European Bank
for Reconstruction and Development

Building the foundations for financial market development: a retrospective of more than 10 years of EBRD engagement in Georgia

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Executive summary

This paper provides a retrospective analysis of the European Bank for Reconstruction and Development's (EBRD) involvement in building the foundations[1] for financial market development in Georgia. This work has been undertaken together with the National Bank of Georgia (NBG), over more than ten years since 2010. The retrospective focuses on two elements that are important in developing any financial system:

- how to increase the use of the Georgian lari (GEL) in the local economy, that is, how to increase the amount of local currency available for financing
- how to create the instruments and infrastructure required for the GEL to be utilised for real economy finance in a safe and sound manner., that is, how to increase the capacity of the banking system to transform the local currency available into a form that maximises its utility to the real economy.

The paper also describes the evolution of the EBRD's involvement in building the foundations for market development in Georgia, which – compared with the Bank's interventions before 2017 – has been marked by a shift towards a more comprehensive approach.

Starting with a heavily dollarised economy and an impaired monetary transmission mechanism, the EBRD's and NBG's initial interventions were to improve the functioning of the monetary policy framework. This involved technical assistance programmes focused on various aspects of the monetary policy framework. In parallel, the EBRD and NBG started work on improving the risk-management products available to local financial market participants. This involved working on derivatives legal reform and developing a risk-free rate for use in cash and derivative instruments.

Throughout the period of engagement, the work has been led by the same key members of staff from both institutions, whose persistence has facilitated and accelerated the following key achievements:

- the improved functioning of the monetary policy regime, as evidenced by a clear declining trend in the dollarisation of the local economy and interest rates that have behaved appropriately within the central bank's policy-rate corridor
- the establishment of a comprehensive derivatives legal framework, with the reform and endorsement of the Tbilisi Interbank Rate (TIBR) as the new benchmark

[1] The EBRD has a dual approach to financial market development: one focusing on foundation building by increasing the use of local currency and risk management products for the system; the other focusing on capital market development. While this paper focuses on the foundation building, further work has been done on capital market development in Georgia. The latter work covered technical cooperation projects, ranging from derivatives and repo legal and regulatory reform, the development of sovereign and corporate GEL yield curves, running a capital market support programme that provided assistance to local corporates wishing to tap capital markets, to covered bond legal and regulatory reform. The first two technical cooperation projects under the capital market development work stream also support the foundation work stream and are mentioned in this paper.

- the development of a foreign exchange (FX) spot and FX forward market.

The EBRD has also played a crucial role in capacity building, infrastructure reform and collaboration through initiatives such as the Money Market Working Group (MMWG).

The EBRD's shift towards a more comprehensive approach (since 2018) has involved moving away from using detailed roadmaps set out in advance to using constant, dynamic mapping through continuous dialogue, collaboration and consultation with market participants and local authorities through MMWG meetings. Lessons learned include the importance of staying away from definitive, one-size-fits-all strategies, and adapting development strategies to new information gathered on the ground through onshore market transactions and constant communication with market participants. These insights highlight the effectiveness of the MMWG as a convening mechanism.

The paper also includes reflections from the NBG on the EBRD's approach, highlighting the importance of continuity, the benefits of the EBRD's participation in the local money and derivatives markets, and the success of the EBRD's advisory role at the MMWG. The NBG's overall assessment is optimistic, emphasising the long-term vision and engagement of the EBRD and NBG as critical success factors.

The paper concludes with an overview of three different approaches to financial market development-related policy dialogue: (i) traditional consultant-led projects, (ii) the use of local embedded advisers, and (iii) the EBRD's approach. The EBRD's approach is recognised for its depth of understanding of local markets, trust building, and combination of market participation and advisory functions made possible by its presence in onshore markets. While acknowledging the associated costs, the paper suggests that an approach like the EBRD's is essential for successful market development.

Introduction

After the global financial crisis, Georgia was the first economy where the EBRD stepped in to support the deepening of the use of local currency in the domestic financial system, with a more holistic approach to market development. Previous EBRD operations, largely in Russia, had focused on actions that would allow the Bank to better finance its support for local borrowers in local currency.

In this paper, we look back at the EBRD's work on developing the foundations for the financial market in Georgia to support the greater use of the local currency in the financial system. We look at the policy work carried out and how the Bank's engagement methods have evolved over time. The retrospective includes insights from Georgian counterparts on their assessment of the success of the EBRD's work, as well as a description of other supporting interventions the NBG has undertaken to improve the functioning of the Georgian financial system.

1. State of the Georgian financial system in 2010

Below is a summary of the state of the Georgian financial system in 2010. More detailed information on the initial market conditions (and how the financial system has changed since) can be found in Annex 1.

- The financial system in 2010 was heavily bank dominated (94 per cent of total assets), and the level of dollarisation was very high, with 75 per cent of all transactions executed in US dollars.[2]
- The monetary policy transmission mechanism was impaired and the NBG's policy changes were not affecting GEL deposit and loan rates with the desired level of accuracy.
- The NBG had just started transitioning from a monetary-targeting framework to an inflation-targeting framework.
- The volatility of the overnight interbank rates (traded at the Tbilisi interbank money market exchange) was very high; it was not unusual for the interest rate corridor to be breached.
- With a banking system operating with excess liquidity and low levels of interbank activity, Georgia lacked a robust and reliable money market index as a basis for pricing cash market instruments.
- The NBG's short-term objectives were to (i) stabilise the short-term volatility of the interbank interest rates, and (ii) develop interbank money markets.
- FX policy was operating under a managed float regime in 2010; the NBG was in the process of moving to a floating regime. However, the FX spot market was small, with an annual turnover of US$ 800 million (€603 million), and there was no FX swap market.[3]

2. Work carried out since 2010 with the support of the EBRD

Since 2010 the EBRD's work on building the foundations for financial market development in Georgia has focused on ultimately improving market participants' onshore risk-management capacity. Technical assistance provided by the EBRD has been synchronised and aligned with that provided by other development finance institutions. Below, we summarise how seemingly different work streams carried out by the NBG, with support from the EBRD and other organisations, have aimed to improve that capacity. More details are available in Annex 2.

[2] The data on the Georgian financial system that appear in this paper are largely sourced from the NBG.
[3] The euro equivalents displayed in brackets after each GEL or USD figure in this paper are calculated using the exchange rate that corresponds with the date mentioned in the text.

Technical assistance to improve the monetary policy framework

A monetary policy framework aims for stable prices and short and long-term rates through forward-looking policymaking. Building a robust monetary policy framework lies at the heart of developing money and derivatives markets. This is why the EBRD prioritised improvements to Georgia's monetary policy framework over any other activity. The Bank's involvement with monetary policy reform started in 2012 with a technical assistance project that involved scoping the NBG's capacities and establishing a forecasting and policy analysis system. The scoping exercise was followed by further technical assistance projects, which were carried out between 2013 and 2015, and involved setting up a macroeconomic forecasting model, customised for Georgia, and using the analysis system for forward-looking decision-making and to improve external communication.

Derivatives legal reform

Establishing a robust legal infrastructure is essential to developing derivatives markets and improving risk-management capacity. The legal reform in Georgia involved a number of elements.

- The implementation of a comprehensive derivatives legal framework between 2016 and 2019. Sponsored by the EBRD and in close cooperation with the International Swaps and Derivatives Association (ISDA) and local stakeholders (including representatives from local banks and the NBG), this initiative aimed to address critical issues related to derivative netting and financial collateral in Georgia.
- The issuance of a clean ISDA legal opinion in July 2020. This provided much-needed legal certainty for market participants engaging in cross-border derivative transactions.
- The drafting of an ISDA-like local master agreement by the Georgian Financial Market Treasury Association (GFMTA) which ensured consistency with international best practices and considered the specific nuances of Georgian law.[4]

Developing a risk-free rate and related instruments

The NBG started publishing TIBR1 and TIBR7 in 2008. These indices represented the weighted average interest rate on unsecured interbank loans at the overnight tenor (for TIBR1) and up to one week tenor, excluding overnight loans (for TIBR7). Although Georgian financial market participants used TIBR1 and TIBR7 for analytical purposes and for forecasting liquidity needs, they preferred using the NBG's certificate of deposit (CD) or refinancing rate as a reference for long-term financial instruments (predominantly mortgages). In order to develop GEL money and capital markets, there was a need for a credible and transparent reference rate – reflective of a deep underlying market and

[4] The GFMTA was established in November 2018 by the NBG's leadership team, together with various commercial banks and microfinancing organisations. Today, the Association is the only professional organisation involved in financial market development in Georgia and unites 14 entities operating in different segments of the country's financial markets, including 10 commercial banks, three microfinancing organisations and the pension fund.

free of any credit- or liquidity-related risk – to replace the NBG's CD and refinancing rates as a reference rate for pricing financial instruments.

