6%.[7] This is still lower than the corresponding figure for neighboring Armenia and Azerbaijan, but higher than other transition countries in Eastern Europe. In 2012, Georgia's real lending rate was the 16th highest in the world (based on WDI, 2014), while calculations based on NBG data puts Georgia 11th in the world. Figure 31 compares the average real interest rates among a group of transition countries in 2000–2012.

The level of gross capital formation (investment) in Georgia was about 29.0% of GDP in 2012. Although this number is on par with other developing countries in Europe and Central Asia, the level of investment does not necessarily reflect private sector activity (Figure 32).

Since the national accounts of Georgia do not differentiate between private and public investment, one needs to look for different ways to gauge private investment activity. One piece of evidence can be found in the domestic credit to private sector data.

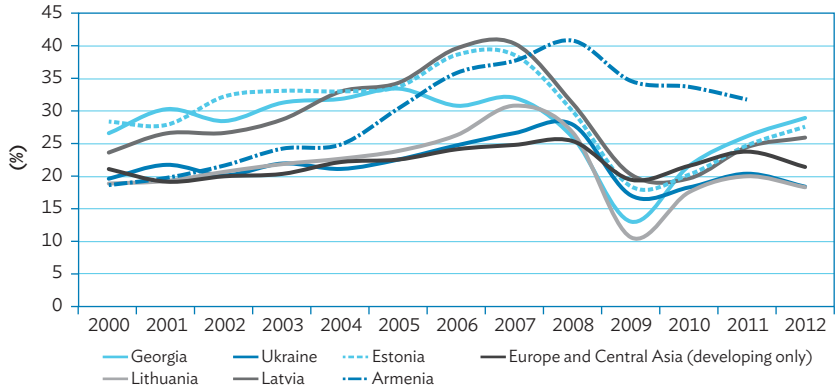
[7] The real lending rate for Georgia is calculated as the nominal lending rate on total loans from the NBG database, minus the inflation rate based on the GDP deflator WDI data. The real lending rate for countries other than Georgia was directly taken from the WDI database. The rationale for not using the WDI database for indicators involving lending and deposit rates for Georgia is the large discrepancy observed between different vintages of WDI data (this particularly concerns Georgia, but was not an issue for the group of comparison countries).

Figure 31: Average Real Lending Rates in Select Transition Economies, 2000–2012



Source: World Development Indicator (2014) and National Bank of Georgia.

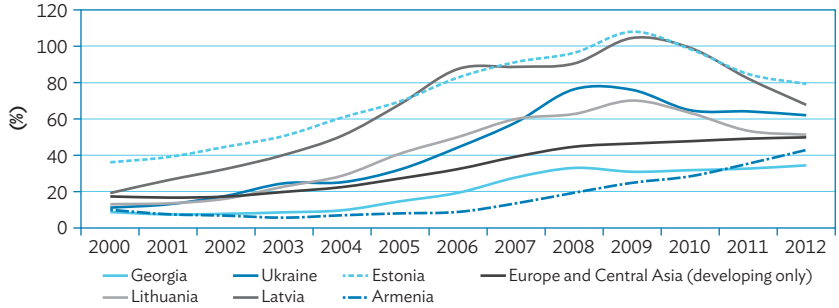
Figure 32: Gross Capital Formation, 2000–2012



Source: World Development Indicator (2012).

Figure 33, shows that the availability of domestic credit to the private sector in Georgia is below the regional average.[8] Private sector credit has been increasing since 2003, but growth has slowed since the global crisis of 2008. On the contrary, trend growth remained stagnant, even as output growth recovered. In contrast, neighboring Armenia's private credit growth showed a positive trend despite high real lending rates in the aftermath of the global crisis.

Figure 33: Domestic Credit to Private Sector, 2000–2012



Source: World Development Indicator (2012).

8 The data are from WDI 2013 unless indicated otherwise.

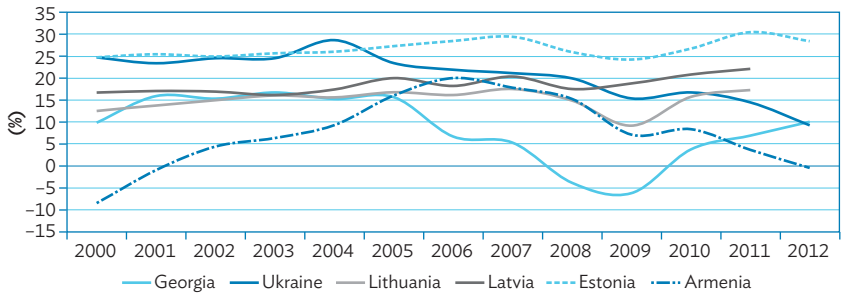
The lackluster growth of the private credit market indicates low private investment activity and problems related to high cost of finance. Problems can arise due to both external and internal factors. In the first case, inadequate access to international financing can increase the cost of credit for private banks and lead to high lending rates domestically. In the second case, a poorly developed domestic banking sector (i.e., lack of competition among banks, cost inefficiencies in the banking sector) can lead to both low domestic savings/investment levels and to high lending rates.

3.8.2 Local Finance and Cost of Credit: Insufficient Domestic Savings, Poor Financial Intermediation or Credit Risk?

While trying to understand the main drivers behind low levels of private investment, it is useful to think in terms of a simple Marshallian demand and supply framework. The level of private investment in the economy and the cost of credit are jointly determined by the supply of savings and the demand for investment in the market. Thus, the combination of low levels of private investment and high lending rates would suggest that low savings supply is the most likely culprit behind the stagnating levels of private credit.

Are Georgia's low domestic savings to blame for high cost of finance? According to the recent WDI data (Figure 34), this may indeed be the case. The country's share of domestic savings in GDP is on average quite low as compared to other transition economies.

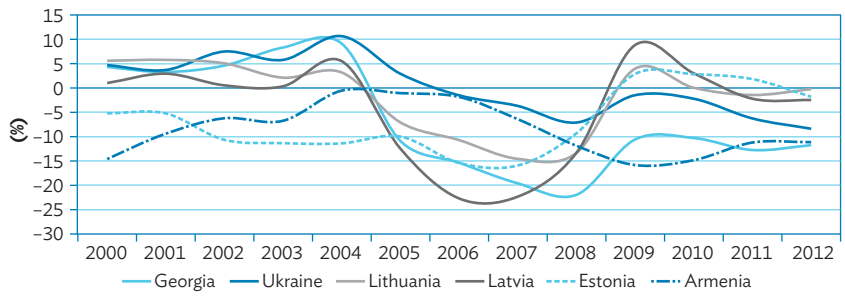
Figure 34: Gross Domestic Savings, 2000–2012



Source: World Development Indicator (2012).

In the meantime, Georgia's current account (CA) balance was declining sharply between 2004–2008, with the current account deficit in Georgia having reached –21.9% of GDP in 2008, and; the deficit between 2009 and 2012 remained quite high, –11.0% of GDP on average(Figure 35). The maintenance of investment levels therefore necessitated heavy international borrowing.

Figure 35: Current Account Balance, 2000–2012



[a] The data up to and including 2004 comes from WDI vintage of 2011.
Source: World Development Indicator, 2011 and 2013.[a]

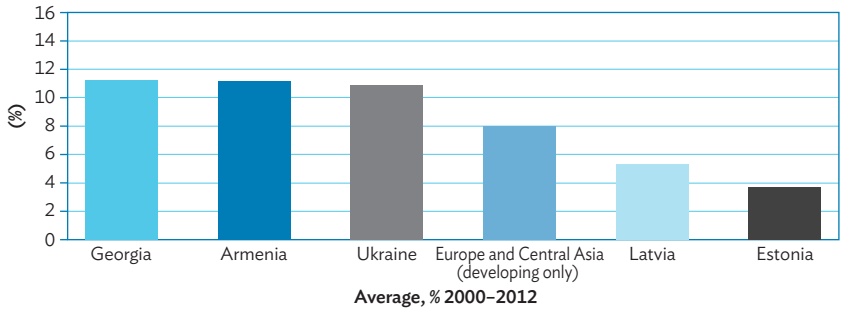
From the experience of other developing countries in the world, especially Brazil, Mexico, and Argentina, such high levels of CA deficit are not sustainable in the long run. To compare, the CA deficit of Mexico was 7.0% of GDP during the 1994 peso crisis.

Clearly, low domestic saving rates in Georgia are a serious constraint to private investment growth. This finding is corroborated by the evidence in other sections of the present report. However, is low domestic savings a binding constraint to private investment growth?

If the lack of private savings was indeed a binding constraint to financing profitable investment projects, we would expect to observe relatively a high interest rate on deposits. Logically, banks, facing shortage of domestic funds, would compete for private deposits to finance profitable private investment.

However, coupling high lending rates with relatively modest deposit rates would lead to a high interest rate spread. Spread between lending and deposit rates in Georgia is indeed among the highest in the region, and stands above the average for developing countries in Europe and Central Asia (Figure 36). See Appendix 2 for further analysis of interest rate spread.

Figure 36: Interest Rate Spread, 2000–2012

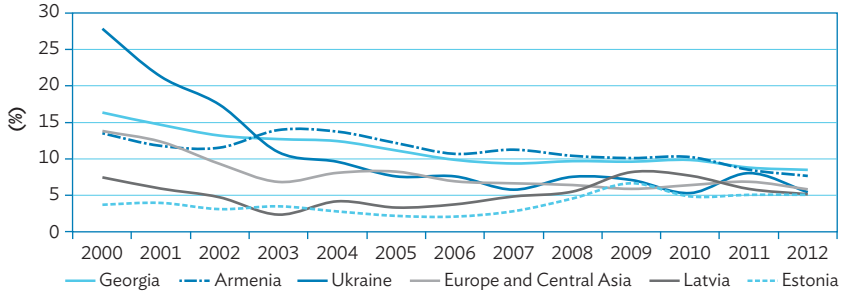


Note: Interest rate spread = Lending rate - deposit rate.
Source: World Development Indicator (2012).

This leads us to conclude that low savings rate and shortage of domestic deposits alone cannot explain the high cost of loanable funds, and may not necessarily be binding constraints to present growth in Georgia.

This conclusion, however, does not imply that low domestic savings are not problematic at all. The dynamics of interest rate spreads in Georgia in recent years has shown some closing of the gap between lending and deposit rates (Figure 37). If the trend continues, this may indicate that the problem of domestic savings supply will become more prominent for the country's cost of finance.

Figure 37: Interest Rate Spread Dynamics, 2000–2012



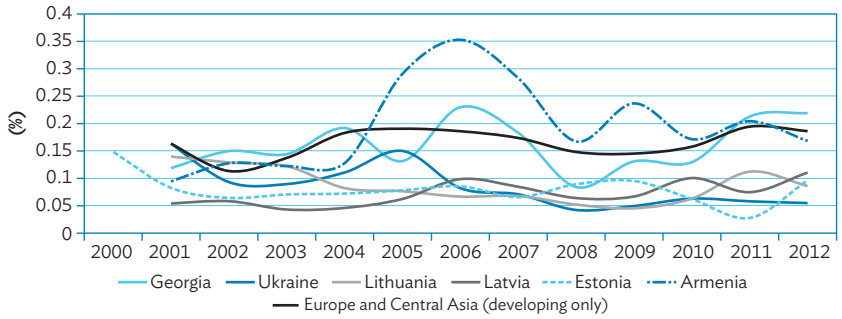
Note: Interest rate spread = Lending rate - deposit rate.
Source: World Development Indicator (2012).

3.8.3 International Finance: Access to Borrowing from Abroad

Very frequently, developing countries' financial problems can be blamed on poor external credit market conditions—such as high world interest rates and/or inability of the country to borrow from the international financial markets. Typically, such problems go hand in hand with high external debt levels, high world interest rates, or adverse worldwide credit market conditions.

While the world credit markets have been impacted by the global credit crunch of 2008, the Georgian economy was not affected disproportionately. The rates of foreign direct investment remained high compared to the regional average. For example, the average foreign direct investment as a share of GDP was 9.7% in Georgia from 2003 to 2012, compared to 5.1% average in developing Europe and Central Asia. Bank capitalization rates and average liquidity ratios indicate that availability of funds is not constraining banks' lending (Figure 38).

Figure 38: Bank Liquid Reserves to Bank Assets Ratio, 2000–2012



Source: World Development Indicator, 2012.

3.8.4 Poor Financial Intermediation

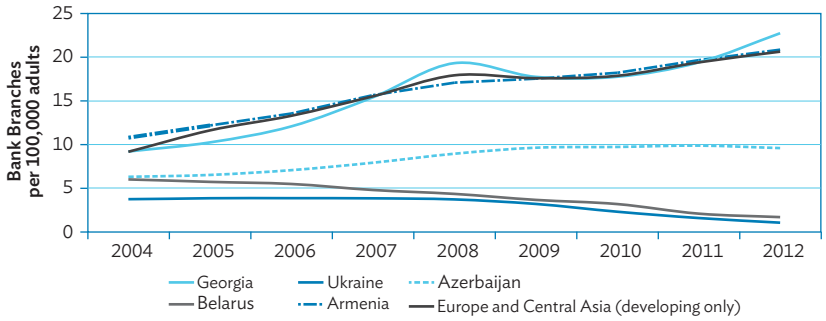
Problems with financial intermediation, such as lack of competition in the banking sector, could lead to high cost of finance in the country. Is banking sector competitiveness a binding constraint to investment growth in Georgia? A cursory examination of the financial sector structure appears to lend some support to this hypothesis. After all, the banking sector in Georgia is highly concentrated. The commercial banking sector controls 95.0% of total assets in the country, and 82.0% of these assets are concentrated in the five largest commercial banks, with 37.0% and 26.0% of banking sector assets belonging to the two largest banks. According to existing research, banking sector concentration in Georgia increased between 2005 and 2008, but the concentration process halted in 2008 (Gabrichidze, 2010).

In theory, however, banking sector concentration does not necessarily imply lack of competitiveness. High concentration in a banking sector could be driven by the economies of scale and lead to higher competitiveness, provided that markets remain open and contestable. In other words, if the barriers to entry into the financial market are low, the threat of competition would preclude competitive behavior by large banks (Claessens and Laeven, 2004).

In the Georgian banking sector, the barriers to entry are low. Moreover, circumstantial evidence points to competitive behavior among Georgian banks. For example, bank branch concentration per 100,000 adults is on par with the average in developing countries in Eastern Europe and Central Asia

(Figure 39), and recently has risen above the regional average; lending rates, although high, have been on a downward trajectory since 2009, and interest rate spread has been on the decline.

Figure 39: Bank Branches per 100,000 Adults, 2004–2012



Source: World Development Indicator (2014).

In addition, competitiveness can be measured by how responsive the banks' market share is to changes in the marginal costs of operation. For example, the banking sector's competitiveness is considered higher if, on average, banks' market share tends to increase in response to lower marginal costs. The marginal cost elasticity of the market share is typically reflected in the so-called Boon indicator. In the case of Georgia, Gabrichidze (2010) finds that between 2005 and 2007 the Boon indicator has increased in absolute value (pointing toward higher banking sector competitiveness), despite the higher industry concentration.

One may conclude that in Georgia, banking sector competitiveness is not the binding constraint, and competition in the banking industry is largely driven by a threat to entry.