Work to strengthen and endorse the TIBR as the GEL risk-free rate was led by the MMWG and involved:

- reforming the TIBR in August 2018 in collaboration with the NBG, the EBRD and local banks through the MMWG platform
- publishing compounded TIBR average rates (for one, three and six months) in March 2019, and a compounded TIBR index in October 2021 to enable the TIBR to be used in floating-rate financial instruments
- endorsing the use of the reformed TIBR, which included:
  - efforts by the MMWG to develop conventions for TIBR-linked (cash and derivative) instruments
  - the first TIBR-linked bond and loan (which the EBRD issued in 2019)
  - an overhaul of Bloomberg's market monitor page for Georgia
  - efforts by the NBG to promote the use of the TIBR in mortgages and other bank loans.

Since June 2022 the NBG has only accepted TIBR-indexed floaters as eligible collateral for its monetary operations. Since January 2023 the central bank has only allowed TIBR-indexed loans and mortgages as eligible collateral for its monetary operations for loans issued after January 2023. In the transition period between January 2023 and January 2025, non-TIBR-indexed floating-rate loans and mortgages issued before January 2023 will be gradually excluded (with a predetermined schedule) from the list of eligible collateral. From January 2025 floating-rate loans and mortgages that are not linked to the TIBR will not be accepted as eligible collateral for monetary operations.

Developing the GEL Overnight Index Swap market

The work described above was a precondition for the development of the derivatives market. Additional measures were needed to help market participants understand the benefits of derivatives and how to price and trade them.

- Transactions and quotes: In October 2018 the EBRD executed the first Overnight Index Swap (OIS) transactions to test the pricing, booking and valuation of the GEL OISs. These test trades were followed by actual transactions executed between the EBRD and local banks. In May 2021 the EBRD started contributing daily quotes to the GEL OIS market, which motivated other banks to quote in the OIS market, too. Five local banks and the EBRD now provide daily quotes of up to two-year tenor on Bloomberg for the GEL OIS market. This has enabled Bloomberg to publish generic OIS rates for the Georgian market.
- Efforts to improve market activity: The EBRD has financed a technical cooperation project on measuring the interest rate risk in banking book (IRRBB) for Georgia with the aim of

improving local banks' hedging activity. The EBRD has also been supporting the NBG in its efforts to lead local banks (and the pension fund) in the procurement of a treasury management system for the Georgian market. The fact that banks do not have a treasury front office system for booking, valuing and monitoring risks in their activities impedes the development of the derivatives market.

- Capacity building: The EBRD has played a pivotal role in capacity building and infrastructural reform.
    - Between 2016 and 2017 the Bank organised a series of derivatives training sessions featuring Joseph Carrico and Rick Grove, both leading trainers in the field.
    - The Bank has sponsored assessments of derivatives market development, comprehensive evaluations of market infrastructure and the identification of areas for improvement.
    - In June 2023 a week-long derivatives and treasury training course was held at the Bank's headquarters.

3. How the EBRD's approach has evolved over time

The work the EBRD has carried out since 2010 shows that the pace of market development has clearly accelerated since 2018. This section explains how the EBRD's approach to building the foundations for financial market development has evolved since 2010: from diagnostics with targeted technical assistance until 2017, to a more comprehensive approach from 2018 onwards.

The work between 2010 and 2017 included a number of activities.

- The EBRD carried out a diagnostic in 2010, its first in any country, followed by improvements to the monetary policy framework.
- The Georgian authorities undertook another diagnostic in 2014 to help design the next steps needed to develop the Georgian financial system.
- The EBRD and the Georgian authorities signed a memorandum of understanding in 2016 that paved the way for technical cooperation projects, including a continuation of the work with the NBG on improving monetary policy implementation, and the initial stages of a legal reform to make possible the close-out netting of derivatives and the recognition of collateral under bankruptcy.

The pace of reform accelerated in 2018 with the creation of the MMWG (in which the EBRD participated as an adviser and market participant), together with more involved and regular cooperation and participation in the domestic market.

Why did the EBRD's approach change?

The rest of this section describes why and how the EBRD changed its approach to building the foundations for financial market development (in all economies where it operates, not just in

Georgia). Annex 3 summarises the pros and cons of the different approaches to financial market development-related policy dialogue.

Looking back at the progress between 2012 and 2017, a number of issues became clear.

- Using multiple consultants one after another created a level of engagement with local markets and authorities that was too stop-start, making it difficult to keep track of deliverables at a time when resources were also constrained.
- Memoranda of understanding with detailed roadmaps were difficult to keep on track as negotiating and updating them was time consuming and thus created rigidity when, in fact, the path of market development is not well known, nor is there an agreed route to take. The EBRD therefore adopted a constant mapping approach, rather than specifying a roadmap in advance.

The other element that changed was how the EBRD structured its work and what interventions it could take. The announcement of the London interbank offered rate (Libor) reform in the summer of 2017 endorsed overnight-based benchmarks as the way forward for developed markets. This helped overcome the biggest hurdle in creating a credible benchmark in developing markets, which was (and remains) the lack of underlying activity on which to base the term "benchmark". Even though the EBRD proved that overnight-based money market benchmarks can work (through its efforts to develop them in Russia in 2010), the tendency in other economies was to try and keep the "-ibor"-based benchmarks. However, when the Libor replacement rate was announced, it became acceptable to "copy" the developed markets, and overnight-based benchmarks became acceptable as their use was no longer seen as a sign of weakness.

Joining the Libor risk-free rate working group in the United Kingdom showed the EBRD a different approach to effecting market change: strongly directed dialogue between the regulatory and private sector, with a single goal in mind.

The EBRD has also expanded its resources for managing local market operations,[5] both for liquidity-pool or market-risk management and to follow-up with counterparties and authorities.

In summary:

- The EBRD set up and advised MMWGs in countries where the authorities were receptive and where there was a need for benchmark reform. This involves gathering key stakeholders that represent the authorities (typically the central bank) and the main market participants (predominantly banks). Benchmark reform is an easy topic which local stakeholders will

[5] In addition to broadening its human resources capacity in this field, the EBRD has invested in developing local-currency (interest and cross-currency) swap curves, which are essential for local and global market players to value local-currency products in their portfolios. The EBRD has been using and testing these curves for pricing and valuation purposes since 2019 and recently made the curves publicly available on the EBRD's page on the Bloomberg platform. Publishing the swap curves is an important step towards endorsing local banks' use of local currency risk-free rates.

generally agree to start a conversation on before realising that, in the process of the redesign, they will have to examine and potentially improve the entire range of the functioning of the short-term interbank market and the interaction between the banking system and monetary policy implementation.

- The other change the EBRD made to its approach was to move from a roadmap approach to a continuous improvement approach, where local-currency portfolio managers have greater direct involvement in market-development activities. This was because the Bank found that there is no single definitive route in the market-building process. In simple terms, one knows what a good outcome looks like, but there are several ways of getting there. The route chosen is unique to each economy, even though many of the steps might be similar.

The EBRD Treasury's approach to managing its local-currency activities has been crucial for supporting continuity in the development of local-currency markets. Managing liquidity pools by engaging directly with local counterparties in the onshore local-currency markets requires that portfolio managers continuously follow developments in the local market, which enables them to spot (and track) impediments to market development using first-hand experience gained through onshore operations. This on-the-ground knowledge, combined with continuous engagement with local players and authorities, has been proven to be effective in setting the agenda for the MMWG meetings and steering the direction of travel for market development.