3.8.5 Risk Perception and the Cost of Finance

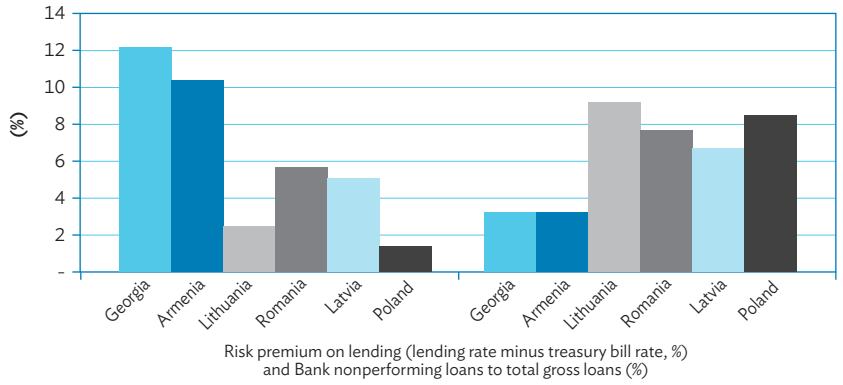
Another explanation for low investment rates and high cost of finance can be banks' reluctance to finance private investment projects that are overly risky.

Among group of comparable countries, Georgia has one of the highest risk premiums (Figure 40).[9] The risk premium is defined as the difference between the prime lending rate and the short-term treasury-bill rate. Paradoxically, however, Georgia's share of nonperforming loans in the total loans is among the lowest in the group.

Given the relatively high interest rate spread in Georgia, coupled with a high risk premium on lending, one can conclude that the high cost of finance in Georgia over the past decade has been driven mainly by the perception of high credit risk of the private sector, rather than the lack of domestic financing. Thus, the perception of high credit risk may have emerged as the binding constraint to domestic private investment.

[9] Once again, due to the significant discrepancies between the vintages of WDI indicators, the data for Georgia's risk premium was based on the National Bank of Georgia data, and the statistics for nonperforming loans based on FSI data. The risk premium was calculated as the domestic currency lending rate minus the treasury-bill rate.

Figure 40: Risk Premium and Nonperforming Loans, 2004–2012



Risk premium on lending (lending rate minus treasury bill rate, %)
and Bank nonperforming loans to total gross loans (%)

Source: World Development Indicator (2014).

3.8.6 Maturity Structure of Credit and Access to Finance

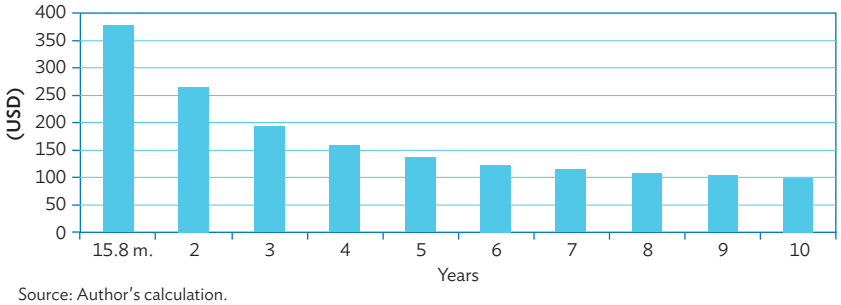
Given the lack of direct financing sources, a serious roadblock for Georgian business development lies in the short maturity structure of bank lending. Short-term financing indirectly contributes to high cost of credit.

According to NBG's data, the average maturity of loans is 15.8 months, while the average lending interest rate is 19.4%. The total loan amount is 5.2 billion GEL as of the end of January 2013. Undoubtedly, lengthening of credit maturity and decreasing the interest rate could have a significant positive impact on borrowers' indebtedness and the cost of debt service.

For instance, increasing average maturity to 3 years while keeping interest rate at the same level would decrease an average borrower's monthly payment by 49.0% (Figure 41). However, decreasing only the interest rates would have a much more moderate impact (Figure 42). For example, decreasing the average interest rate to 18.0% would lower monthly payments only by 1.0%. However, changing both, the interest rate to 18.0% and maturity to 3 years, will decrease the monthly payment by 50.0% (Figure 43).

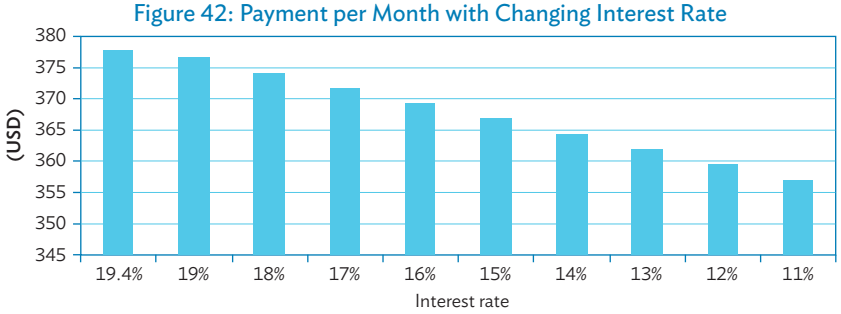
Improving the maturity structure of private lending seems to be the most effective path for banking sector development. Yet, lengthening the maturity of private sector loans can be a challenging task, and would require overcoming the informational as well as institutional hurdles. Box 1 reviews the existing literature on the subject.

Figure 41: Payment per Month with Changing Maturity



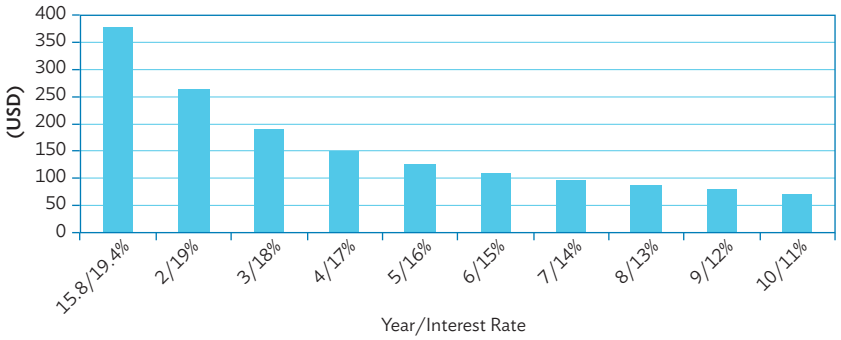
Source: Author's calculation.

Figure 42: Payment per Month with Changing Interest Rate



Source: Author's calculation.

Figure 43: Payment per Month with Changing Maturity and Interest Rate



Source: Author's calculation.

4. Conclusion

Analysis of financial soundness indicators (FSIs) for Georgia demonstrates that the country's financial sector is characterized by significant opportunities for development, as well as a number of serious challenges, which need to be addressed on the policy level.

Overall, the financial sector in Georgia is strongly dominated by banking institutions with direct finance effectively not functioning in the country. The banking sector exhibits comfortable capitalization and liquidity levels eliminating any significant risks of default. The banking sector has demonstrated high resilience even during times of stress, which was achieved through the support of a strong shareholder base.

Despite signs of strength, certain structural constraints do not allow banking institutions to play a more prominent role in the country's economic development. The rather small size of the economy and the banking sector in particular remain major constraints to achieving economies of scale and improved efficiency.

Short-term liability structure translates into the predominance of short-term lending and hinders financing of long-term projects. This results in higher debt service burden and higher credit risks for banks' clients. The dominance of foreign currency-denominated liabilities is reflected in asset dollarization and implies increased currency-induced credit risk for banks.

Low financial literacy and lack of a strong entrepreneurial base result in low financial penetration and prevent growth of the financial sector. Moderate country rating prevent commercial banks from decreasing their cost of funds and drive up lending interest rates. In addition, an underdeveloped industrial base hinders the diversification and expansion of banks' loan portfolio.

Despite the host of factors that increase credit risks for Georgian commercial banks, the nonperforming loans based on the "90 days past due" criteria have remained at comfortable levels compared to their peers. Georgian banks have also shown a competitive return on equity ratios. At the same time, Georgia's financial sector is characterized by large interest rate spreads, which, coupled with high lending rates, indicate that perceived (not necessarily realized) credit risk is responsible for low levels of capital investment. Thus, the system contributes to the adverse selection of bank clients, driving out the low-risk/lower return borrowers from the market, leaving the banks with high-risk/high-return clients.

Overall, our analysis suggests a number of medium and long-term policy actions to strengthen the financial system in the country.

Medium-term policy actions include

- **Deposit insurance and depositor protection mechanisms.** The problem of low domestic savings is caused by inadequate depositor protection mechanisms. According to the recent NBG survey (Savings Behavior Assessment Survey 2011), only 38.0% of people who save money do so in the form of bank savings. However, up to 60.0% of the respondents would save money in the bank if offered deposit insurance. Hence, a well-designed deposit insurance scheme may be one of the means to increase bank savings and lower the cost of credit in domestic currency. In addition, a deposit insurance guarantee may increase competitiveness in the banking sector by making it less risky to deposit money in smaller, non-systemic banks. One has to be careful in designing such a program, primarily to avoid moral hazard problems and consequent excessive risk-taking by banks.

- **Improving credit-sharing mechanism.** Currently, Georgia has a functioning credit information service, which provides a database on defaulting debtors, current and repaid loans, and offers credit scores and income verification services for both individuals and legal entities. However, the information is limited to bank debt information and to publicly available tax and administrative penalties information. Hence, new borrowers appear to be at a disadvantage. Furthermore, the current legislation makes it relatively easy for business clients to "erase" credit histories by opening a new firm, effectively becoming a "new borrower." This further exacerbates new borrowers' access to credit.

- **Facilitating property registration.** While the current laws make it easy to register private property (in fact, Georgia was number one in the world for ease of registering property, according to World Bank Doing Business ranking, 2013), many banking institutions in Georgia face the problem of inadequate property registration. Sometimes, obtaining legal documents on private property ownership is costly for certain groups of borrowers. As in the case of agricultural land, property rights are not established, largely due to lack of proper documentation or land disputes. Encouraging and facilitating private property registration is therefore essential to the development of deeper financial markets. Currently, the Government of Georgia and the World Bank are in the early stages of negotiating a large irrigation and land registration project. When completed, this project could significantly reduce barriers to financing, especially for Georgian farmers.

- **Improving reporting standards for firms.** Currently, small and medium-sized enterprises (SMEs) struggle with substandard financial reporting, which significantly complicates bank borrowing and monitoring processes. Government programs aimed at helping SMEs improve reporting standards could help substantially reduce their cost of borrowing. Georgian firms, on their own, may not have an incentive to improve the quality of their financial reporting to attract funding precisely because bank lending rates may be unaffordable, while capital markets remain undeveloped. This vicious cycle creates room for policy measures to improve/incentivize financial accounting quality.

Long-term policy actions include

- **Developing capital markets.** The absence of direct sources of financing, such as investment funds and stock exchange, puts undue strain on banks as a source of capital financing. The riskiness of start-up projects increases interest rates and reduces overall investment. Capital market development can be facilitated by strengthening the legal base for their operation (e.g.,

strengthening regulations on corporate governance, financial reporting standards, property rights protection, and the legal system are the factors that contribute to capital market development).

- **Diversifying industrial base.** The quality of assets for Georgian banks suffers primarily from the absence of a diversified investment portfolio. Regional and sector diversification of bank lending is rather low, which in turn increases lending risk. In this respect, setting government priorities and a clear industrial policy agenda would help both private firms and banks overcome the informational hurdles and coordination failure problems and channel lending more efficiently.

- **Reducing income inequality through job creation and inclusive growth.** Income and wealth inequality is a long-standing problem in Georgia. It hurts the country's financial system on two fronts by (i) reducing bank savings and (ii) complicating access to finance for a large part of the population. Income and wealth inequality contribute to low diversification, preventing private sector growth. Therefore, the goal of the government should be not simply a stronger economy, but an economy characterized by more equal and inclusive development.

Appendix 1: Compendium on Developing Financial Soundness Indicators in Georgia

1. Abstract

In 2000, the International Monetary Fund (IMF) launched a project on financial soundness indicators (FSIs), dedicated to enabling researchers to assess and compare the soundness of financial systems of various countries. The IMF proposed two subsets of indicators: core and encouraged sets. The core set encompasses 12 indicators measuring the areas of deposit takers' soundness (Table A1). These core indicators were intended to be delivered by all countries participating in the project. The encouraged set comprises 28 indicators: 13 for deposit-takers', 2 for other financial corporations, 5 for nonfinancial corporations, 2 for households, 2 for market liquidity, and 4 for real estate markets.

Table A1: Financial Soundness Indicators: The Core and Encouraged Sets

	Core Set
Deposit-takers	
Capital adequacy	Regulatory capital to risk-weighted assets
	Regulatory Tier 1 capital to risk-weighted assets
	Nonperforming loans net of provisions to capital
Asset quality	Nonperforming loans to total gross loans
	Sectoral distribution of loans to total loans
Earnings and profitability	Return on assets
	Return on equity
	Interest margin to gross income
	Noninterest expenses to gross income
Liquidity	Liquid assets to total assets (liquid asset ratio)
	Liquid assets to short-term liabilities
Sensitivity to market risk	Net open position in foreign exchange to capital
	Encouraged Set
Deposit-takers	Capital to assets
	Large exposures to capital
	Geographical distribution of loans to total loans
	Gross asset position in financial derivatives to capital
	Gross liability position in financial derivatives to capital
	Trading income to total income
	Personnel expenses to noninterest expenses
	Spread between reference lending and deposit rates
	Spread between highest and lowest interbank rate
	Customer deposits to total (noninterbank) loans
	Foreign currency-denominated loans to total loans
	Foreign currency-denominated liabilities to total liabilities
	Net open position in equities to capita
Other financial corporations	Assets to total financial system assets
	Assets to gross domestic product (GDP)
Nonfinancial corporations sector	Total debt to equity
	Return on equity
	Earnings to interest and principal expenses
	Net foreign exchange exposure to equity
	Number of applications for protection from creditors
Households	Household debt to GDP
	Household debt service and principal payments to income
Market liquidity	Average bid-ask spread in the securities market
	Average daily turnover ratio in the securities market
Real estate markets	Real estate prices
	Residential real estate loans to total loans
	Commercial real estate loans to total loans

Georgia is by now a full member of a number of international statistical initiatives including

(i) The Special Data Dissemination Standard (SDDS), since May 2010, alongside with National Statistics Office of Georgia and Ministry of Finance;
(ii) The International Reserves and Foreign Currency Liquidity Template, since April 2010;
(iii) FSIs, since April 2012

The projects' member countries disseminate FSIs on different certain frequency (i.e., some on quarterly bases, others on monthly bases). Today, about 74 countries report FSIs to the IMF, which disseminates the data on its website. Currently, the National Bank of Georgia (NBG) disseminates 12 core and 17 encouraged indicators (Box A1).

Box A1: National Bank of Georgia Data Dissemination Practice

After the National Bank of Georgia's (NBG) participation in the financial soundness indicator (FSI) project of the International Monetary Fund (IMF) in 2010, NBG went through a series of preparatory works, which include compiling, analyzing, and systematization of financial indicators in accordance with appropriate metadata and acceptable international standards. As of June 2014, NBG has submitted 12 core indicators and 17 encouraged indicators to the IMF for public dissemination through the IMF's FSI website, including:

1. **For deposit-takers**
   - Capital to assets
   - Geographical distribution of loans to total loans
   - Gross asset position in financial derivatives to capital
   - Gross liability position in financial derivatives to capital
   - Trading income to total income
   - Personnel expenses to noninterest expenses
   - Spread between reference lending and deposit rates
   - Spread between highest and lowest interbank rate
   - Customer deposits to total (noninterbank) loans
   - Foreign currency-denominated loans to total loans
   - Foreign currency-denominated liabilities to total liabilities
   - Net Open position in equity to capital.
2. **For nonfinancial corporations**
   - Number of applications for protection from creditors
3. **For market liquidity**
   - Average bid-ask spread in the securities market
   - Average daily turnover ratio in the securities market
4. **For real estate markets**
   - Residential real estate loans to total loans
   - Commercial real estate loans to total loans

NBG is the only designated agency to compile FSIs for Georgia and has the legal authority to collect financial information from financial institutions. However, bilateral and multilateral arrangements for collaboration on data issues are maintained with other data-producing and international organizations to obtain more data for nonfinancial sectors of the economy to produce a full range of FSIs.