The impact of the EBRD's work on building the foundations for financial market development

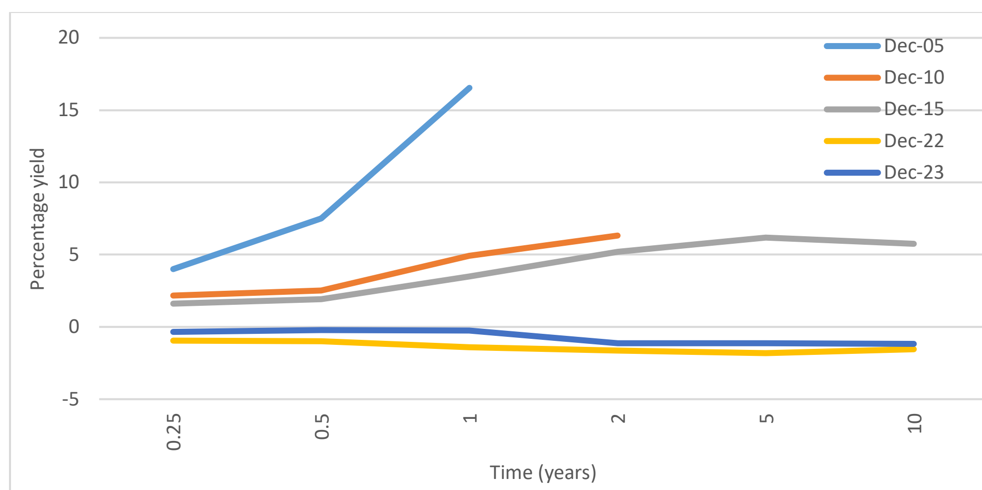
Technical assistance with monetary policy

The EBRD's technical assistance helped the NBG to improve its monetary policy framework and monetary transmission mechanism in several ways.

- The scoping exercise helped to determine the state of Georgia's internal and external macroeconomic balance and monetary and FX policies (including the institutional framework, monetary policy decision-making process, monetary and FX policy implementation and external communications).
- Establishing the forecasting and policy analysis system enabled the NBG to better understand economic conditions and future trends, paving the way for more informed monetary policy decision-making and improved forecasting capacity.
- Enhanced forecasting, in turn, provided the basis for the central bank's policy intentions to be communicated clearly, enhancing the NBG's ability to influence market expectations and guide interest rates in the desired direction. Overall, a well-documented and data-driven forecasting system resulted in improved transparency in the NBG's decision-making and clarity in its communication, which bolstered public and market confidence in the central bank's actions. This led to the development of longer-term GEL market instruments pricing

lower-risk premia for longer maturities, which is illustrated by the gradual extension and flattening of the GEL government curve.

Chart 1. Yield (spread over policy rate)



Source: NBG.

Developing the bond market

The EBRD has played a leading role in developing the local-currency and capital markets in Georgia, working with the NBG, the Georgian government and local financial institutions. In 2014 the EBRD became the first international financial institution (IFI) to issue a local-currency-denominated bond, worth GEL 50 million (€21.2 million), in the local market. The bond issuance helped to drive the development of the local capital market and became an additional tool the EBRD could use to raise local currency for its lending programme in Georgia[6]. The EBRD bond was the first in GEL with a floating interest rate on the domestic market. During the process, a number of regulatory shortcomings and areas for improvement were identified that created potential barriers to market development. The NBG introduced regulatory changes to take into account the EBRD's supranational structure (as an IFI) and to recognise the specific characteristics of an IFI, thus ensuring that all the requirements for public offerings in the domestic market could be met, including listing IFI bonds on the Georgian stock exchange. The procedures for IFIs issuing securities were simplified and the time needed for the issuance process was significantly reduced.

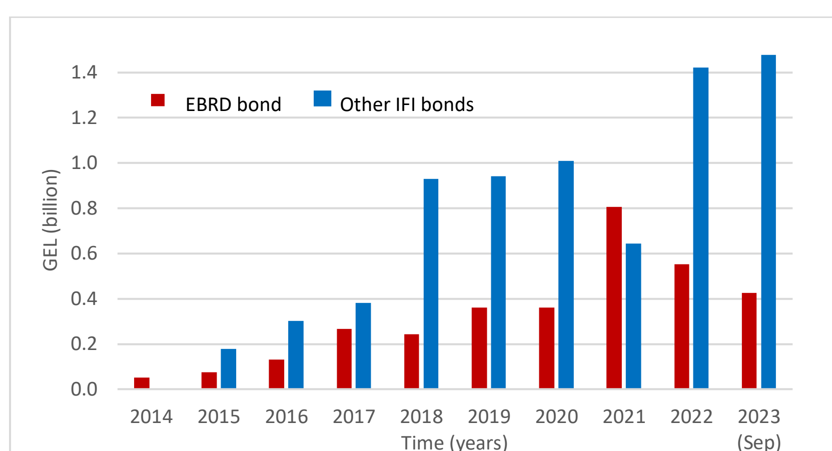
In 2016 the EBRD launched its first-ever publicly listed bond on the Georgian domestic market for GEL 107 million (€43.91 million). This pioneering five-year issuance had a floating-rate coupon linked

[6] Although this paper focuses on foundation building, the work only refers to EBRD GEL bond issuances; the ERBD further supported the development of the bond market in Georgia through its assistance to developing the capital market as mentioned in footnote 1.

to the three-month CD rate issued by the NBG. Following the EBRD's example, other IFIs started issuing local-currency-denominated securities and, for them, adoption was much easier. The market now exceeds GEL 2 billion (€0.8 billion). This process had a number of benefits.

- The IFI bonds are eligible collateral for monetary operations carried out by the NBG.
- It created AAA-rated GEL collateral in the market.
- It provided funding in local currency for Georgian financial institutions and their borrowers, thereby reducing exchange-rate and currency-induced credit risks. The EBRD also assumed local financial institutions' credit risk.

Chart 2. IFI bond portfolio in Georgia

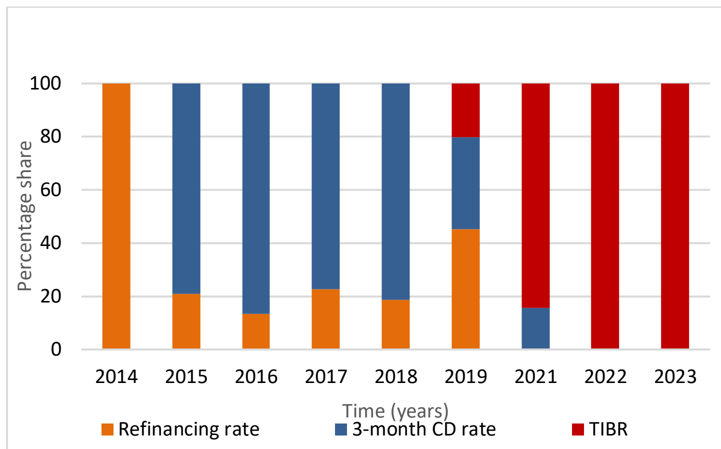


Source: NBG.

Developing TIBR-linked instruments

As mentioned above, the initial floating-rate notes that were issued were indexed to the CD rate. Since the TIBR reform and the EBRD's pioneering issuance of a TIBR-linked bond in 2019, TIBR-linked floating-rate notes have been growing and gradually replacing CD-linked floating-rate notes, as shown in Chart 3. In 2022 and 2023 (year to date) 100 per cent of floating issuances are linked to the TIBR.

Chart 3. Share of floating issuances indexed to the reference rate



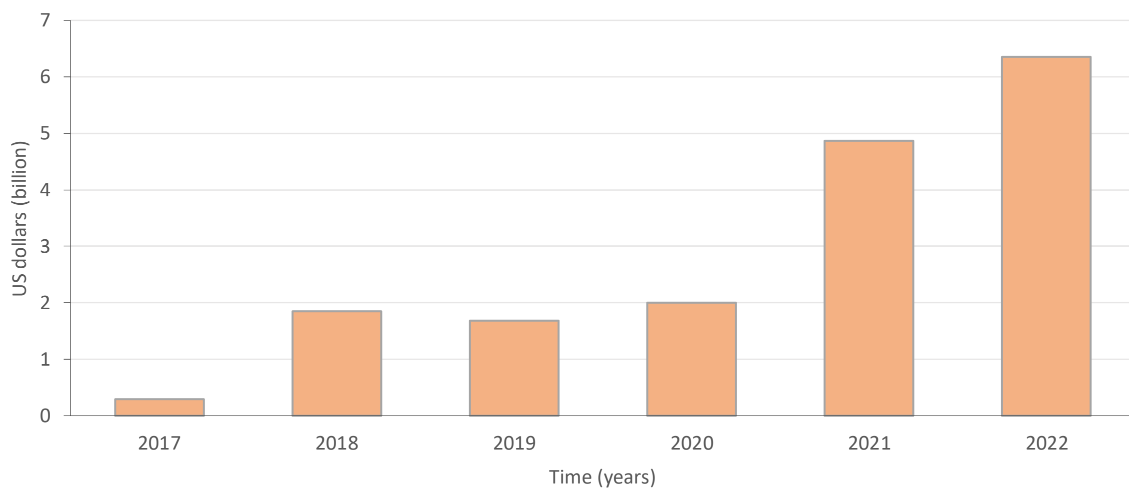
Source: NBG.

Note: No floating rate notes were issued in 2020 (indexed to any of the three reference rates).