2. Core Set of Financial Soundness Indicators

2.1. Capital adequacy

Capital adequacy ratios reflect the solvency of the Georgian banking sector. These indicators show the level of loss absorbency in Georgian commercial banks. The presence of Basel 1 standards

creates comparability issues across countries. It is recommended that FSIs will soon be based on Basel II/III methodology as the implementation is under way. Nonperforming loans, as a percentage of capital show the potential loss extent from loan impairment. As long as major shocks stem from loan portfolio quality, these indicators well reflect the local banking sector's loss absorbency capacity.

2.1.1 Regulatory capital to risk-weighted assets

To calculate the index, sector-wide regulatory capital should be the numerator and sector-wide risk-weighted assets should be the denominator. IMF guidance gives the Basel II definition of capital.

To derive sector-wide regulatory capital, the consolidated regulatory capital of the deposit-taking groups in the reporting population is aggregated. To derive sector-wide risk-weighted assets, the consolidated risk-weighted assets of the deposit-taking groups in the reporting population are also aggregated.

As per IMF's recommendation, an aggregate measure of capital adequacy potentially disguises information on individual institutions. Thus, for macro prudential analysis it is useful to supplement the aggregate ratio with information on the dispersion of ratios for individual institutions or subsectors of the banking system. NBG publishes information on individual regulatory capital adequacy ratios on a quarterly basis on its website.

Importantly, NBG's capital requirements are not currently based on Basel II standards; however, starting next year it plans to make the transition toward Basel II. NBG's current requirements are based on Basel I standards, subject to some differences. NBG's capital adequacy standards mandate higher quality core capital and ratios that are more conservative than relevant BIS (Basel I) requirements. NBG risk-weights assets for currency-induced credit risk. In addition, this risk weight has been changing over time for supervisory policy purposes. In line with the countercyclical prudential policy, during the recession NBG lowered the above-mentioned risk weights from 100.0% to 50.0% percent. The required risk weight for foreign currency-induced credit risk went up to 75.0% in January 2011. Additionally, the regulation does not permit lower risk weighting for mortgages or the inclusion of the revaluation reserves of a bank's own premises in the calculation of regulatory capital. All of the above effectively raises the prudentially-mandated ratio well above the corresponding BIS requirement.

For comparability purposes, the requirement for Tier 1 capital to comprise at least 50.0% of the regulatory capital gives the wrong picture of the total regulatory capital ratio, with a downward bias. This should be accounted for in further research.

Notably, Georgia stands out among other countries for having very conservative loan valuation standards, which at times can have a significant impact on the capital adequacy ratio.

NBG collects data that are based on the local regulation standards mentioned above. Individual ratios are published quarterly by bank on the NBG website.The "Regulatory Capital Adequacy Ratio" is the corresponding system-wide ratio in the FSI document on NBG website. The available series are for October 2002–September 2012.

The dispersion analysis is not published by NBG, but can be derived from available individual data. Our future research will provide such analysis.

Moreover, the data does not include capital and risk-weighted assets of deposit-taking credit unions because these institutions are not obliged to perform such calculations. Given the small size

of the nonbank deposit-taking institutions, omission of this data should not have any material impact on the aggregated ratio.

2.1.2 Regulatory Tier 1 Capital to Risk-Weighted Assets

To calculate the index, sector-wide Tier 1 regulatory capital should be the numerator and sector-wide risk-weighted assets should be the denominator. IMF guidance gives the Basel II definition of Tier 1 capital.

NBG collects all necessary data, but the figures are based on local regulation that complies more with Basel I than Basel II standards. This ratio is published quarterly, bank by bank, on the NBG website. The data on the IMF website includes the necessary data.

Besides the comparability issues discussed above, the components of Tier 1 capital pose some additional comparability issues. In particular, Tier 1 capital includes only the retained earnings of the previous years, while the current year's profits (or losses) are excluded (see the Regulation on Capital Adequacy Requirements for Commercial Banks). This could have either an upward or downward bias or could result in a rather sharp jump at the end of the year when retained earnings are affected by profits (or losses).

Moreover, the data does not include capital and risk-weighted assets of deposit-taking credit unions, as because these institutions are not obliged to perform such calculations. Given the small size of the nonbank deposit-taking institutions, omission data on them must not have any material impact on the aggregated ratio.

2.1.3 Nonperforming Loans Net of Provisions to Capital

This FSI is calculated by taking the value of nonperforming loans (NPLs) less the value of specific loan provisions as the numerator and capital as the denominator. The compilation guide by the IMF relies on national practices in identifying specific provisions.[10]

Nonperforming loans are calculated based on the regulation on "asset classification and the creation and use of reserves for losses by commercial banks."[11] According to the regulation, loans are classified in five categories: standard, watch, substandard, doubtful, and loss. Two percent (2.0%) of general provisions are created upon origination of the loan. Specific provisions (10.0%, 30.0%, and 50.0%) are created respectively on loans in different classes. Loss loans are written off the balance. The provisioning rules of NBG are much more conservative than those based on IMF guidance.

However, for the purposes of publishing FSIs, NBG specifically collects data on loans that are overdue for more than 90 days, and specific provisions are created against them. IMF data also contains this information. It is recommended that NBG uses loan loss provisions based on local asset-classification standards. Such data will be used during further research because they are available from different data files on the NBG website. The data based on local asset-classification standards is also available on the NBG website.

Importantly, local accounting standards classify as loans only their principal amount, which is different from the carrying amount of loans per International Financial Reporting Standards (IFRS). However, when loans are past due for more than 90 days, no interest should be accrued on them

[10] http://www.imf.org/external/pubs/ft/fsi/guide/2006/pdf/appendix.pdf.

[11] http://www.nbg.ge/uploads/legalacts/supervision/nbg1.4.5.1regulation_on_assetseng.pdf.

based on local accounting, which gives assurances that such calculations would not raise concerns over potential misstatements.

The 45th footnote to Paragraphs 4.62 of the FSI compilation guide mandates that investments in other deposit-takers, which are also in the reporting population, should be excluded from capital and reserves. It is recommended that NBG at least deducts from capital investment in nonconsolidated commercial banks. However, this would result in just one deduction. Further analysis is needed here.

The "capital" data that is compiled in IMF metadata are a simple accounting measure of capital without any adjustments based on local accounting standards.

2.2 Asset Quality

Nonperforming loans to total gross loans reflect asset quality problems in the local market. One should be warned that they are only based on overdue days; the amount could significantly differ across countries, although comparability is rather easier in this case. The indicator shows what loss one should expect from the current portfolio of commercial banks. It reflects the repayment ability of the prevailing customers to commercial banks. A high level of nonperforming loans can result from high risk appetite as well as fundamental macroeconomic factors. Sector distribution is an additional parameter of concentration measure. However, beyond the commercial sector, Georgian banks are not largely exposed to different sectors.

2.2.1 Nonperforming Loans to Total Gross Loans

This FSI is calculated by using the value of NPLs as the numerator and the total value of the loan portfolio (including NPLs and before the deduction of specific loan loss provisions) as the denominator. Data on loans should exclude accrued interest on nonperforming loans and lending among deposit-takers in the reporting population that are part of the same group.

In the numerator, NBG compiles the value of loans overdue for more than 90 days before deducting specific provisions. The amount of total gross loans is also compiled in IMF data. However, it is not clear whether these loans exclude or include among Georgian commercial banks. As mentioned throughout the discussion of the previous indicator, nonperforming loans in the FSI document are based on local accounting standards. This would be clarified in further analysis.

2.2.2 Sectoral Distribution of Loans to Total Loans

The data are compiled in the IMF website according to IMF guidelines.

2.3 Earnings and Profitability

These indicators provide insights into the efficiency of local commercial banks. On the one hand, rather high levels of return on assets and equity make the local market attractive; however, they also reflect the risks inherent to activities in the local market. They should help data consumers draw conclusions on the structure of income and expenses, particularly whether interest income is the main source of income, which is, in turn, a more sustainable model. Additionally, FSIs show the magnitude of noninterest expenses that show the operational efficiency of commercial banks. The latter indicator should be analyzed with care because a rather small operational efficiency could be caused by the size of the local banking sector.

2.3.1 Return on assets

Data are available both for the numerator and the denominator. However, it should be noted that accrual of interest on nonperforming assets is not recorded separately from other interest and related income and should not be included in interest income according to IMF guidelines.

Additionally, loan loss provisions are based on local accounting standards, which affect the indicator of interest but not a longer time horizon for loans.

Monthly data are available on the NBG website in the "Assets and Liabilities of the Commercial Banks" and "Financial aggregates of commercial banks' activities" documents. Monthly data take averages of equity at the beginning of the given year and for the current date. Data are compiled in the IMF data file as well.

It is recommended that NBG separates interest accrual on nonperforming loans from the rest of interest income.

2.3.2 Return on equity

Data are available for both the numerator and the denominator. However, accrual of interest on nonperforming assets is not recorded separately from other interest and related income and should not be included in interest income according to IMF guidelines. Monthly data take averages of equity at the beginning of the given year and for the current date. Such data are compiled in the IMF data file as well.

It is recommended that NBG separates interest accrual on nonperforming loans from the rest of interest income.

2.3.3 Interest margin to gross income

The indicator is calculated as net interest income divided by gross income.

Interest income should not include the accrual of interest on nonperforming assets, because net interest income would be overstated relative to the actual interest-earning capacity of the deposit-taker.

Data are available both for the numerator and the denominator. Gross income is the sum of interest and noninterest income. Per IMF guidance, it includes both realized and unrealized gains and losses arising from all financial instruments and excludes equity in associates, subsidiaries, and any reserve equity investments.

Provisions for interest accrual on nonperforming assets should be deducted from gross interest income to eliminate the interest accruing on nonperforming assets in the interest income line.

Noninterest income includes all other income received by the deposit-taker, including fees and commissions from the provision of services, and gains and losses on financial instruments. Net interest income together, with noninterest income, is equal to gross income.

Net interest income has already been discussed in the above paragraphs. The data are available on a monthly basis. This index is compiled on the IMF website.

2.3.4 Noninterest expenses to gross income

This FSI measures noninterest expenses to gross income.

Noninterest expenses cover all expenses other than interest expenses, including fees and commissions. They include operating expenses relating to ordinary banking business (other than interest expenses) such as (i) personnel (or staff) costs; (ii) expenses for property and equipment (ordinary and regular maintenance and repair), rentals paid on buildings, other structures and equipment (and related depreciation), and rents paid on land; (iii) other expenditures related to operations, including purchases of goods and services (e.g., advertising costs, staff training service expenses, and fees for other services provided), and royalties paid for the use of other produced or non-produced assets (excluding expenses classified as personnel costs; and (iv) taxes other than income taxes—such as taxes on the ownership or use of land and buildings or on labor employed (including payroll and other employee-related taxes payable by the employer)—less any subsidies related to operating activity, such as subsidies received from general government. Also included are any fines and penalties imposed on deposit-takers by courts of law or otherwise, and any amounts payable by deposit-takers as compensation to other institutional units for injury and damage. For deposit-takers, operating expenses also include any premiums paid to a deposit insurance fund.

NBG reporting complies with IMF guidelines. Data are available both for the numerator and the denominator. Noninterest expenses can be found in the "Financial aggregates of commercial banks' activities" document and on the IMF website. Gross income is given in the same document under the "income" column.

The data are compiled on the IMF website.

2.4 Liquidity

Liquidity is an important soundness indicator because when problems arise with liquidity risk, they have implications for other risks as well and on the sector generally. The two indicators that Georgia compiles can help draw conclusions on how liquid assets of commercial banks are. Importantly, the calculation needs further improvement, although it gives a broad view of liquidity levels.

2.4.1 Liquid Assets to Total Assets (Liquid Asset Ratio)

The indicator measures liquid assets to total assets. It is calculated by using the core measure of liquid assets as the numerator and total assets as the denominator. This ratio can also be calculated using the broad measure of liquid assets.

Liquid assets are those assets that are readily available to an entity to meet a demand for cash. In the FSI guide, liquid assets comprise (i) currency; (ii) deposits and other financial assets that are available either on demand or within 3 months or less (although deposit-takers' deposits and other non-traded claims with other deposit-takers included in the reporting population are excluded); and (iii) securities that are traded in liquid markets (including repo markets) and can be readily converted into cash, with insignificant risk of change in value under normal business conditions. Typically, securities issued by the government and/or the central bank in their own currency meet the criteria of as liquid assets A number of markets for high credit-quality private securities—both debt and equity securities—also meet the criteria. The instruments in (i) and (ii) above can be classified as core liquid assets, while the instruments in (iii) can be added to provide a broad measure of liquid assets.

Deposit-takers' deposits (and other non-traded claims) with other deposit-takers in the reporting population are excluded.

"The Regulation on Supervision and Regulation of the Activities of Commercial Banks" defines liquid assets as follows:[12]

"Liquid Assets" – cash items and the assets that have the ability and possibility to be readily (rapidly) converted into cash. Calculation of "Liquid Assets" shall include the amounts on the balance sheet accounts NN 1003, 1004, 1005, 1006, 1013, 1014, 1015, 1016, 1018, 1051, 1052, 1061, 1062, 140, 141, 1502, 1512, 1702, 1703, 1712, 1713, 1722, 1723, 1732, 1733 (Cash - Commercial Bank; Cash in ATM; Cash in Outside Offices; Bank Notes and Coins in Transit; Other Payment Documents; Statutory Reserves of Commercial Banks With the NBG; Correspondent Accounts With the NBG; Government Debt Securities in Local Currency; Government Debt Securities; Correspondent Accounts "Nostro" in Nonresident Commercial Banks; Correspondent Accounts "Nostro" in Resident Commercial Banks Term Deposits in Nonresident Commercial Banks; Term Deposits in Resident Commercial Banks). Furthermore, the calculation of liquid assets shall include the total amount of government securities and the NBG deposit certificates not exceeding 10.0% of the amount of the bank's "liabilities" determined by this Regulation. The calculation of liquid assets shall not include: debt securities issued by the OECD non-member governments and/or central banks on the balance sheet accounts NN 141 and 1512, the amounts on blocked correspondent accounts, adversely classified interbank deposits, the amount of minimum reserves placed with the National Bank of Georgia or its portion, which is pledged against a credit taken by a commercial bank".

This definition does not comply with with the IMF's definition. The components of liquid assets disclosed on the IMF website are not clear.

NBG needs to more thoroughly reconsider what should be included in the core measure of liquid assets. It should comprise cash, deposits, and other financial assets excluding securities with less than 3 months maturity and claims on other domestic banks. NBG collects all necessary data for compiling the given index of interest.

IMF also recommends that distinguishing between foreign and domestic currency-denominated liquid assets can be important, particularly in periods of financial stress.

As long as Georgia remains a dollarized economy, it is very important to disclose foreign currency and domestic currency-denominated liquid assets.

Currently, we need to analyze the figures that are given on the IMF website.

2.4.2 Liquid Assets to Short-term Liabilities

This FSI measures liquid assets to short-term liabilities. It is calculated by using the core measure of liquid assets as the numerator and short-term liabilities as the denominator. This ratio can also be calculated by taking the broad measure of liquid assets.

Short-term liabilities are the short-term element of deposit-takers' debt liabilities and the net (short-term, if possible) market-value financial derivatives position (liabilities less assets); the definition excludes such liabilities to other deposit-takers in the reporting population. Preferably

[12] http://www.nbg.ge/uploads/legalacts/supervision/nbg1.4.5.1regulation_of_the_activities_eng.pdf.

"short-term" should be defined on a remaining maturity basis, although original maturity is an (albeit more limited) alternative.

The measurement issues for liquid assets have been discussed above.

Data on short-term liabilities on the IMF website apparently comprises short- term liabilities of commercial banks excluding claims on other domestic banks.

2.5 Sensitivity to Market Risk

Net open position in comparison with capital shows what volume of assets is vulnerable to foreign exchange (FX) volatility as a percentage of capital. Although the given FSI might seem sound, its comfort level would usually result in an uncomfortable push on the size of the credit risk because of disbursing FX-denominated loans to unhedged customers.

2.5.1 Net Open Position in Foreign Exchange to Capital

The index is calculated as net open position in foreign exchange to capital. A deposit-taker's open position in foreign exchange should be calculated by combining the foreign currency positions into a single unit of account as the numerator. Capital is the denominator.

Foreign currency items are both those payable (receivable) in a currency other than the domestic currency (foreign currency-denominated) and those payable in domestic currency but with the amounts to be paid linked to a foreign currency (foreign currency-linked). Foreign currency positions should be converted into the unit of account, using the midmarket spot exchange rate of the reporting date.

Deposit-takers' net open position is the sum of the net position in on-balance-sheet foreign currency debt instruments; net notional positions in financial derivatives; on-balance-sheet holdings of foreign currency equity assets; net future foreign currency income and expenses not yet accrued but already fully hedged; foreign currency guarantees and similar instruments that are certain to be called and are likely to be irrecoverable; and, depending on the national commercial accounting practice, any other item representing profit/loss in foreign currencies of the foreign currency positions set out in a single unit of account. The FSI guide describes the sum of the first three items listed above as the "net open position in foreign exchange for on-balance-sheet items."

According to "Regulation Setting, Calculating and Maintaining Overall Open Foreign Exchange Position Limit of Commercial Banks", foreign exchange position shall represent the difference between the bank's assets and liabilities formed in foreign exchange.[13] When calculating the consolidated foreign exchange position, all reported assets existing in foreign exchange and the sum of foreign exchange contracts on purchase of the same foreign exchange shall be included in assets of each foreign exchange, while in liabilities, all reported liabilities existing in foreign exchange and the sum of foreign exchange contracts on sale of the same foreign exchange.

Such a definition gives only a limited breakdown of the overall open currency position.

The data on the IMF website disclose the overall open currency position.

[13] http://www.nbg.ge/uploads/legalacts/supervision/nbg1.4.5.1regulation_settingeng.pdf

3. Encouraged Financial Soundness Indicators

3.1 Deposit-Takers

Encouraged FSIs could show some additional insights into the soundness of the local financial sector. In particular, capital to assets is rather a simplified leverage ratio and its comparability with that of the peer countries could be much easier and straightforward. Credit risk concentration is reflected in "large exposures to Capital FSI." For small economies like Georgia, concentration risk is much more significant; thus, it should be analyzed in parallel with asset quality FSIs to draw conclusions on the size of potential loss on its portfolio. Regional distribution of assets is less relevant to the local sector at the moment due to the very limited portion of portfolio that is lent outside. This indicator gives the insight that some fundamental factors are preventing Georgian banks from lending abroad, which could well be caused by the rather high interest rates even internally. The other indicators show how extensively Georgian banks use hedging instruments (derivatives) and generate income from trading. They both show immaterial involvement in hedging and trading activities. Interest rate spreads are largely perceived to reflect monopolization level in the markets. However, it can be quite misleading for the Georgian case as long as competition is demonstrated to be quite high, although interest rate spreads are very significant in comparison with other countries. One needs to look at the pricing breakdown to explain interest rate spreads. Encouraged FSIs contain very important indicators, due to the significance of foreign currency-induced credit risk in the local market.

3.1.1 Capital to Assets

The data are available for both the numerator and the denominator. The Accounting definition of capital is used rather than regulatory capital.

3.1.2 Large Exposures to Capital

The FSI guide sets out three approaches to defining this FSI at the sector level:

(i) The total number of large exposures of deposit-takers identified under the national supervisory regime.
(ii) Total exposure of the five (or about five, depending on national circumstances) largest deposit-takers to the five largest according to asset size, resident entities (including all branches and subsidiaries) in both the other financial corporations sector and the nonfinancial corporations sector, in addition to the exposure to the general government, as a percentage of the five largest deposit-takers' capital.
(iii) Total exposures of deposit-takers to affiliated entities and connected counterparties as a percentage of capital.

Georgia does not compile the given indicator, although the data must be available to NBG as per the requirements of the "Regulation on Credit Concentration and Large Risks in Commercial Banks." However, Georgia has a more conservative approach toward defining large exposures. In particular, it defines "Large Loans and Other Liabilities" as loans and other obligations issued by the banks to a person or a group of interconnected borrowers in the amount exceeding 5.0% of the bank's regulatory capital. The ratio is two times smaller than the globally accepted practice of 10.0%.

3.1.3 Geographical Distribution of Loans to Total Loans

This FSI provides information on the geographic distribution of gross loans, by region. Georgia compiles the required data on the IMF website.

3.1.4 Gross Asset Position in Financial Derivatives to Capital

The FSI is calculated using the market value of financial derivative assets as the numerator and the accounting measure of capital as the denominator.

The data are compiled on the IMF website.

3.1.5 Gross Liability Position in Financial Derivatives to Capital

The FSI is calculated using the market value of financial derivative liabilities as the numerator and the accounting measure of capital as the denominator.

The data are compiled on the IMF website.

3.1.6 Trading Income to Total Income

This FSI is calculated using gains or losses on financial instruments as the numerator and gross income as the denominator.

Gains and losses on financial instruments are those arising during the period under review. The FSI guide encourages inclusion in this item of realized and unrealized gains and losses arising during each period on all financial instruments (financial assets and liabilities, in domestic and foreign currencies) valued at market or fair value on the balance sheet, including investment account securities but excluding equity in associates, subsidiaries, and any reverse equity investments. Gains and losses on foreign exchange instruments and on financial derivative instruments, such as interest rate swaps, are also included. Gains and losses on financial instruments exclude any interest included in the net interest income account as accrued for that instrument in the reporting period, as such amounts have been already accounted for in the income account as interest income.

It is supposed that NBG has compiled the data in accordance with the guidance because the local accounting gives the possibility of separating all necessary items. This would be investigated in further research.

3.1.7 Personnel Expenses to Noninterest Expenses

Personnel costs include the total remuneration, in cash or in kind, payable by the enterprise in return for work done by employees during the accounting period. Such costs include wages and salaries, paid annual leave, and paid sick leave; profit sharing and bonuses; allowances for housing and cars as well as free or subsidized goods and services (except those required for employees to do their work); and social security contributions for such items as medical care and pensions. Also included are unfunded employee social insurance benefits such as continued payment of normal or reduced wages during periods of absence from work resulting from ill health and accidents, redundancy payments, and so on.

Data on personnel expenses are collected and compiled according to IMF guidelines.

3.1.8 Spread between Reference Lending and Deposit Rates

The IMF guide recommends at a minimum the calculation of the weighted average of all lending and deposit interest rates (excluding intra-sector loans and deposits) during a reference period in the portfolio of resident deposit-takers.

The data are compiled on the IMF website. The average on all deposits and loans are compared; however, they do not exclude loans to domestic commercial banks, which could have only a minor impact.

3.1.9 Spread between Highest and Lowest Interbank Rate

NBG compiles the spread between highest and lowest interbank rate, according to IMF guidelines.

3.1.10 Customer Deposits to Total (noninterbank) Loans

The IMF guide recommends that the type of depositor as the primary factor in defining customer deposits, because of both its relevance and its general applicability. Thus, customer deposits include all deposits (resident or nonresident) except those placed by other deposit-takers and other financial corporations (resident and nonresident).

NBG collects data on total deposits and interbank deposits from commercial banks and only total claims to the banks and nonbank depository corporations from nonbank depository institutions, meaning that the exact measure of the indicator cannot be derived. However, even the total amount of claims to the banks and nonbank depository corporations of credit unions (which are the only nonbank depository institutions) is immaterial. As of the second quarter of 2012, it equaled 7,220 GEL (see "Assets and Liabilities of the Non-Bank Depository Corporations" data file).[14] Thus, the figures put into the IMF data by NBG (total deposits, excluding interbank deposits) are essentially an exact measure.

The data on deposits include the following items (see, Deposits [Methodological notes] document):[15]

Deposits are the sums of money or securities stored in a bank on behalf of physical or legal entities. The bank pays the client a certain percent for use of these means in the investment and credit activity. In the banks' reporting, it is reflected as a liability.

Demand deposits are bank deposits that can be withdrawn by the owner without preliminary notice. These are broken down to current accounts and other demand deposits:

(i) Current accounts are bank accounts from which funds can be withdrawn by the owner without preliminary notice; these accounts are intended for current operations on behalf of clients.
(ii) Other demand deposits include given guarantee deposits, deposit accounts for checkbooks, deposit accounts for bank cards, deposit accounts for letters of credit, and deposit accounts for other payment documents.
(iii) Deposit accounts for guarantees are used for funds that represent securities for guarantee payment.
(iv) Deposit accounts for bank cards are used for deposition and recovery of funds by legal entities and individuals and for payment by different means.
(v) Deposit accounts for checkbooks allow a depositor to write checks which can be cashed immediately at the bank.
(vi) Deposit accounts for letters of credit certify the right of a legal entity or an individual to receive the amount of money indicated in the letter of credit.
(vii) Time deposits include deposits that have a maturity specified by a contract and are charged by the bank.

[14] http://nbg.gov.ge/index.php?m=306&lng=eng.
[15] http://nbg.gov.ge/index.php?m=306&lng=eng.

(viii) Letter of credit is a payment document that authorizes one bank to order another bank to carry out payment for provided goods or services with funds reserved in advance.

Banks separately record loans received under local Generally Accepted Accounting Principles (GAAP). However, local GAAP only records loans received from government in local currency; loans and advances from banks in local currency; loans and advances from the NBG; and loans and advances from financial institutions. Theoretically, if there are any loans from individuals or corporate entities, they would probably fall under deposits.

3.1.11 Foreign Currency-Denominated Loans to Total Loans

This FSI measures the relative size of foreign-currency loans within gross loans. It is calculated by using the foreign currency and foreign-currency-linked part of gross loans to residents and nonresidents as the numerator, and gross loans as the denominator.

NBG collects all relevant data. There is no practice among Georgian banks to grant foreign currency linked loans, which eliminates the possibility of arriving at wrong figures.

3.1.12 Foreign Currency-Denominated Liabilities to Total Liabilities

This FSI measures the relative importance of foreign-currency funding within total liabilities. It is calculated using the foreign-currency liabilities as the numerator and total debt plus financial-derivative liabilities less financial-derivative assets as the denominator.

NBG collects all relevant data. There is no practice among Georgian banks to grant foreign currency-linked loans, which eliminates the possibility of arriving at wrong figures.

NBG data on IMF website do not include financial derivatives, which could have some but not any material impact on the derived ratios.

3.1.13 Net Open Position in Equities to Capital

This is calculated by using deposit-takers' open position inequities as the numerator and capital as the denominator. The open position should be calculated as the sum of on-balance-sheet holdings of equities and notional positions in equity derivatives. Capital is measured as capital and reserves.

NBG collects the necessary data. There are no equity derivatives on the balance sheet of Georgian banks.

3.2 Other Financial Corporations

Encouraged FSIs for nonbank financial institutions are used to measure the depth, complexity, and institutional diversification of the local financial sector, which increases with the development of the local economy and the sector. Peer analysis would identify the typical room for institutional diversification that could channel saved resources to customers.

3.2.1 Assets to Total Financial System

The numerator is other financial corporations' financial assets and the denominator is total financial system assets. The latter is the total of financial assets owned by deposit-takers, other financial corporations, nonfinancial corporations, households, the general government, and the central bank.

Legally, NBG supervises representatives of the financial sector including a commercial bank, nonbank depository institution, insurance undertaking, reinsurance undertaking, brokerage company, independent registrar of securities, asset managing company, central depository, specialized depository, stock exchange, microfinance organization, founder of nonstate pension scheme, insurance brokerage company, accountable company, qualified credit institution, money transfer agent, and currency exchange points.

Besides, the civil code allows every person the right to grant credits. This implies that not all individuals/entities are obliged to register at NBG to be allowed to run a credit-granting business.

Importantly, high standard financial reporting is only performed by the commercial banks and by some microfinance organizations and credit unions. This means that the exact measure of this indicator as of now cannot be derived.

Because of the reasons mentioned above, NBG does not compile the given FSI; however it plans to compile approximate measures in the nearest future.

3.2.2 Assets to Gross Domestic Product

Other financial corporations' financial assets are the numerator and GDP is the denominator.

The data are not compiled by NBG for the reasons mentioned above on the previous FSI.

However, NBG plans to compile an approximate measure in the nearest future.

3.3 Nonfinancial Corporations

The Georgian Statistics Office (GeoStat) conducts the nonfinancial corporations survey, which comprises the quarterly statistical survey of enterprises, the annual statistical survey of enterprises (for legal persons), and the annual statistical survey of individual enterprises. However, the survey does not include information for compiling the nonfinancial corporations' FSIs. The databases are processed quarterly using the format required for the System of National Accounts, which represents a basis for calculation of total output by 45 types of activities, considering the non-observed economy.

In November 2013, a joint activity between ADB, NBG, GeoStat, and Tbilisi State University (ISET) was designed to compile and estimate FSIs indicators for nonfinancial corporations, other financial corporations, and households. A questionnaire was developed to conduct the survey for the three sectors either separately or integrated with the ongoing activity of the national statistics office. (Appendix 4).

3.3.1 Total Debt to Equity

This FSI is a measure of corporate leverage (i.e., the extent to which activities are financed through liabilities other than a corporation's own funds).

For compiling the index the debt data of nonfinancial (as numerator) and, capital and reserves (as denominator) are needed. In practice, both the numerator and denominator should be available from the published corporate financial statement and aggregate. In measuring sector-wide capital, all intra-sector equity investments should be deducted to avoid double-counting the values of some equities. The same logic is implemented for debt counting.

As mentioned before, the data from nonfinancial corporations is not available but the rough approximation of the debt variable can be derived. The data on loans of legal persons (i.e., nonfinancial corporations) excluding the interbank loans from commercial banks are available from NBG. The rough estimator of nonfinancial debt to micro-finance organizations and credit unions can be derived as well on a quarterly basis, but the result will have a significant deviation from the real parameters.

3.3.2 Return on Equity

This FSI is commonly used to capture nonfinancial corporations' efficiency in using their capital.

The FSI is calculated by using earnings before interest and tax as the numerator and the average value of capital and reserves over the same period as the denominator. At a minimum, the denominator can be calculated by taking the average of the beginning- and end-period positions (e.g., at the beginning and the end of the month), but compilers are encouraged to use the most frequent observations available in calculating the average.

From the survey mentioned above, the numerator of the ratio is available from the Business Statistics department of GeoStat.

3.3.3 Earnings to Interest and Principal Expenses

This FSI measures nonfinancial corporations' capacity to cover their debt-service payments (interest and principal).

The FSI is calculated by using earnings (net income) before interest and tax plus interest receivable from other nonfinancial corporations as the numerator and debt-service payments over the same period as the denominator.

The debt-service payment to commercial banks is available from NBG on a monthly basis. The approximation of debt-service payments to micro-finances and credit unions can be derived as well. But again, the results will have a significant deviation from the real parameters.

As for the numerator, the business survey aggregates the non-operational revenues and the interest receivables are not singled out.

3.3.4 Net Foreign Exchange Exposure to Equity

This FSI measures nonfinancial corporations' exposure to foreign currency risk compared with their capital. The more exposed to foreign currency risk, the more significantly currency depreciation could put severe pressure on the financial soundness of nonfinancial corporations and, in turn, on deposit-takers.