Developing the derivatives market

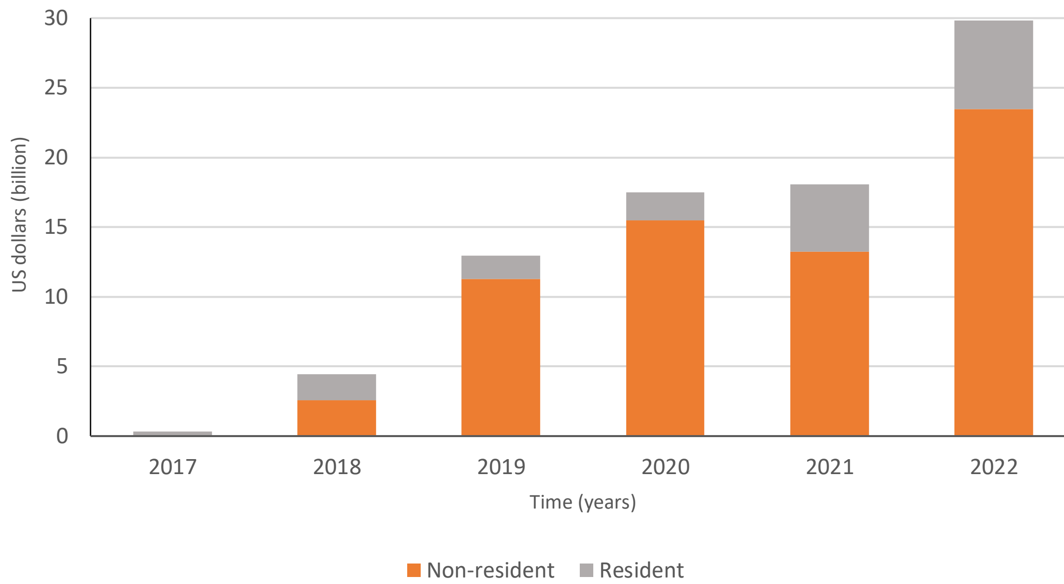
There has been a significant increase in cross-border derivative activities following the adoption of the Law on Financial Collateral Arrangements, Netting and Derivatives and the publication of the ISDA legal opinion.

Chart 4. Trade volume of domestic FX swaps



Source: NBG.

Chart 5. Domestic versus cross-border FX swap trades

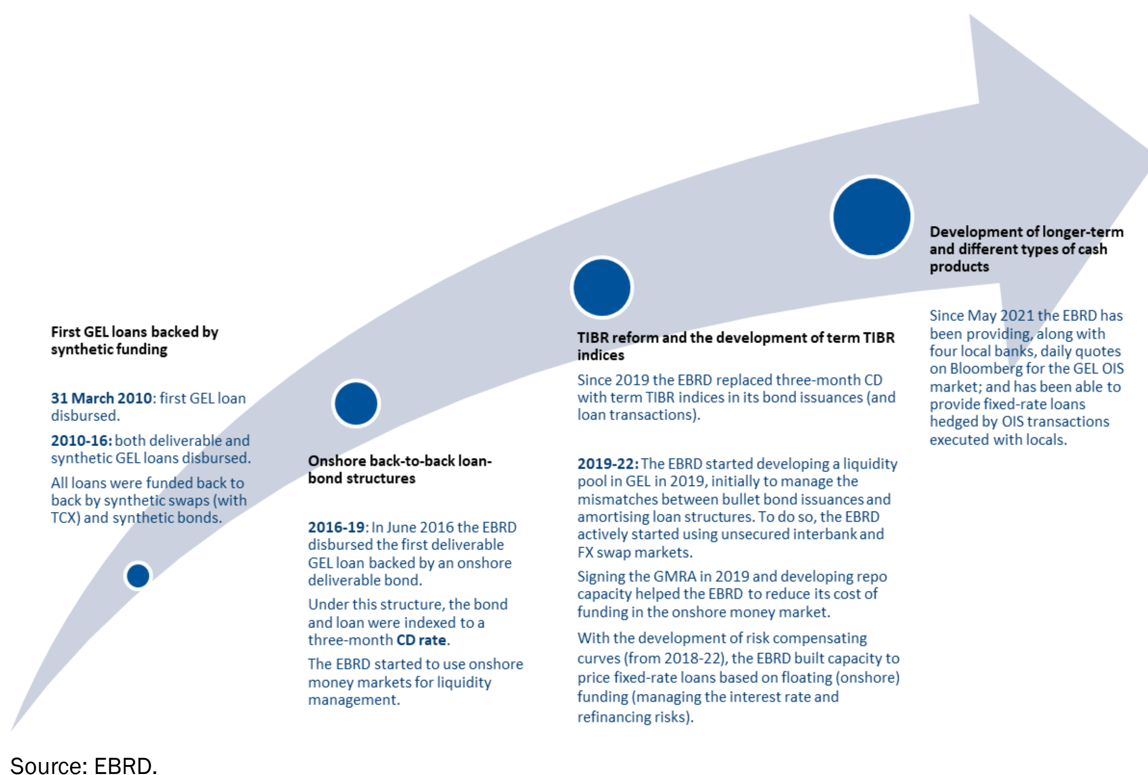


Source: NBG.

The impact on the EBRD's GEL financing

The EBRD has been proactively supporting the above-mentioned instruments through a combination of advisory and technical assistance work, and through direct market participation. Since the TIBR reform, the EBRD has endorsed the rate's use in cash and derivative products by issuing TIBR-linked bonds and loans, and entering into derivative contracts with domestic counterparties. The combination of the initiatives described above has supported an increase in the EBRD's GEL operations (the Bank's GEL operating assets grew twentyfold between 2010 and 2023).

Figure 1. The evolution of the EBRD GEL book



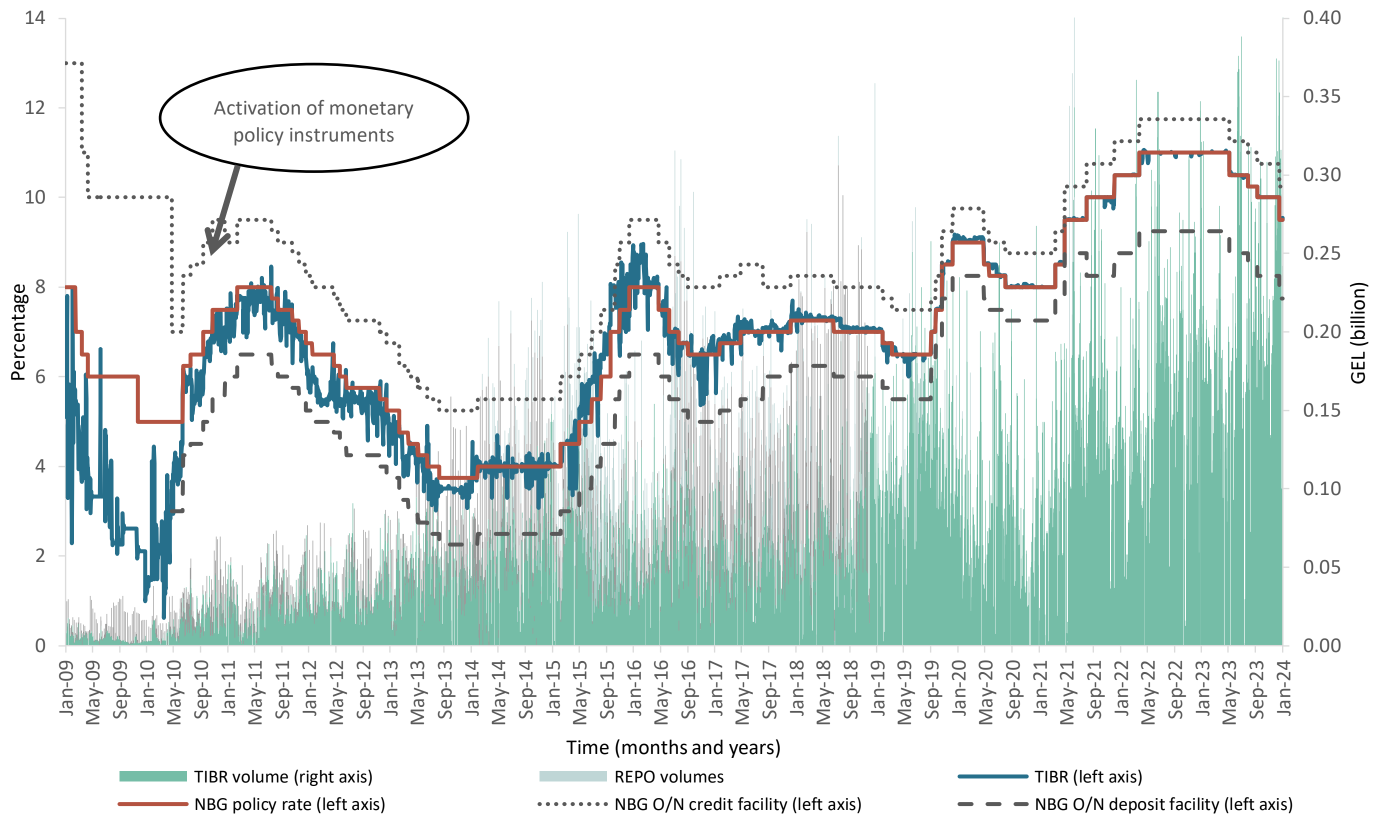
Source: EBRD.