The ratio is calculated by net foreign exchange exposure as a numerator and the capital and reserves as denominator. The open position is calculated the same way as in the deposit-takers case.

The net foreign exchange exposure data (on/off-balance sheet) should be separately requested, as it is not available from the national accounts data.

3.3.5 Number of Applicants from Protection from Creditors

This FSI is a measure of bankruptcy trends. It is influenced by the nature of bankruptcy (and related) legislation and the degree of its implementation. It is a simple numerical addition of those resident nonfinancial corporations that have filed for protection from creditors during the period.

According to Georgian legislation, in particular the law on bankruptcy proceedings, every debtor has the right to initiate bankruptcy of the debtor when the latter is unable to repay liabilities due. NBG collects the data on bankruptcy proceedings of nonfinancial corporations from external sources and compiles the necessary data on the IMF website.

3.4 Households

Household indebtedness is an important measurement of the repayment capability of the local population, which has a direct implication on the credit risk of commercial banks and thus soundness of the local financial sector. At the same time, it shows the depth of the local financial sector and gross potential. It is important to analyze the debt to GDP indicator together with the household debt service and principal payments to income indicator, because the former might be misleading, as in the Georgian case. Even though the former indicator is quite low compared to developed countries, due to low maturities and high interest rates, the debt burden on the population is quite high.

3.5 Household Debt to Gross Domestic Product

This FSI measures of the overall level of household (HH) indebtedness as a share of GDP. HH debt is defined as total loans of HHs plus other liabilities. The loans are commonly associated with consumer loans and mortgages.

The data for HH debt are not available. The commercial banks' data for total HH loans are available, but do not include all the information about HH loans. Loans from micro-financial organizations, credit unions, and physical persons is the other part of the lending market that should be considered in the process of accounting the total loans. NBG collects the information from credit unions and micro-financial organizations, but not all of them report their assets and liabilities in the manner of loan decomposition, or incomes received from consumer loans as interest.

In its "Financial Stability Report," NBG monitors the total consumer loans volume, which is not an exact measure of the increased risk from borrowers. Nominal volumes of loans themselves do not tell the story about HH loan booms or declines unless they are adjusted by the total income/expenditure (GDP). Relative changes in the ratio of consumer loans to GDP capture the real volatility of the HH behavior.

To estimate the total debt of HHs, the supervision department of NBG needs to collect the information from micro-financial organizations, pawnshops, and other players in the financial market more accurately. An alternative measure for HH debt is the selective survey of HHs (i.e., to survey credit owned HHs).

We can find the rough debt estimate based on the data available at present. Data from commercial banks, credit unions, and micro-financial institutions can be used to evaluate the total volume of debt of HHs. From interviews with relevant experts, further research might provide the estimates about other liabilities of households.

3.5.1 Household Debt Service and Principal Payments to Income

This FSI measures the capacity of HHs to cover their debt payments (interest and principal). It is calculated by using HH debt-service payments as the numerator and gross disposable income over the same period as the denominator.

The HH debt service and principal payment data are not available from the NBG public database. However, data on commercial bank creditors' debt to income ratios must be available for supervision purposes. However, there is a part of the population with poor financial strength that are only able to borrow from nonbank financial institutions.

The average Georgian household's income is estimated based on the "Integrated Household Survey" which is conducted on a quarterly basis.[16] Under this survey, about 3,000 HHs are covered each quarter, with 25.0% of the sample rotated quarterly. The annual values of the income variable from the survey are much more reliable than those calculated on a quarterly basis. There are two main reasons for this: (i) sample size is four times larger when calculating the values on an annual basis, and (ii) because the survey asks about the last three months of income/expenditure to a HH, the answer covers not only the current quarter, but the previous quarter and it excludes seasonal deviations.

The following are ways of improving the index:

(i) Since the income is not very volatile from month-to-month, on average the monthly incomes of HHs can be derived from the data available from GeoStat.
(ii) According to IMF recommendations, there should be income and expenditure statements, balance sheet, and other memorandum series in more detail for HHs of the compiler country.[17] The current survey does not include enough information. Considering the importance of the evaluation of HHs' behavior on loans, a separate survey should be conducted to cover the sample of HHs that have loans.
(iii) The debt service payment data misses the important part of the loan markets by not having complete data from nondeposit-takers who operate in the market as lenders. The data can be obtained by the supervision department of NBG.
(iv) Additionally, the compilation guide includes detailed series of data that should be filled for HHs. This data series can be derived only from a detailed survey of HHs.

Further research would include estimation of debt service abilities of Georgian population via various proxy analyses that will be based on estimating the financial inclusion and penetration of the Georgian population, their overall liabilities to the financial sector, average maturities and interest rates, and their average income figures.

3.6 Market Liquidity

Market liquidity indicators are interesting only marginally for the analysis of local liquid markets, due to the nondeveloped stock exchange market. The only liquidity and trading platform currently in place is the interbank market organized by NBG and dominated by NBG and treasury stocks, bonds, and certificates.

3.6.1 Average Bid-ask Spread in the Securities Market

This FSI is the difference between the prices at which market participants are willing to buy (bid) and sell (ask) assets; it is a measure of market tightness— the relative cost of engaging in a transaction irrespective of the absolute level of the market price of the items being sold. Bid-ask spreads tend to be narrower in more liquid and efficient markets.

[16] See the link: http://geostat.ge/index.php?action=meurneoba&mpid=1&lang=eng.
[17] Table 4.4, Compilation Guide, IMF.

It is calculated as the difference between the best (highest) bid and the best (lowest) ask price in the market, expressed as a percentage of the midpoint of the buy and sell price of an asset—a benchmark domestic government or central bank debt security in the first instance.

Because of the link between market-based liquidity indicators and the indicator on deposit-takers' liquid assets, bid-ask spreads should be compiled, at a minimum, for financial instruments included in the wider measure of liquid assets. The natural starting point is to compile indicators for: (i) domestic government or central bank bills that are used by the national authorities to influence liquidity conditions in their domestic economy, and (ii) corporate securities if they are included in the definition of liquid assets.

Similarly, the tightness of the local foreign exchange (FX) markets may also be relevant if FX-denominated securities qualify as liquid assets.

The bid-ask spread should be compiled daily or, at a minimum, weekly. The frequency of price observations can occur on a tick-by-tick basis, but preferably at least two quotes per day should be taken (e.g., at 10:30 a.m. and at 2:30 p.m.). If price observations are taken on a less than hourly basis, care is needed to avoid biases related to systematic volatility of intraday price quotes.

In the Georgian context, corporate securities cannot be considered liquid. Thus, the index is calculated for domestic government and central bank bills that are traded. Certificates of deposit issued by NBG, treasury bills and treasury bonds issued by the Ministry of Finance, and government bonds are traded at auctions organized by NBG. The statistics are recorded and the relevant FSI is compiled by NBG.

3.6.2 Average Daily Turnover Ratio in the Securities Market

This FSI is the ratio of average daily trades to the outstanding stock of securities. It is a measure of market depth—the ability of a market to absorb large trade volumes without a significant impact on market prices. It is calculated as the number of securities bought and sold during a trading period divided by the average number of securities outstanding at the beginning and the end of the trading period. The volume of all trades executed during official trading hours of the markets should be captured. The Guide recommends calculating turnover in the first instance for a benchmark domestic government or central bank debt security.

NBG organizes the auctions for trading treasury bills and treasury bonds issued by the Ministry of Finance and government bonds. Participants submit bids before the start of the auction and by the end of the day auction results are announced. The statistics are recorded and the relevant FSI is compiled by NBG.

3.7 Real Estate Markets

Exposures to the real estate sector are significant risk factors for the local banking sector, due to the high historical volatility of prices. As a collateral, both residential and real estate property need to be adequately priced and monitored on a permanent basis. As long as Georgian banks have significant residential and commercial real estate exposures, it is important to have adequate price indices in place as well.

3.7.1 Real Estate Prices

This FSI covers residential and commercial real estate price indices separately.

For the moment, not a single state service is doing real estate price monitoring. Compilation of the index is constrained by the high cost and technical difficulty involved, the limited demand for such data in the past, and the proprietary control of much of the key detailed data necessary for compiling indices. Thus, in many countries, the compilation and dissemination of real estate indices is undertaken by private corporations or associations involved in various real estate transactions. In Georgia, the index is compiled by agencies that have a private interest and hence they do not make it publicly available.

For this purpose, the economic research institute should take a lead to monitor the prices and base its analysis on global best practices. This type of organization is the best to promote the development of reliable, timely, and consistent statistics on real estate prices. The index complier should be able to conduct a survey and use the research methods for compiling and analyzing. One of the best examples of compiling the index is seen in the United States (Economic Research, Federal Reserve Bank), which uses the standard representative-property method (Laspeyres Index) and the Hedonic, or quality-adjusted regression, method to control the heterogeneity (quality, location, etc.) of real estate.

Another possible source of the transactions data for real estate is the official registry of Georgia. Nowadays, not only purchase, but generally property or business registration functions are implemented by the National Agency of the Public Registry (NAPR, e.g. Public Registry), an entity under the Ministry of Justice of Georgia. For the index complier, the data should be accessible and transparent, but given property rights exclusivity the detailed information may not be obtained.

Georgia has little experience in monitoring the real estate market. One of the data series available covers the period from 2004 to 2011. Until 2012, the residential apartment price was included in the Consumer Price Index (CPI) basket, but after January 2012 this component was excluded. However, these data were not reliable because the basket included only one apartment type, which did not represent the residential real estate market of Georgia.

NBG reports the index in its annual Financial Stability Report. The index is calculated based on the data collected from newspapers. NBG takes prices for two types of units (from the two parts of Tbilisi) monthly and calculates the index. The data given in the newspapers are the advertised price and the asking price. Although this is not a transaction price, the data capture information about some key characteristics, like the number of units, location, purpose, type of construction, size, number of rooms, utilities, and amenities. This kind of data can be a proxy for trends in the market, but they have the disadvantage of including only information about Tbilisi, thus overestimating the average real estate price level of Georgia. The types of apartments and sample size are extremely small and the conclusions based on the index are biased.

As for commercial real estate, NBG also calculates the respective index but here the sample contains the one square meter unit price in the central district of the capital of Georgia, which again leads to overestimation and does not describe the volatility of commercial prices.

3.7.2 Residential Real Estate Loans to Total Loans

This FSI identifies deposit-takers' exposure to the residential real estate sector, with focus on HH borrowers.

IMF offers two options for calculating the index. Both residential real estate loans (those collateralized by residential real estate) and the household debt collateralized by real estate can be used as the numerator. Although not all real estate lending to HHs is collateralized by residential estate, such collateralized debt is predominant nonetheless.

The data are available through the NBG statistics. NBG reports the gross loans and loans to HHs (i.e., consumption loans and loans collateralized by real estate).

3.7.3 Commercial Real Estate Loans to Total Loans

This FSI measures banks' exposure to the commercial real estate market.

For compilation of this index, we need the data on loans collateralized by commercial real estate, loans to construction companies, and loans to companies active in the development of real estate and gross loans.

Commercial real estate lending among deposit-takers in the reporting population that are part of the same group is deducted.

The data are compiled on the IMF website.

Appendix 2: Initiatives in the Compilation of Encouraged Indicators for Georgia: A Multilateral Approach

Under the technical assistance for strengthening the capacity of the National Bank of Georgia (NBG) to compile and analyze financial soundness indicators, a joint ADB – NBG – National Statistical Service (GeoStat) – International School of Economics at the Tbilisi State University (ISET) was implemented in Georgia in November 2013 (see Box A2 on the methodology).

Box A2: FSIs for Georgia: Methodology

In compiling the financial soundness indicators (FSIs), the National Bank of Georgia (NBG) follows the analytical framework described in the FSIs Compilation Guide and the "Amendments to the Financial Soundness Indicators (FSIs): Compilation Guide (14 July 2008)." FSI calculation methods and other details are given in the FSI metadata, prepared for public dissemination on the NBG's website. However, metadata posted on International Monetary Fund's (IMF) FSIs website is given in the standard format recommended by the IMF.

Methodology for data collection for pawnshops is based on the methodology prescribed for other financial corporations (OFCs) and given in the Monetary and Financial Statistics Manual (2000) and Monetary and Financial Statistics Compilation Guide (2008).

The nonfinancial corporations' methodology is based on Financial Soundness Indicators Compilation Guide (2006). Moreover, System of National Accounts (2008), Balance of Payments Statistics Manual (2009), and Monetary and Financial Statistics Manual (2000) are also used for more accurate definitions of residency criteria and sectorization of economic entities, external debt, financial assets, etc.

To calculate real estate prices indices, the International School of Economics at the Tbilisi State University (ISET) used the dataset obtained from online real estate marketplace, which collects information about sold residential and commercial real estate in different locations of the country. However, the data are primarily concentrated in the capital, Tbilisi. Data are collected on a daily basis from the marketplace. The results are published on www.ISET-PI.ge (Appendix 7).

Main statistical activities included

- A Survey conducted and administered by GeoStat for nonfinancial corporations (NFCs). The survey instruments (survey program and methodology, questionnaire, explanatory notes, etc.) were prepared jointly with NBG. The results of the survey, which was made available in October 2014, was used to calculate financial soundness indicators (FSIs) as prescribed by the manual of the International Monetary Fund (IMF), such as:
  - Total debt to equity,
  - Return on equity,
  - Earnings to interest and principle expenses,
  - Net foreign exchange exposure to equity.
- A pawnshop survey to collect data on assets and liabilities, to serve as additional information to the Other Financial Corporations (OFCs) sector financial statements, and to allow calculation of OFCs related FSIs, such as

- Assets to total financial system assets, and
- Assets to GDP.

- NBG collected data from the Public Registry Agency (PRA) to calculate residential and commercial real estate price indices, as real estate market-related FSIs. For this purpose, ISET developed a methodology to calculate the real estate price indices.

Based on the recommendation of IMF's FSI modifications to the current list of FSIs in 2013, NBG decided to pursue the implementation of the new indicators covering money market funds, insurance corporations, pension funds, other nonbank financial institutions as well as nonfinancial corporations and households. It was agreed that the following indicators will be disseminated through IMF's website:

Other Financial Corporations
(i) OFC assets to total financial system assets, and
(ii) OFC assets to gross domestic product (GDP).

Households:
(i) household debt to GDP, and
(ii) household debt service payments to household income.

Meanwhile, new indicators from the technical assistance funded by ADB will be uploaded to the NBG website, excluding nonfinancial corporation, which will be released in November 2014. These include

Other Financial Corporations:
(i) IC assets to total financial system assets,
(ii) other OFC assets to total financial system assets,
(iii) IC assets to GDP,
(iv) other OFC assets to GDP.

Nonfinancial Corporations:
(i) external debt to equity,
(ii) foreign currency debt to equity,
(iii) return on assets,
(iv) earnings to interest expenses,
(v) liquidity ratios (current ratio/liquidity ratio,
(vi) nonfinancial corporations (NFC) debt to GDP.

Households:
(i) household debt and household disposable income.

Appendix 3: Nonfinancial Corporation Questionnaire

Financial Indicators of the Non-Financial Corporation (end of period)

1. Assets and Liabilities

Name of the indicators	N	GEL	Comments
Total Assets	1		Nonfinancial assets plus Financial assets
Of which in foreign currency	2		Item 2 ≤ item 1
Financial Assets	3		Includes currency and deposits, debt securities, shares and other equity, trade credits, financial derivatives, and other financial assets; Item 3 ≥ Σ(item4 to item9)
Currency holdings in national currency	4		
Currency holdings in foreign currency	5		
Currency in banks vaults in national currency	6		
Currency in banks vaults in foreign currency	7		
Deposits in nonresident banks	8		
Securities	9		
Of which emitted by nonresidents	10		Item 10 ≤ item 9
Total Liabilities	11		Includes loans, debt securities, trade credits, financial derivatives and other liabilities
Of which: shares in foreign currency (in foreign companies), including investments in own branches and daughter companies	12		Item 12 ≤ item 11
Liabilities in foreign currency	13		Item 13 ≤ item 11
Liabilities to the other nonfinancial corporations	14		Item 14 ≤ item 11
Financial derivatives	15		Item 14 ≤ item 11

2. Equity and Reserves

Indicators	N	GEL		Comments
		At the beginning of period	At the end of period	
A	B	1	2	3
Equity and Reserves	16			Item 16 = item 1minus item 11

3. Interest Income and Expenses

Name of the indicators	N	GEL	Comments
Earnings before interest and tax	17		Net operating income (Item 18) plus Interest income (Item 19) plus other income (net; Item 22) minus interest receivable from other nonfinancial corporations (Item 21)
Net operating income	18		Revenue from sales of goods and services (excluding indirect sales taxes) minus cost of sales
Interest income	19		
Of which interest on loans granted to the households	20		Item 20 ≤ item 19
Interest receivable from other nonfinancial corporations	21		
Other income (net)	22		
Interest expense	23		

4. Debt service payments

Name of the indicators	N	GEL	Comments
Debt service payments	24		
Of which: on loans received from the households	25		Item 25 ≤ item 24
on loans received from the other non-financial corporations	26		Item 26 ≤ item 24

5. Financial Stability Indicators: should be calculated by the Geostat—will this be calculated from individual corporations? or as a summary table for all NFCs?

	N	Ratio	Numerator	Denominator
Total debt to equity	27		Item 11 minus item 15	Item 16.2
Return to equity	28		Item 17	(Item 16.1 plus item 16.2)/2
Earnings to interest and principal expenses	29		Item 18 plus item 19 plus item 22 plus item 21	Item 24
Net foreign exchange exposure to equity	30		Item 2minus item 13 plus item 12	Item 16.2

Appendix 4: Pawnshop Questionnaire

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Pawnshop Survey	**კითხვარი # ..... (ერთდროული)** დამტკიცებულია საქართველოს სტატისტიკის ეროვნული სამსახურის საბჭოს .... დადგენილებით

•კითხვარი ივსება ღომბარდებზე.

•,,ოფიციალური სტატისტიკის შესახებ" საქართველოს კანონის 25-ე მუხლის პირველი პუნქტის თანახმად საქსტატი უფლებამოსილია ადმინისტრაციული ორგანოებისგან და სხვა ფიზიკური და იურიდიული პირებისგან მოითხოვის და მიიღოს თავისი ფუნქციების შესასრულებლად საჭირო ყველა სტატისტიკური და სხვა ინფორმაცია (მათ შორის კონფიდენციალური).

•ინდივიდუალური მონაცემები ითვლება კონფიდენციალურად და დაცულია საქართველოს ზოგადი ადმინისტრაციული კოდექსითა და ,,ოფიციალური სტატისტიკის შესახებ" საქართველოს კანონის 28-ე მუხლით.

•კითხვარი შეივსება 2013 წლის …… მდგომარეობით, დარიცხვის მეთოდის მიხედვით.

Part I. Identification Data

Name of interviewer	
Name of the enterprise(s)	
Code – is this for enumeration code? Or area code?	
Name of respondent	
Phone number of respondent	
Type of main economic activity	
Type of other economic activities	

Address

Municipality	
City	
Town	
Street	

Part II. Assets *(end of period; Thousand. of GEL)*

Item Name (1)	# (2)	Total (3)	Of which		Comments (6)
			In national currency (4)	In foreign currency (5)	
Cash	1				
Currency in banks	2				Item 2 =item 3 plus item 4
Of which:					
In resident banks	3				
In nonresident banks	4				
Loans	5				
Of which:					
To the households	6				item 6 ≤ item 5
Fix assets	7				
Other assets	8				
Total Assets?					

Part III. Liabilities *(end of period; Thousand. of GEL)*

Item Name (1)	# (2)	Total (3)	Of which		Comments (6)
			In national currency (4)	In foreign currency (5)	
Loans	9				Item 10 plus item 11
Of which:					
From residents	10				
From nonresidents	11				
Securities	12				
Other liabilities	13				
Total liabilities?					

Part IV. Equity *(Thousands of GEL)*

Item Name (1)	# (2)	Total (3)	Of which		Comments (6)
			In national currency (4)	In foreign currency (5)	
Profit/losses in the reporting period	14				Computation?
Other equity	15				

Part V. Memo items

Item Name (1)	# (2)	Total (3)	Of which		Comments (6)
			In national currency (4)	In foreign currency (5)	
Number of borrowers	16		X	X	
Of which:					
Households	17		X	X	Item 17 ≤ item 16
Annual weighted average interest rate on loans	18				Annual weighted average interest rate on loans: $P = \frac{\Sigma^{PV}}{\Sigma^{V}}$ where P– contracted nominal annual interest rate V– contracted value of loan

Appendix 5: Real Estate Market Prices

1. Methodology

According to best global practices, residential and commercial real estate price indices are expressed by several widely-used indices, such as Laspeyres real estate index or the Paasche real estate index. Another popular measure, the Fisher real estate index is the combination of the two. However, the indices heavily depend on the available sample and do not take into account sample volatility across time. One way of remedying this issue is to construct a standardized real estate unit in each time period (using a hedonic regression technique) and use this unit to obtain quality-adjusted indices. The latter are called Laspeyres hedonic imputation index and Paasche hedonic imputation index (Handbook on Residential Property Price Indices, *Eurostat Methodologies and Working Papers*, 2013).

To calculate the standardized real estate unit price, we construct a linear regression model on data in each time period using unit price in log form as a dependent variable and controlling for various characteristics such as unit location, area, renovation type, and so on (the model is laid out in detail later). In short, the general exposition of the model is the following:

$$ln(P^t) = \hat{\beta}_0^t + \sum_{k=1}^{K} \hat{\beta}_k^t z_k^t + e^t$$

where is the price of the real estate unit in period t, $(z_1,...z_K)$ is the characteristic vector of the unit, and is the error term. The dependent variable is transformed due to the fact that real estate prices tend to have a log-normal distribution.

The exact formula for the Laspeyres hedonic imputation index is:

$$I_P^{0t} = \frac{P^t(\bar{z}^0)}{P^0(\bar{z}^0)} = \frac{\exp(\hat{\beta}_0^t + \sum_{k=1}^{K} \hat{\beta}_k^t \bar{z}_k^0)}{\exp(\hat{\beta}_0^0 + \sum_{k=1}^{K} \hat{\beta}_k^0 \bar{z}_k^0)}$$

where a vector is the standardized real estate unit of period (the base period). The vector is obtained by averaging each characteristic in the sample. For factor variables, the mode is taken.

Similarly, the Paasche hedonic imputation index is:

$$I_P^{0t} = \frac{P^t(\bar{z}^t)}{P^0(\bar{z}^t)} = \frac{\exp(\hat{\beta}_0^t + \sum_{k=1}^{K} \hat{\beta}_k^t \bar{z}_k^t)}{\exp(\hat{\beta}_0^0 + \sum_{k=1}^{K} \hat{\beta}_k^0 \bar{z}_k^t)}$$

To obtain a Fisher-type hedonic imputation index, we take the geometric average of the two indices:

$$I_P^{0t} = [I_P^{0t} * I_P^{0t}]^{\frac{1}{2}}$$

We will calculate the three indices separately for residential and commercial properties. Residential properties will further be divided into apartments and private houses, the index will be calculated separately for them, and a weighted average will be calculated as the overall residential property index.

2. Data

Data about the real estate market are obtained from the online real estate marketplace (www.place.ge). The website lists residential and commercial properties in Georgia. The website was created in January 2013, so our database includes properties advertised on the website in 2013. In total, 74,605 observations had been advertised as of 10 November 2013.

The database includes the following information about each property:

- Date of advertising
- Seller's price (in USD)
- Address of the property: city, region, district, and street
- Area of the property
- Area of land of the property (if any)
- Type of settlement (for sale, for rent, for lease)
- Type of property (apartment, house, commercial)
- Renovation type (no renovation, renovation needed, renovation in progress, renovated long ago, renovated, newly renovated, euro-renovation)
- Age (old, new, in progress)
- Number of rooms
- Number of bedrooms (if applicable)
- Number of bathrooms (if applicable)
- Number of balconies (if applicable)

We would like to stress that the price is not the transaction (actual sale) price, but the one set by the seller. It is usually negotiable and is thus consistently higher than the sale price. This introduces bias in the index, but if we assume that the bias is more or less constant, it will not affect the estimation of index fluctuation over time.

Preliminary regression analysis has shown that these variables are highly significant when explaining price and they explain around 70.0% of the variation in price.

The numbers of advertisements are not evenly distributed among cities. Most of the ads were for properties in Tbilisi (88.8%), followed by Batumi (2.5%), Rustavi (0.8%), Mtskheta (0.8%), and Kutaisi (0.7%). The rest of observations are scattered throughout the whole of Georgia. We will consider indices for these five cities separately.

Appendix 6: Insights into the Investment Climate in Georgia

1. Introduction

The stability of a banking system is a function of multiple factors, not the least of which is a resilient, well-diversified industrial base of the country. Sound investment climate is therefore a crucial component of financial and economic development. Problems in the regulatory framework, property rights protection, tax administration, etc., can create investment bottlenecks, which in turn affect the development of the banking system.

Poor investment climate leads to increased cost of funding, increased risk of investment in domestic projects, reduced profitability of the banking sector, and greater systemic risk. For this reason, policymakers pay particular attention to investment climate and investment constraint assessments for both large enterprises and small and medium-size enterprises (SMEs).

Typically, such assessments are done via investment climate surveys, where the standard practice is to ask the existing firms to rank the constraints to investment and growth they encounter according to severity of impact. An alternative approach is a comprehensive growth diagnostics analysis, which attempts to uncover the binding constraints to investment by analyzing the evidence on whether and how firms attempt to overcome such constraints.

Below, we discuss the pros and cons associated with the standard approaches, and we present the results of a survey conducted in conjunction with in-depth interviews of several of the largest firms and banks in Georgia. The purpose of the survey was to gain new insight into the investment climate in the country. Our main findings confirm the existence of property rights uncertainty, regulatory framework deficiencies, and insufficient human capital as the principle constraints to investment.

2. Investment Climate and Investment Constraints: Review of Existing Studies

The main business climate surveys in Georgia to date are the Business Environment and Enterprise Performance Survey (BEEPS), by the European Bank for Reconstruction and Development (EBRD) and the World Bank Group, performed in April–August 2008 and July 2012–December 2013, and the GeoStat Small and Medium Business in Georgia Survey (2009), which covers two quarters in 2007 and 2008.

In these surveys, the firms' managers/ business owners are asked to report the obstacles to doing business on a 5-point scale, ranging from "no obstacle" to "very severe obstacle." According to BEEPS 2008 results [2], the top-ranking problem was electricity (with 65.0% of the firms citing electricity as a problem), while access to finance was second on the list (55.0% of the firms). Other problems, ranking 3rd to 6th and in the order of decreasing magnitude of severity, were: tax rates; crime, theft, and disorder; access to land; and skills and education of the workforce.

The scores have been calculated based on the percentage of firms that reported the problem as either moderate, major, or very severe. The drawback of this type of ranking, however, is that it does not give a clear indication of whether the constraint in question is truly binding (i.e., whether removing

the constraint would have maximum impact on the firm's growth). To this effect, the Enterprise survey (administered by World Bank) also reports the ranking of problems by the percentage of firms that reported them as being the main, or the biggest obstacle for their business.

In the latter case, access to finance, political instability, and electricity came out on top of the rankings in 2008, having 18.0%, 17.4%, and 16.4% of the firms, respectively, reporting them as the main obstacles. In addition, these problems in Georgia appeared to be more pronounced than in other countries in Europe and Central Asia (ECA) in the same period.

In 2012–2013, however, the situation changed, with 42.1% of the firms overwhelmingly reporting political instability as the main obstacle [5]. This result is definitely not surprising, and is likely temporary in nature, given that the country went through its first democratic transition of power via parliamentary and presidential elections in this period.

Access to finance was number 2 on the list of main obstacles to doing business, with 20.9% of the firms reporting this. In contrast, in the ECA countries, access to finance was a problem for 15.3% of the firms.

Tax rates were reported as the third main obstacle, by 15.2% of the firms, although the problem was less severe than in the ECA countries where 17.6% of the firms reported it. Electricity concerns dropped to 7th place, with 2.1% of the firms reporting it.

Interestingly, inadequate education of the workforce does not appear to be a main obstacle for doing business in many firms as only 4.1% of firms reported it in 2008 and only 2.0% in 2012–2013. This may signal, however, that a potential constraint associated with human capital may be for the time being obscured by other, more binding constraints, such as political stability or access to finance.

As far SMEs are concerned, the three leading constraints emerging from the 2007–2008 GeoStat survey [11] were high inflation rate, high interest rates and high tax rates, followed by credit availability, even though it was cited as an obstacle by only 1 in 10 firms.

The advantage of the surveys is the ability to utilize a large sample size for statistical analysis and estimate fairly precisely the (perceived) constraints facing the existing firms. However, one of the main disadvantages is the obvious sample selection bias of such surveys.

The questions about the constraints are asked of the existing firms in operation, which by definition consists only of those firms that have overcome the most severe obstacles to starting and staying in business.

The sample selection bias results in certain inconsistencies in the reported data. For example, even though access to finance was cited by 18.3% of the firms in Georgia as the main constraint, as much as 60.0% of existing firms did not apply for a loan in 2012–2013 because it was not needed. This number was the second highest in the ECA after Kosovo.

BEEPS 2008 reveals that 38.0% of Georgian firms indicated that financing was NOT a problem for them as compared to 34.0% and 30.0%, respectively, in ECA and Former Soviet Union-South (FSU-S) countries of Armenia, Azerbaijan, Moldova, the Kyrgyz Republic, Tajikistan, and Uzbekistan) [2].

In addition, 15.9% of the firms in Georgia cited unfavorable interest rates as the reason they did not apply for a loan in 2008 as compared to 18.8% of the firms in the FSU-S countries. In the same year, only 3.7% of the Georgian firms cited collateral requirement as the reason they did not apply for a loan, slightly lower than in both ECA and FSU-S countries, although the value of collateral as a percentage of the loan value has been very high in Georgia (185.1% vs. 133.4% in the ECA countries in 2008 [6], and 222.8% vs. 136.9% in the ECA countries in 2012–2013 [5]). Given the evidence of high cost of financing in Georgia, one can conclude that a large percentage of firms had to adapt to the unfavorable credit conditions to stay in business. The survey, however, could only capture the firms that have adapted successfully.

It is also worth noting, that the survey-based methods are not likely to capture the possible interrelation between different constraints facing the firms, or uncover the root causes of the problem in question. For example, inadequate access to finance and high interest rates may stem from a variety of causes—such as low competitiveness of the banking sector, problems in accessing foreign credit, or the risk of doing business in the country.

In addition, if problems are internal to the firm (such as low quality of management), then self-assessment by the managers would often be biased toward a more favorable view of the firms' prospect.

The nonsurvey-based growth diagnostics methodology is often used to help overcome the problems mentioned above. Growth diagnostics allows us not only to identify a binding constraint, but also to analyze the possible causes of the problem. For example, if a country suffers from low levels of capital investment and lending rates are high, one possible course of action by the government is to establish programs to subsidize or lower the cost of credit. However, such intervention may be counterproductive if the root of the problem lies in the lack of adequate human capital, coordination problems among firms in the industry, or political uncertainty—all of which reduce the number of viable projects and increase the investment risk.