4. State of the Georgian financial system in 2023

Below is a summary of the current state of the Georgian market.

- The NBG operates a robust inflation-targeting framework, with developed instruments and a strong transmission channel.
- The banking system operates under a liquidity deficit with a high volume of overnight unsecured and secured (repo) transactions conducted on Bloomberg. The NBG provides adequate liquidity to the banking sector using open market operations. Commercial banks generally satisfy their extra-liquidity needs by using the NBG's main instrument: refinancing loans. In cases where the financial system experiences episodes of excess liquidity, the NBG uses liquidity-absorption instruments.
- Georgia now has a liquid and reliable money market index (the TIBR) which is based on actual market activity, is well anchored around the NBG's refinancing rate and serves as the basis for pricing capital-market instruments. TIBR volatility is very low and follows the NBG's policy rate closely. TIBR turnover is around 10 times larger than it was in 2010.

Chart 6. Interbank money market

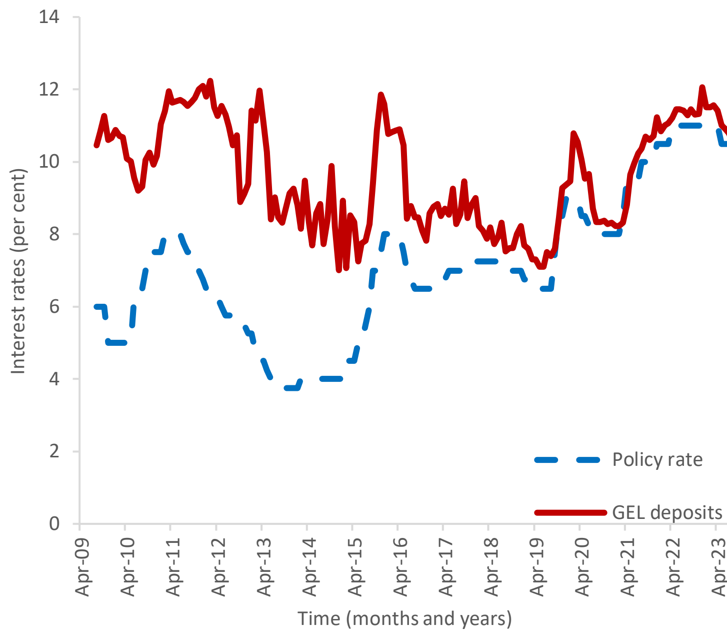


Source: NBG.

Note: The TIBR calculations between 2009 and 2013 are approximate.

- Monetary policy transmission is strong: the NBG's policy changes are immediately reflected in the money market rates and transmitted into longer-tenor GEL deposit and loan rates.

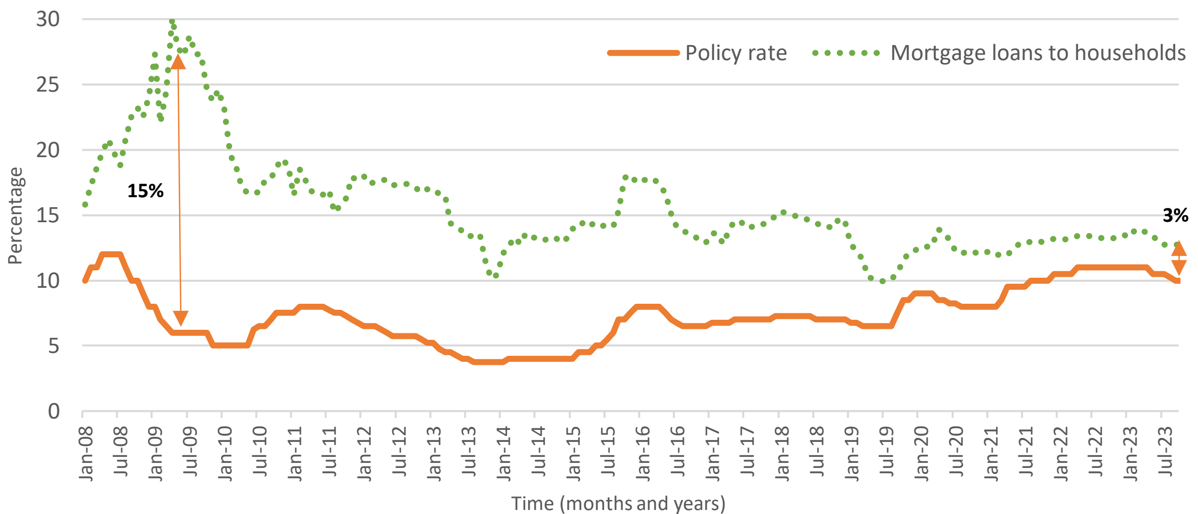
Chart 7. Interest rates on GEL deposits



Source: NBG.

- Market development, a robust transmission channel and decreased interest rate spreads for long-term instruments have allowed Georgian banks to issue long-term GEL-denominated loans with competitive rates.

Chart 8. Spread to policy rates for GEL-denominated mortgages

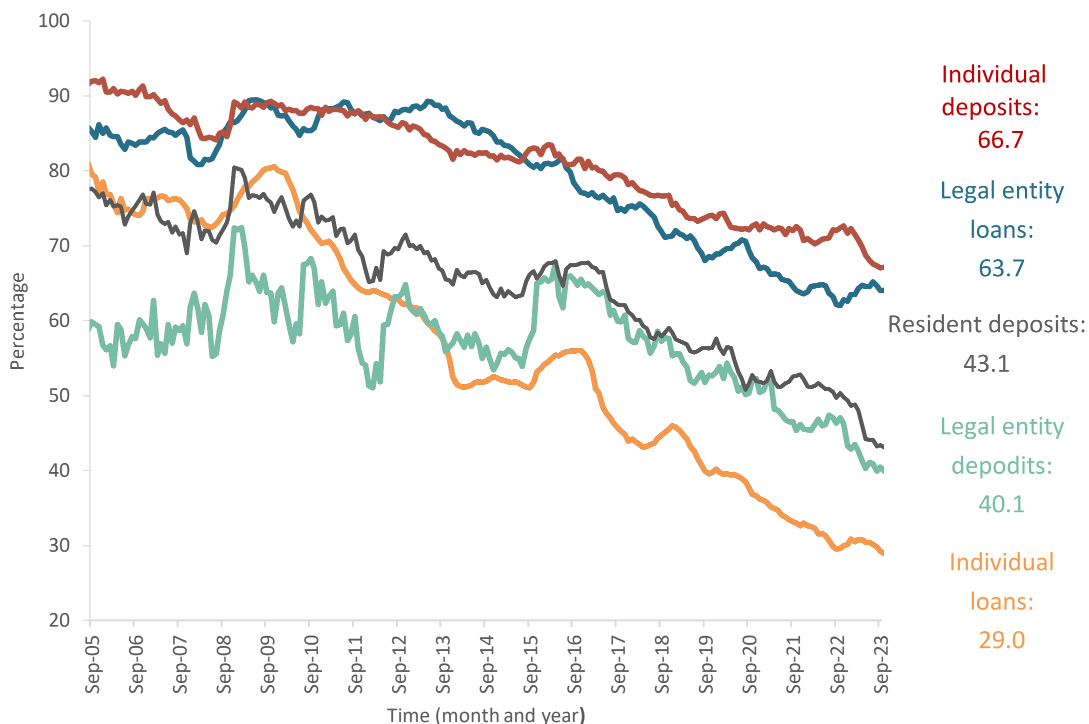


Source: NBG.

The level of dollarisation declined from 75 per cent in 2010 to around 45 per cent by the end of 2023. By September 2023, 60 per cent of mortgages were GEL denominated (82 per cent if measured by number of contracts), up from around 5 per cent in 2010. The development of the transmission channel allowed banks to actively issue longer-maturity loans in GEL, starting from 2017. Ninety per cent of GEL mortgages had more than five years of remaining maturity (more than 60 per cent had more than 10 years) by September 2023.

- Total deposit dollarisation dropped to 50 per cent in September 2023, down from more than 70 per cent in 2015. Resident deposit dollarisation decreased to 43 per cent as of September 2023.

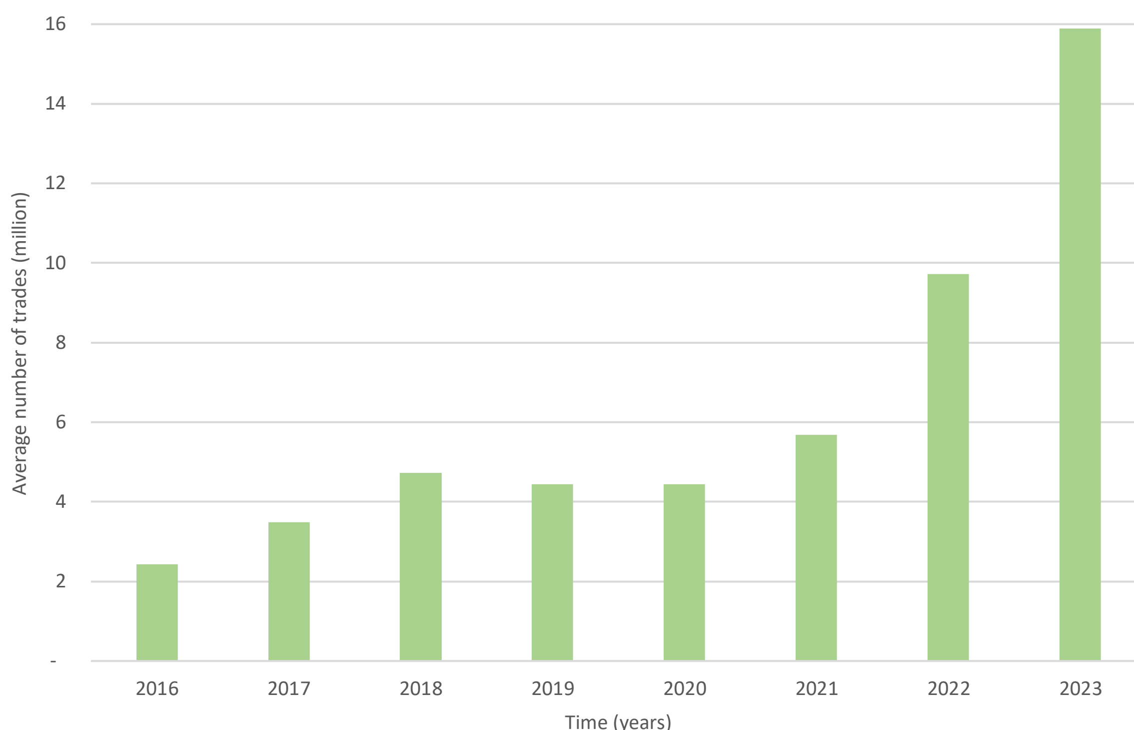
Chart 9. Percentage of dollarisation (excluding exchange rate impact)



Source: NBG.

- High daily volumes on the FX spot market, traded on Bloomberg's BMatch platform, enable financial and non-financial institutions to execute spot transactions efficiently. BMatch was introduced at the end of 2020. As a result, average interbank FX daily turnover increased from less than US$ 5 million (€1.14 million) in 2020 to more than US$ 15 million (€13.13 million) by 2023.

Chart 10. Average daily turnover of interbank FX trades



Source: NBG.

- The financial system was still bank dominated in October 2023 (90 per cent of total assets), but corporates had better access to capital markets.

5. Lessons learned and insights from the NBG

Reflections on the change in approach with the MMWG

Financial market development requires long-term planning, careful step-by-step actions and coordination between the central bank, government, market participants and international development partners. As market participants also need to plan and execute actions on their side, regular and proactive communication with market participants is key to success.

Continuity has been an important reason for the MMWG's success. Unlike some traditional technical assistance programmes, where consultants produce a set of recommendations and leave implementation to the authorities' discretion, the EBRD's approach included accompanying market participants through a practical execution phase for a sufficiently long period of time. This meant that the guidance was accessible at any time, making cooperation fully tailored to market needs and the speed of changes.

The use of the MMWG as a convening mechanism and driver of change is key. The working group meets regularly and treats market building from the ground up, addressing each issue in turn. The working group has a constantly evolving work plan to help it keep improving the local system. Regular

meetings mean the group can develop standard diagnostics to measure the state of the local system and ways to improve its functioning.

The MMWG, which started as an independent platform and later became a structure under the GFMTA, proved to be quite successful. Meetings were held at regular intervals and each one built on the last. There was always something new, even if only incremental, that would drive the market forward. As meetings were held in person and with the participation of key market players, they led to better coordination and cooperation. Following Covid-19, we started having offsite (in-person) MMWG meetings that last for two days, which has enhanced team building and networking.

The ongoing presence of EBRD staff in MMWG meetings has created better trust and understanding. The Bank's readiness to work bilaterally and with the community, helping them to understand and learn about new instruments and approaches, has been very well received. The EBRD is different from other IFIs; it is willing to quote prices for the local market (usually on Bloomberg) and carry out transactions in smaller volumes with the objective of market education. As making mistakes in financial transactions can be very costly, market participants need confidence and a deep understanding of instruments before they start using them. In this light, the EBRD's hands-on approach, working bilaterally to transfer knowledge and carry out transactions, has been very important for the reform. The combination of the EBRD's market participation and advisory function has also helped to showcase how new instruments or ways of thinking can help local financial market participants.

The EBRD's knowledge base is broad; its Treasury department uses its experience from every market segment in which it operates (both in developed and emerging markets). In addition, the Bank's knowledge is based on actual market participation and is tailored to local market conditions. The EBRD is interested in developing a local-currency market to support the risk management of its own local-currency-lending activity. Market participation with the EBRD's involvement ensures there is constant dialogue, which enhances relationships with the local financial-system participants and creates mutual trust and understanding.

The NBG's guidance has always been key. We have tried to generate motivation for adoption of the TIBR and other good practices using soft, market-friendly methods. This has often taken the form of incentives through collateral eligibility (only TIBR-linked floaters are accepted). We have tried to support market development by providing easy access to our liquidity-management instruments, which have adapted to changing market needs over time, including during Covid-19. Our role, including through our membership with the GFMTA, has been to promote partnership and a collaborative spirit, and to build an understanding that market development is only possible with the inclusion of all the stakeholders: the central bank, the government, the private sector and development partners like the EBRD.

Reflections on the work on developing the derivatives market

A combination of the following factors has played a pivotal role in successfully developing the derivatives market in Georgia: legal reform, capacity building through training, the EBRD's pioneering transactions and market participation to enhance product development and liquidity, infrastructural improvements, and support and expertise from the EBRD and international experts. This multifaceted approach has addressed legal and regulatory aspects, empowered local professionals and enhanced the market's infrastructure, paving the way for Georgia to participate fully in the global derivatives landscape.

Overall assessment

It has been a very positive experience overall. The long-term vision and engagement on both the EBRD and NBG sides have been important success factors. The management and teams working on these projects have remained broadly unchanged throughout the reforms. This means that none of the knowledge or experience has been lost. Teams have always had a good understanding of the progress already made and the role they will play in future reforms. In some other economies, frequent changes in the team working on the reforms has led to delayed or less successful reforms.

We have learned that working with external (non-EBRD) consultants can be a mixed experience. As mentioned above, consultants do not usually participate in the implementation process, which means they have less ownership and accountability over the recommendations they give to the authorities. If capacity is lacking on the authorities' side, even very good ideas can either fail to be implemented, or are not implemented correctly. This can lead to inferior outcomes. The inclusion of the private sector (financial institutions and law firms) was an important step and has helped us to acquire ownership and a better understanding of the new legal framework, which has led to smoother adoption.