In fact, the most recent growth diagnostics study for Georgia using 2000–2010 data (Babych, Fuenfzig, 2012) contended that the high cost of capital in Georgia is likely to stem from the high perceived risk associated with starting and running a business, and has identified the uncertainty about property rights (broadly defined) as the primary binding constraint.

In Georgia, low capital accumulation and high interest rates are coupled with low levels of domestic savings but also with relatively low rates on bank deposits. The result is a high interest rate spread where in fact, Georgia's spread was one the highest among the peer group of countries This indicates that the low supply of domestic savings alone is not likely to be responsible for high lending rates; otherwise, banks would try to attract funding for viable business project by offering higher rates to depositors. Rather, the problem stems from the high risk premiums associated with the uncertainties about property rights, as well as political and institutional instability in the country.

The risk premium is captured in part by the large spread between government bonds and the commercial lending. The risk premium remains high despite the fact that default rates in Georgia were lower than in the rest of developing ECA.

While the growth diagnostics methodology is a very useful practical tool for establishing policy priorities, it is designed to identify first and foremost the binding constraints to growth. The results

of such studies could therefore be further improved by relying on surveys followed by structured in-depth interviews with both the suppliers of credit (banks) and potential lenders (firms).

The surveys of banks about their clients have an advantage of providing insights into both the successful and the unsuccessful bank-client relationships, which in turn would help reduce the sample selection bias discussed earlier.

3. Methodology

For the purpose of the study, we designed an investment climate survey, which was distributed among a group of a few large private firms and large commercial banks. For the firms, the questions were grouped according to (i) general information about the firm; (ii) investment climate constraints to the establishment; (iii) financing; (iv) business-government relationship; (v) capacity innovation and learning; and, (vi) labor relations.

The banks were asked questions about the constraints to investment facing their clients' operations and growth, and the obstacles to issuing loans in the Georgian market.

The survey answers were followed up by either electronic or face-to-face interviews, where the respondents were asked to elaborate on the nature of the particular constraints they indicated as being significant.

The drawback of this methodology is the obviously small sample size, which precludes statistical analysis. Second, the large firms interviewed were also subject to sample selection bias, as they have successfully overcome the constraints facing other firms in the market. And yet the advantage of such approach is twofold. First, sample selection bias is reduced in the case of bank responses about their clients, as banks deal with both successful and unsuccessful firms. Second, the survey and follow-up interviews can serve to supplement the existing studies by helping to clarify the nature of responses to the survey questions and expose some "hidden issues" that would have been otherwise missed in the simple survey.

The full survey questionnaire on investment climate and investment constraints is attached in Appendix 7. The respondents were two large private firms (telecommunications and household appliances retail), each with a market size of more than 25.0%, and three of the largest private commercial banks, with a combined share of more than 60.0% of the Georgian market.

4. Results: Main Insights from the Investment Climate Survey

The top obstacles to doing business by firms, as reported by the banks, were:

- quality of labor (ability to find qualified/skilled workers)—moderate to severe problem;
- cost of financing, access to financing, economic and regulatory policy uncertainty—moderate to minor problems; and
- macroeconomic instability, tax rates, and labor costs—major to moderate constraints.

4.1 List of Constraints

4.1.1 Macroeconomy

Concerns about macroeconomic environment is mentioned by the companies in the context of affecting revenue uncertainty. Not surprisingly, the banks did not mention macroeconomic stability (inflation, exchange rates) as a problem.

4.2 Quality of Labor and Cost of Labor

Quality of labor, or inability to find qualified workers for the job, has been mentioned in all interviews. Hence, high premiums on qualified labor exist. Although banks do not mention the cost of labor as an obstacle for their clients (perhaps because clients seeking a loan do not complain of staffing issues), the issues of quality and cost comes to the forefront in the extended interview answers.

In particular, labor costs in absolute terms may not be a problem, while in relative terms –the gap between wage premium and the set of skills one can expect to get for the premium–is a moderate to major obstacle to doing business. The inability to find qualified labor in the fields of energy and physics were mentioned in particular. The respondents also referred to the dynamics of wage premium growth relative to revenue growth as a source of concern. This might indicate that the human capital constraint is becoming more severe.

4.3 Uncertainty in Property Rights Enforcement

Although uncertainty in property rights enforcement (PRE) is listed as a minor problem in the surveys, the interviews' extended answers point toward PRE under the guise of land accessibility, availability of collateral, and even access to electricity.

Some issues that have come up in the interviews include

- nationalization of purchased land plots (e.g., Svaneti);
- leasing codes for 1 hectare (Ha) of government land 10 times higher for mobile telecommunication commercial operators; and
- energy companies not willing to service the lands that have disputed or undefined ownership, with the companies relying on diesel generators for electricity, which are very expensive.

In banks' interviews about access to financing, the respondents indicated that unwillingness to officially register property prevents the clients from using their property as collateral and hinders access to loans. While the property registration process is relatively easy in Georgia, unwillingness to register can be a function of both the cost of registration and disputed ownership. In either case, the uncertainly about property rights remains an obstacle for businesses to access bank financing.

4.4 Uncertainty in Regulatory Policy

This type of constraint is generally rated as moderate or moderate-to-severe, particularly by companies themselves. Companies mention regulatory burden, such as attempts to regulate prices in the environment where no natural monopolies exist. Companies argue that there is a need for a transparent and independent arbitrage process in the case of regulatory disputes, which would rely on sound economic principles and best world practices and not on the whims of the regulators.

4.5 Anticompetitive Practices or Informal Practices

These are rated as mostly minor, sometimes moderate for bank surveys. No further explanation was given in the extended interviews.

4.6 Access to Financing and Cost of Financing

These constraints are generally rated as moderate-to-major problems, except in the case of large companies that manage to rely exclusively on internal finances.

The appliance retail company in our survey mentioned access to finance (i.e., lack of collateral) as a major problem to business growth. If a company leases, but does not own, the commercial property, securing a loan is difficult or impossible.

The larger companies reported having access to domestic currency borrowing with the value of collateral being 110.0% of the loan, at the interest rate of 14.0%. Maturity of the loan averages one year. These numbers may not be representative, and in fact appear more favorable than the reported economy-wide averages. For example, the average annual interest rate on lending from commercial banks in Georgia in 2012 was 22.1% in domestic currency, and 14.4% in foreign currency, according to data from the National Bank of Georgia.

Banks reported that the leverage (debt/asset ratio) for client companies is usually less than 1, more typically 0.5-max. 0.6 or 0.7. Companies with higher than 100.0% leverage are typically not eligible for a loan, unless under specific circumstances (e.g., service companies). The acceptable leverage ratio ranges from 0.5–1.3 or sometimes 1.5; average client leverage is 0.7.

The interesting insight that came out of the interviews was that debt-to-asset ratio typically does not play as much of a role in loan considerations (e.g., cash flow and profitability). Loan amounts are usually up to 3 times of net yearly profit.

The main reason to deny a loan as reported by the banks is the client's low ability to service a loan, in particular, instability of income. The problems of collateral become less pronounced when the income source is stable. Collateral is important while lending to start ups, but less to established businesses, which are evaluated based on their annual profits.

Lack of experience in the line of business that the client is undertaking was stated as one of the reasons for denial. If an established company takes up a new line of business, the bank may refuse to advance a loan, even though the company may have a good track record in the existing line of business. This, of course, points to the fact that firm innovation and experimentation may be very costly or impossible to fund through bank financing.

The company's experience in the market and length of operation is also an important factor in loan decisions. Interestingly, inexperienced and incompetent management was also cited as an obstacle to receiving business loans. This once again points to the existence of human capital constraints, which have been largely overlooked in the simple business surveys.

Business loans denominated in foreign currency range from 10.0% to 63.0% and 70.0%. The bank with the smallest amount of loans denominated in foreign currency is rather an exception than the general rule.

The main reason for foreign currency-denominated loans is the lack of sufficient long-term deposits in GEL. Local currency resources are usually limited and expensive. Banks incentivize GEL funding by the significant deposit premiums on GEL deposits.

On cost of financing, some banks reported that the interest rates (e.g., 13.0%–14.0%) are not major obstacle to client's development, considering the 20.0%–25.0% profit rates of the businesses that apply for loans. This may be the case of a sample selection bias among the larger banks, considering that only firms with high enough profits would consider applying for a loan at all. This can explain why the banks that mainly service small businesses do cite the cost of finance as an obstacle to their client's business development. Small business lenders among the banks are also more likely to report management education and experience as severe limitation to the client's growth.

Overall, however, the lack of initial or seed capital is considered by banks to be a bigger problem for client's business development than access to bank credits or cost of bank financing. The need for alternative financial instruments to provide companies with seed capital has been reported in the interviews.

4.7 Government-Business Relations

Generally, large firms advocate less intervention, PRE bureaucratic burden, and burdensome regulations for specific industries. Government intervention is only supported in the case of agro-insurance. Firms do not consider public infrastructure as a problem, but consider impartial court system for firm-government arbitrage as necessary. The ambiguity of the tax code and lack of cooperation with government on developing sensible regulations were cited as problems.

4.8 Innovation and Learning

Banks reported clients (in particular, agro businesses) introducing new plants, planting new crops, using higher quality pesticides; roughly 50.0% introduced new technologies that substantially changed the way the product is produced; 25.0% agreed to new ventures with foreign partners; 15.0% developed new product lines; and 40.0% upgraded existing product lines. Government regulations, quality of management, education, and experience of the labor force were cited as the obstacles to introducing new technologies and innovation.

4.9 Labor

The average premium for a skilled worker's wage was reported to be 50.0% and in some cases 100.0%–500.0% above an unskilled worker's wage. Training beyond the basic on–the-job training is provided; however, the high cost of training (in retail), lack of relevant experience, and educational background of the workers have been cited as primary concerns when training the new labor force.

4.10 Main Obstacles to Issuing Bank Loans (from Bank Surveys), Higher To Lower Importance:

1. Low financial education
2. Lack of stable entrepreneurial initiatives
3. Gap in development of other sectors in the economy (market size)
4. High leverage of clients

5. Maturity of loans
6. Limitations in acquiring financial funds
7. High interest rates
8. Low demand for credit due to lower growth rates

Overall, the results of the Investment Climate Assessment survey and interviews confirm that political stability (uncertainty about regulatory environment and property rights) and access to finance are important constraints to doing business in Georgia.

At the same time, the interviews with the banks about their clients revealed other types of constraints, which are typically not registered in regular business surveys. Among these constraints are:

(i) inadequate human capital (in particular, low financial education of the banks' clients, lack of experience in the line of business, low quality of management), and

(ii) instability of income flow.

These constraints appear to be even more limiting to business' development than lack of collateral to finance the loan.

For small and medium-sized enterprises, the cost of financing, particularly high lending rates, continue to be a problem. The evidence from different sources seems to point to the existence of high-risk premium as one of the reasons behind high lending rates and high interest spreads. The high spreads, however, can also stem from low cost efficiency of the banking sector, small market size, and lack of sector diversification in the economy. A more comprehensive diagnostic study is required to pinpoint the determinants of the high cost of finance in Georgia.

In terms of policy initiatives, the present study recommends the need for alternative, nonbank sources of financing for start-up enterprises as a means to alleviate credit constraint in the economy. In light of this, the recent launch of the Georgian Co-Investment Fund could be an important first step in this direction.

Appendix 7: Investment Climate Questionnaire

(Based on IBRD Investment Climate Private Enterprise Survey, 2003).

I. General Information About the Firm

1. In what year did the firm begin operations in Georgia?
2. What percentage of the company's ownership is
   a. Domestic _____
   b. Foreign _____
3. Percentage of the firm owned by the largest shareholder _____
4. Does your firm operate in countries other than Georgia? If yes, which countries?
5. What is your firm's main product/business line?
6. What is your firm's share of the national market?
7. What % of your sales is earned domestically? Directly exported? Exported through a distributor?
8. If you export, what countries are your largest export destinations?
9. What % of your material inputs is imported from other countries?

II. Investment Climate Constraints to the Establishment

1. Please tell us if any of the following are a problem for the operations and growth of your business.
   If an issue poses a problem, please judge its severity as an obstacle on a four-point scale where:
   0=no obstacle; 1=minor obstacle; 2=moderate obstacle; 3=major obstacle; 4=very severe obstacle

a. Telecommunication
b. Electricity
c. Transportation
d. Access to land
e. Tax rates
f. Tax administration
g. Customs and trade regulations
h. Labor regulation
i. Quality of labor (ability to find qualified/skilled workers)
j. Labor costs
k. Business licensing and operating permits
l. Access to financing (e.g., collateral)
m. Cost of financing (e.g., interest rates)
n. Economics and regulatory policy uncertainty
o. Macroeconomic instability (inflation, exchange rates)
p. Corruption
q. Crime, theft, disorder
r. Anti-competitive or informal practices
s. Legal system/conflict resolution
t. Uncertainty about or enforcement of property rights
u. Political instability

Please briefly comment on the issues which were ranked 2, 3, or 4 on the scale. Which of those constraints are currently most "binding" – i.e., the most pressing and relevant for your company's growth in the near or medium term.

III. Financing

1. Please identify the contribution (in %) over the last year of each of the following sources of financing for your establishment's
   i) Working capital (inventories, accounts receivable and cash); and
   ii) New investments (i.e., new land, buildings, machinery and equipment).
      a. Internal funds or retained earnings
      b. Local commercial banks (loan, overdraft)
      c. Foreign owned commercial banks
      d. Equity, sale of stock
      e. Family, friends
      f. Other (specify)
2. For the most recent loan
      a. Did the financing require collateral or a deposit?
      b. If yes, what was the approximate value of the collateral required as a % of the loan value?
      c. What was the approximate annual cost/rate of interest?
      d. What is the duration (term) of the loan?
3. What share of your total borrowing is denominated in foreign currency?
4. If some of your borrowing (loans) is denominated in foreign currency (question 3):
      a. Do they represent bank loans or are they from nonbank sources?
      b. Is this arrangement optimal for your business needs?
         (or would you rather have borrowed these funds in domestic currency)
      c. Do you have an option of borrowing in local currency from the bank?
         from the nonbank sources?

5. Does your establishment have its annual financial statement reviewed by an external auditor?
6. Please comment on whether access and/or cost of finance is a constraint for your business's development. If yes, please comment on which of those constraints are currently the most pressing and relevant for your company's growth.

IV. Business-Government Relations

In your opinion what should the government priorities be in improving business climate? (e. g., improving public infrastructure, utilities, court system, enforcement of property rights; providing export subsidies, production subsidies; improving legislation: labor code, competition law, tax code)

V. Capacity, Innovation, and Learning

1. What was your establishment's average capacity utilization over the last year (capacity utilization is the amount of output actually produced relative to the maximum amount that could be produced with the existing machinery, equipment and regular shifts)? Did you operate below capacity, above capacity, or approximately at your capacity?
2. Has your company undertaken any of the following initiatives in
   a. Develop a major new product line
   b. Upgraded an existing product line
   c. Introduced new technology that has substantially changed the way the main product is produced
   d. Discontinued at least one product (not production) line
   e. Opened a new plant
   f. Closed at least one existing plant or outlet
   g. Agreed a new joint venture with foreign partner
   h. Obtained a new licensing agreement
   i. Major changes or improvements in production or delivery methods to customers (through changes in techniques, equipment and/or software, such as adding or improving manufacturing systems, logistical systems, tracking systems, computer systems and equipment, introducing worker training programs) – please specify which changes were introduced
3. Which of the following is the most important influence on your company to develop new products or services and markets? Pressure from
   a. Domestic competitors
   b. Foreign competitors
   c. Customers
   d. Shareholders
   e. Creditors
   f. Government
4. Which of the following is the most important influence on your company to reduce the production costs of existing product and services? Pressure from
   a. Domestic competitors
   b. Foreign competitors
   c. Customers
   d. Shareholders
   e. Creditors
   f. Government
5. What do you see as the major obstacles for your company to introducing new technologies and innovation? (e.g., costs of licensing, government regulations, competition, and learning curve for new technologies (the time and cost it takes to learn and implement new technologies).