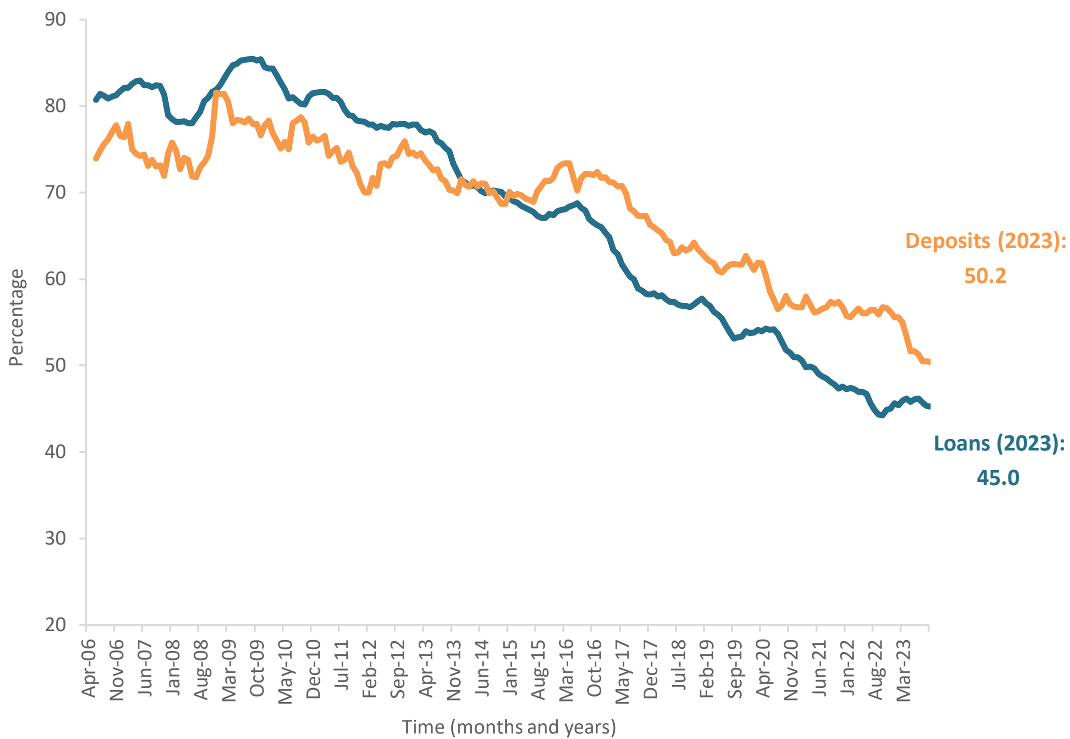
To summarise, the EBRD's approach to building the foundations for financial market development – with its regular and long-term advisory work and market participation – has been important for successful financial market development reform in Georgia.

Annexes

Annex 1. The evolution of the state of the Georgian financial system between 2010 and 2023

In 2010 the level of dollarisation in the Georgian financial system was very high: around 75 per cent of all loans and deposits were in US dollars rather than GEL. The financial system was heavily bank dominated in 2010, with total banking system assets at GEL 9.2 billion (€3.9 billion), versus a combined total of around GEL 600 million (€254 million) for the combined microfinancing and insurance sector.

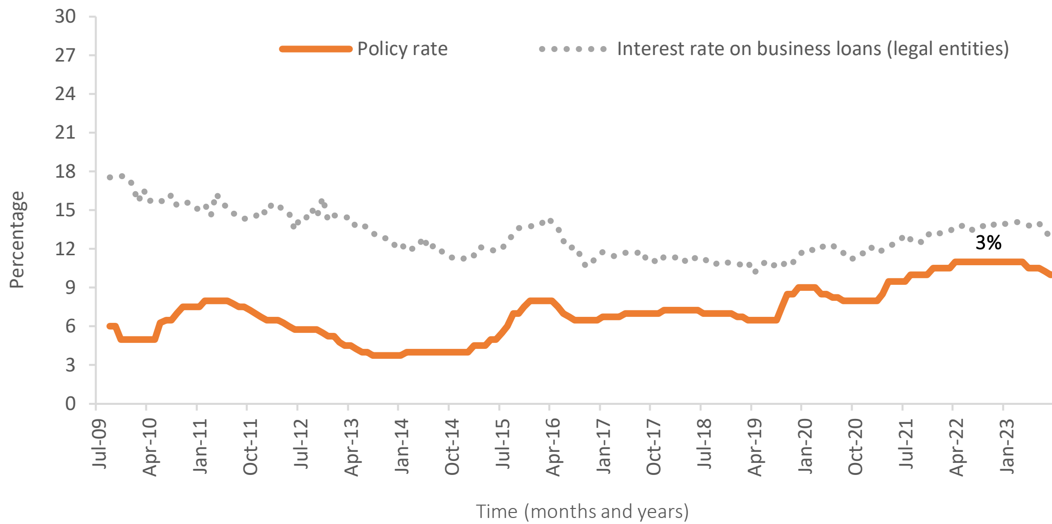
Chart A1.1. Percentage of dollarisation (excluding exchange rate impact)



Source: NBG.

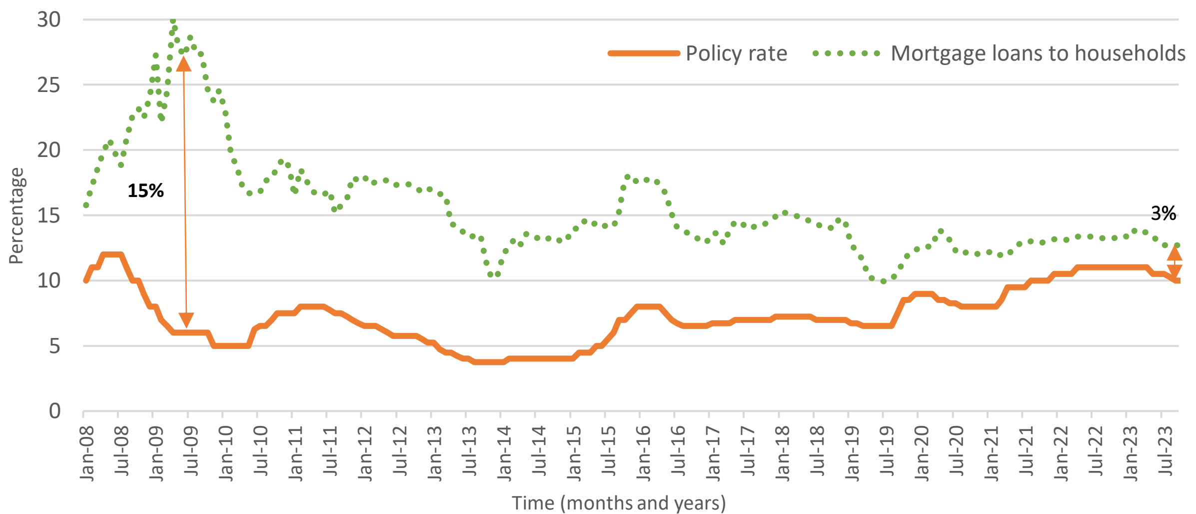
Chart A1.1 shows that dollarisation was high, but the interest rate differentials between GEL loans and the official policy rate were very wide, as shown in Chart A1.2 and Chart A1.3. This made the signalling function of the NBG's monetary policy committee more complicated as the interest rate transmission mechanism wasn't functioning properly.

Chart A1.2. Interest rates



Source: NBG.

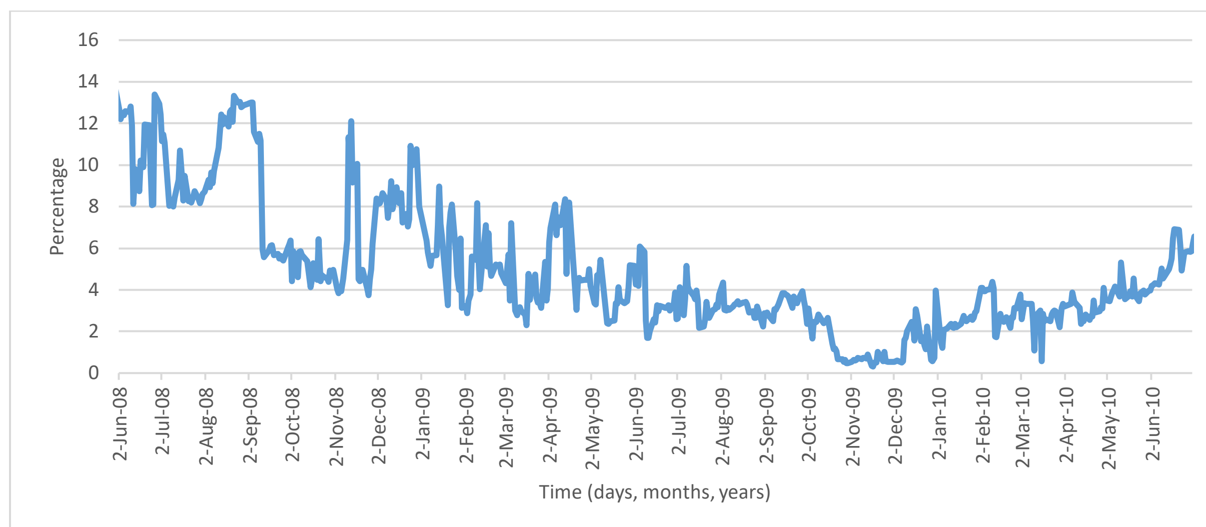
Chart A1.3. Spread to policy rates for GEL-denominated mortgages



Source: NBG.