VI. Labor relations

1. How many employees does your company hire?
2. Are you able to find sufficiently qualified/skilled labor in the Georgian market?
3. Do you need to bring qualified specialists from abroad?
4. What is the average premium you pay for a skilled worker (% above the average unskilled wage)?
5. Do you provide formal (beyond regular "on the job") training to your workers?
6. What are the main problems/concerns associated with providing training for your workers?
   - Losing the trained work force to competitors
   - Cost of training
   - Work ethics, motivation
   - Lack of relevant experience
   - Lack of proper background education

How will the introduction of the new labor code affect your company? Do you expect to make significant adjustments? How do you expect these adjustments to affect your company in the short and medium term? In the long term?

Appendix 8: High Interest Rate Spread in Georgia

1. Introduction

Earlier in the report, we identified the cost of finance as one of the main constraints for the development of private enterprise in Georgia. Indeed, as growth diagnostic analysis has shown, both the real lending rate and interest rate spread in Georgia are quite high relative to other countries in developing Europe and Central Asia. In addition, Georgia has a very high risk premium on lending, despite a rather low share of nonperforming loans in the banks' portfolio. The combination of these factors suggests that the high cost of finance has been driven mainly by the perceived credit risk of the private sector in Georgia.

This diagnosis, however, may be too general for most practical applications. After all, perceived credit risk is a symptom of a broader spectrum of bottlenecks that exist in the economy. Our aim in this section is to provide a closer analysis of factors behind the high interest rate and interest rate spread in Georgia.[18]

2. Georgian Banking Sector: Competition, Credit Constraint, and the Role of Foreign Ownership

The Georgian banking sector ownership structure has changed in recent years. More than a decade ago, bank ownership was mostly concentrated in the hands of local individual investors. Currently, foreign banks are majority owners in large domestic banks (Figure A8.1).

This trend is not unique to Georgia (Figure A8.2). The costs and benefits of foreign ownership have been discussed extensively in economic literature.

On the one hand, as some researchers argue, the increasing trend of foreign participation in Georgia could reflect a build up of trust toward the Georgian financial sector on the part of foreign investors. This can provide an opportunity for better integration into the global financial market. Sound and experienced global investors bring their expertise to the local market, which in turn can lead to product diversification, better risk governance, and improved corporate governance practices (Clarke et. al [2006]), Cull et. al [2010]).

On the other hand, one of the main risks of foreign bank penetration in developing countries lies in its effect on credit availability to small and medium-sized enterprises (SMEs). For example, a number of studies emphasize the risk-averseness of foreign-owned banks and claim that capital generated by this processes will be distributed among relatively low-risk firms, operating in already developed sectors (Allen et al [2001], Berger et al [2002]).

In Georgia, accessing credit for SMEs is indeed problematic. Access to finance was named as the first and the second largest obstacle experienced by private sector firms in 2008 and 2013, respectively.[19]

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[18] In this section, we concentrate mainly on the issues that have not yet been raised elsewhere in the report. Whenever possible, we provide reference to the relevant sections in the main body of the report.

[19] Based on World Bank Enterprise Survey (ES) data about Georgia for 2013 and Business Environment and Enterprise Survey (BEEPS) data provided by EBRD and the World Bank.

The analysis of long-term trends in interest rate spreads corroborates the evidence that cost of finance is a long-standing problem in Georgia (Figure 37, main text). The question, however, is whether foreign ownership of banks contributes to this problem.

3. Foreign Capital Participation: World Experience and the Case of Georgia

As mentioned earlier, foreign ownership of the banking sector may bring a number of important benefits as well as threats. Based on the data from Georgia and other developing economies, how important are the threats?

One indicator to consider is the interest rate margins of the banks. If indeed the foreign owned banks tend to be more risk averse, the interest rate margins would tend to be higher.[20]

Figure A8.3 shows the correlation between net interest margins (World Bank data) and foreign bank assets share (EBRD bank survey data).[21]

First rough conclusion based on the data is that countries with high participation of foreign capital are characterized by smaller net interest margins (downward sloping blue and red trend lines). In 2003 the effect of foreign asset participation on interest margins seems to be bigger than in 2010.

A closer look at the Georgian data in Figure A8.4 reveals that interest rate margins on both national and foreign currencies were decreasing at about the same pace between 1998–2002, when the share of foreign assets was declining, and between 2002–2011, when the share of foreign capital in the banking system increased dramatically. This leads us to conclude that the evolution of interest rate margins of the Georgian banks was largely unrelated to the level of foreign bank participation.

4. Bank Concentration and Competitiveness

Earlier in the report, we summarized the evidence and argued that banking sector concentration does not necessarily imply lack of competitiveness. One reason is that the banking industry as a whole is characterized by increasing returns to scale, where larger financial institutions achieve higher cost effectiveness than smaller ones. In a relatively small financial market like Georgia, it would be unrealistic to expect low industry concentration in the banking sector.

Competitive behavior among Georgian banks is further evidenced by the relatively high number of bank branches per 1,000 adults (Figure 40, main text). If the banks did not compete with each other for the customer base, there would be less need for opening and operating costly bank branches.

Another argument against foreign bank participation is that risk aversion of foreign-owned banks hinders development of new and start-up industries, and can lead to a high concentration of lending only in a few high-return sectors.

As discussed earlier in the report, Georgian banks' regional and sectoral diversification continues to be very low and the sectoral gap between the bank lending allocation and value added is also apparent.

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[20] The interest rate margin is defined as the difference between interest income earned and paid out relative to the amount of interest-earning assets. Therefore, higher risk aversion among the banks would lead to both an increase in risk premium on the lending rates, and to a lower amount of interest-earning assets.

[21] Foreign ownership is defined as banks with assets under foreign ownership (>50%) for some European and Eastern Asian countries in 2003 (light blue dots) and 2010 (dark blue dots).

5. Can the Low Diversification of Loans Over Sectors Be Explained by High Foreign Bank Participation?

Recent work of Haselmann and Wachtel (2007) finds some noticeable differences in balance sheet characteristics among bank ownership groups. Foreign-owned banks are more risk averse than domestic or state-owned banks. However, these differences are not too large. According to the study, the overall performance of banks is homogenous, irrespective of foreign ownership, and there are no clear groups of banks with excessive risk-taking behavior.

However, Haselmann and Wachtel emphasize that bank's "taste on risk" mainly depends on the banking environment. Improving the legal environment is associated with higher risk-taking behavior on the part of banks, which could be reflected subsequently in lower interest rate spreads. Hence, it is important for the regulators to monitor risk-taking behavior of financial institutions, even as they improve the legal environment in which the banking system functions.

To conclude, we do not find direct evidence that higher foreign bank participation has increased the interest rate spread in Georgia. Besides, existing literature claims that risk aversion of foreign and local banks does not differ significantly, and low diversification can be a systemic problem unrelated to foreign participation.

6. Operating Costs

In the data, we observe that Georgian banks incur the largest share of noninterest expenses as personnel costs. Figure A8.5 shows the personnel expenses as a share of noninterest expenses. Clearly, personnel expenses in Georgia are higher than the European average.

Relatively high personnel costs reflect the above average expenses required to maintain staff in the banking branches throughout the country. The environment with low internet penetration, coupled with low financial literacy, implies high costs to commercial banks. The heavy reliance on the traditional ways to conduct bank transaction makes banks more labor intensive and contributes to the high costs of financing. In this respect, Georgia is behind many peer countries in the region.

Figure A8.6 illustrates the extent of Georgia's reliance on bank branches rather than ATMs for conducting financial transactions.

The high number of bank branches in Georgia may also reflect low financial participation rates among the population.[22] Countries with lower financial participation rates have to maintain personnel and branches to attract and serve new customers. On the other hand, for countries with high financial participation rates (e.g., Ukraine, Estonia), ATMs are sufficient for serving the existing customer base.

In addition, the high wage costs of Georgian banks are a function of the high premiums on qualified labor. Despite high rates of tertiary education, the quality of human capital is a well-known problem in Georgia, and is exacerbated by the fact that primary education, especially in science and mathematics, compares poorly with other countries in Eastern Europe.[23]

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[22] In particular, Georgia has a lower number of depositors per 1,000 adults than the peer countries of Ukraine, Latvia and Estonia, according to IMF Financial Access Survey, 2012.

[23] According to the Trends in International Mathematics and Science Study (TIMSS), Georgia's average score in mathematics in 2011 is 450 points, falling below the TIMSS center-point score of 500 and below most of the peer countries including Ukraine, Lithuania, Romania, Hungary.

Major banks in Georgia try to overcome the personnel problem by establishing their own training centers for middle management, which raises the overall costs of operation. Compensation for top management is high due to high wage premiums for local professional staff with specialized knowledge, and the keen competition among banks for middle and top management.

Another important factor contributing to the high cost of finance in Georgia is low financial reporting standards among Georgian companies, which was discussed earlier in the report. The substandard financial reporting significantly complicates loan evaluation for commercial banks, leading to higher administrative costs and lower asset quality.

While high operating cost might be part of a broader problem, they are not the only explanation for the high interest rate spreads in Georgia.

7. Regulatory Environment and the Cost of Funds

Earlier in the report, we emphasized that the regulatory environment in the Georgian financial industry is rather conservative. National Bank of Georgia (NBG) capital adequacy standards for higher quality core capital are more conservative than Basel I requirements. In addition to stricter capital adequacy standards, Georgia applies stricter standards for nonperforming loans, requiring banks to hold higher levels of provisional capital to compensate for the potential losses.

As a result, the Georgian banking system proved to be quite resilient during the financial crisis of 2008. However, while these requirements improve the financial system's stability in the face of adverse shocks, they also increase the cost of funds for the banks and drive up the interest rate spreads.

As mentioned already, the banking sector in Georgia is highly concentrated. This means that even in the absence of a deposit insurance scheme, some banks may be considered as "too big to fail". An implicit bailout guarantee may increase the risk-taking behavior of large banks in the absence of adequate regulatory mechanisms.

It seems that the stricter prudential regulations are driven in part by the desire to ward off banking risk and maintain public trust in the stability of the country's financial system.

Fostering trust, along with efforts to increase financial system participation, could go a long way toward reducing the cost of funds. Higher participation would increase the rates of domestic savings available to the banking system, and reduce the currently high levels of both deposit and loan dollarization.

8. Macroeconomic Risks, Firm-Level Risks and Asset Quality Concerns

The state of Georgia's macroeconomic environment is a potential driver of the high interest rate spread. The threats associated with a large and increasing government budget deficit, high external debt burden, unstable inflation, high unemployment rate, unsustainable fiscal environment, or macroeconomic policy uncertainty can all add to the perceived risks of doing business in the country, which would lead banks to increase the lending rates over the deposit rates.

Since overcoming the worst of the 2008 crisis, Georgia has prided itself on its relatively stable macroeconomic environment. Most of the country's macroeconomic indicators showed signs of stability, while the weaknesses have been managed with relative success.

As mentioned in the growth diagnostics analysis, Georgia's overall macroeconomic, fiscal, and monetary indicators have been encouraging. These positive developments were sustained over a number of years and were maintained recently despite the transfer of power in the government. Prudent macroeconomic policies have likely contributed to the steady albeit slow decline in the interest rate spread since 2003.

The good news for Georgia is that the interest rate spread is showing a downward trajectory over the years. The bad news is that despite the stable macroeconomic environment, one can observe prolonged periods of stagnation and even a recent increase in the spread. Also, the interest rate spread in Georgia still remains about 2.5 percentage points above the average for ECA developing countries.

In the absence of obvious macroeconomic triggers, what are the possible drivers of high interest spreads?

The recent *Growth Diagnostics: the Case of Georgia* study (Babych and Fuenfzig [2012)]) highlighted property rights problems as one of the binding constraints to growth and a main driver behind the high spreads. There has been plenty of anecdotal evidence of the instances of property rights violations in Georgia since 2003. Yet, there is no substantial evidence of systemic widespread violations, especially compared to Georgia's regional partners.

In Georgia, given the history of violent power transfers since independence, the latest round of presidential and parliamentary elections have raised concerns about property rights protection. The political uncertainty, that accompanied elections in 2012–2013 has contributed to the perception of risk. However, observing the evolution of the interest rate spread over 2012–2013, one may notice that the spread remained nearly constant during this period of political and policy uncertainly. This may indicate that other considerations, namely the structural problems in the economy, played a more important role.

The issues of low human capital, high unemployment, and informational asymmetries have been already discussed in the report. Another important bottleneck to consider is the lack of sectoral diversification of the Georgian economy. In this respect, government policies to support industrial development and flow of foreign investment into economically and socially important sectors (e.g., industry, transportation, agriculture) would be crucial.

9. Summary

To summarize, several key factors may be influencing the high cost of bank finance in Georgia, including

(i) foreign ownership and banking sector competitiveness;
(ii) high operating costs of the banking sector;
(iii) regulatory environment and cost of funds;
(iv) macro-level risks, firm-level risks, and asset quality concerns

One of the central conclusions of our report is that foreign ownership and high concentration in the banking sector are unlikely to be the principal drivers of interest rate spreads in Georgia.

Overall, we do not find evidence of correlation between higher rates of foreign participation and interest spreads.

The banking sector concentration in Georgia is indeed high, but does not necessarily imply low competitiveness or monopolistic pricing of financial products, as long as barriers to entry into the financial sector remain low. This is the argument we had advanced earlier in the growth diagnostics analysis.

Cost inefficiencies and high perceived lending risk are the main drivers behind the high interest rate spreads in Georgia.

We conclude that unusually high operating costs of banks are most likely driven by high wage premiums on a qualified workforce, issues with financial literacy among existing and potential clients, problems with Internet access, and low financial participation by a large share of the population. These factors necessitate the operation of high-cost banking branches, while reliance on ATMs for financial transactions remains low.

In addition, as mentioned earlier in the report, while the number of nonperforming loans in Georgia remains low, the perceived risk of lending is rather high. The risks of operating in the Georgian market is related to a number of structural problems in the economy. In particular, small market size and the low industrial base of the country leads to low diversification of credit portfolio, exacerbating lending risks.

High lending rates are further perpetuated by an adverse selection problem, which leaves banks to choose from a more risky pool of clients—the type of clients who could offer high returns and operate with lower credit maturities. Not surprisingly, bank lending has been concentrated in the wholesale and retail trade industry, which, according to 2012 data, contributed about 10.0% to the overall GDP but commanded about 45.0% of the overall lending flow in that year. This trend is not specific to 2012, but reflects more general tendencies in sectoral lending over the course of several years.

As far as feasible policy actions to alleviate the structural bottlenecks to reduce the cost of finance, the current analysis supports a spectrum of medium-and long-term measures outlined in Section 3.8 and Section 4 of the report.

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Financial Soundness Indicators for Financial Sector Stability in Georgia

Georgia is a country with one of the highest costs of finance in developing Europe and Central Asia, reflected in the large interest spreads and a high risk premium on private loans. With support from the Investment Climate Facilitation Fund under the Regional Cooperation and Integration Financing Facility, this report provides a broad and comprehensive overview of the Georgian financial sector's health and the challenges facing the financial sector in Georgia. Over medium-term policy actions, the report recommends facilitating property registration, improving credit information-sharing mechanism, ensuring security of bank deposits, and legislating improvements in reporting standards for firms as means to increase domestic savings, reduce borrowing cost, and improve the credit risk. Over the long run, the government needs to pay particular attention to diversifying the industrial base of the country, setting clear development goals to encourage banks to finance innovation, and creating a solid legal base for developing capital markets as an alternative source of firms' financing.

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