The volatility of the overnight interbank rate as traded in the OTC interbank market is among the other indicators of market immaturity at the time. Chart A1.4 shows the level of daily volatility that was well beyond the boundaries set by the monetary policy framework. The NBG became more active in the market to reduce volatility and ensure the interest rate stayed within the corridor. The introduction and narrowing of the corridor helped to reduce the volatility to a certain degree.

Chart A1.4. Overnight interbank rate (TIBR1)



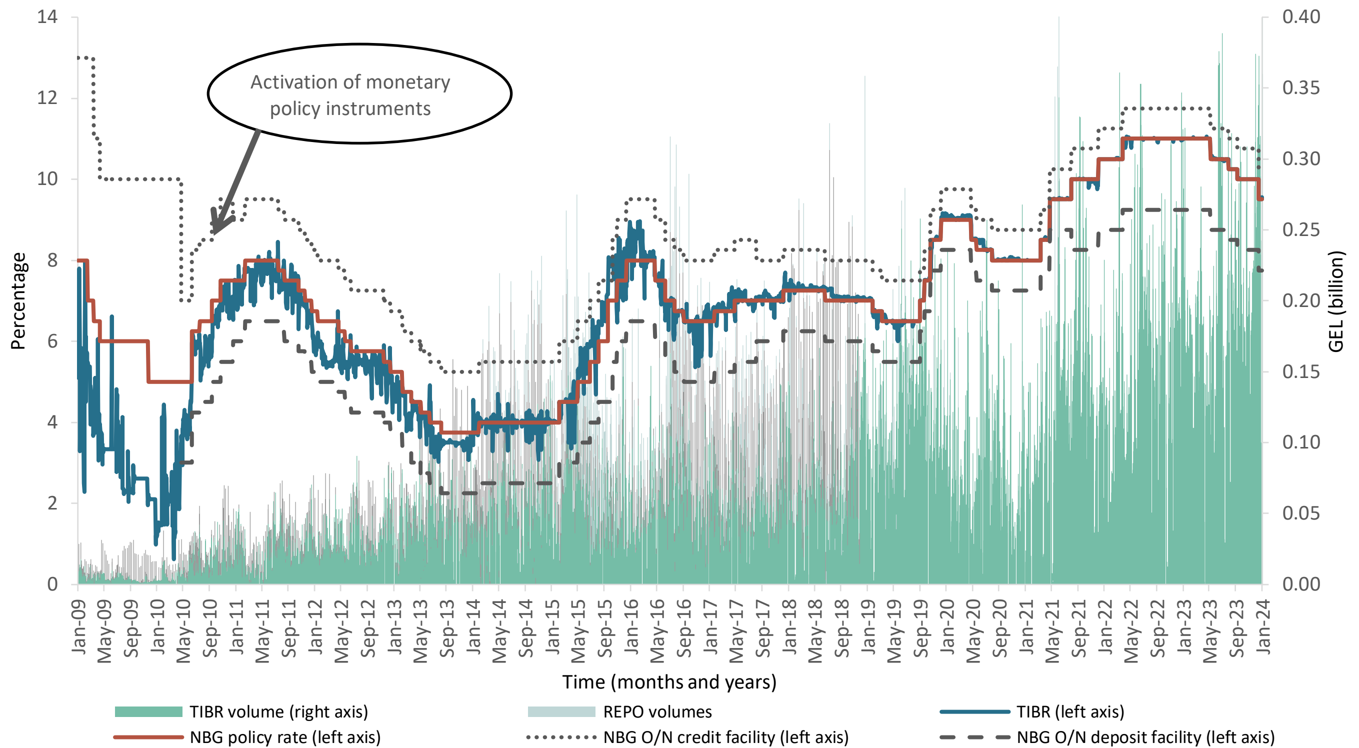
Source: NBG.

The level of interbank money market activity was still described as low in 2010. Most activity was in the unsecured market; the secured market accounted for around 10 per cent of the unsecured market, with a weekly turnover of GEL 10 million (€4.2 million). The banking system was in an overall position of excess liquidity in 2010, which partially caused the low level of money market activity. Despite the ample liquidity, market participants were concerned about the accessibility of adequate local-currency liquidity in the medium term. One of the first measures the NBG introduced was to increase the minimum reserve requirements in GEL to 10 per cent. This helped to stimulate interbank activity.

The interbank money market improved during the period (up to 2014), with rates stabilising and volume increasing steadily. As there was no issue with trust among banks, the market continued to be dominated by unsecured overnight transactions. In 2010 the NBG introduced an overnight deposit facility and set the overnight corridor at 400 basis points (± 200 basis points in each direction). The size of the corridor has since decreased gradually to 150 basis points (± 75 basis points in each direction).[7] Unlike other underdeveloped capital markets where there is a lack of trust among banks, the Georgian interbank market had sufficient credit lines to facilitate the even distribution of liquidity within the system. In December 2013 banks started repo trades under a locally developed master repo agreement based on the International Capital Market Association's (ICMA) Global Master Repurchase Agreement (GMRA).

[7] To accommodate the difference between the taxation of interbank deposits and deposits placed with the NBG, the NBG set the deposit facility rate at 175 basis points lower than the policy rate, as a temporary measure in 2022. It is expected that overnight deposits will be set back to 75 basis points below the policy rate once changes in the law equate to deposit taxation.

Chart A1.5. Interbank money market



Source: NBG.

Note: The TIBR calculations between 2009 and 2013 are approximate.

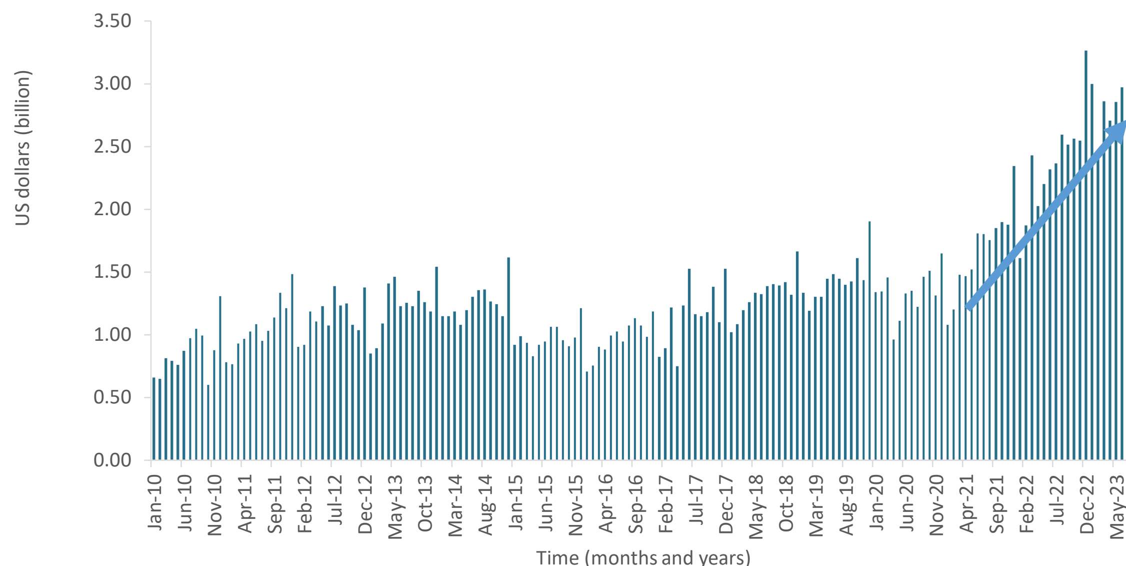
The NBG relaxed collateral standards for refinancing GEL loans in 2013 as part of its efforts to encourage banks to introduce floating interest rate loans in local currency. This helped to contain interest-rate risk as the interest-rate swaps market had not yet been developed and fixed-rate loans were still dominant.

The FX spot market was small in 2010 and in the years that followed, partially because of underdeveloped hedging markets and high banking concentration (two of the largest banks control more than 80 per cent of assets and the majority of clients' FX operations is settled within the bank itself). To increase liquidity on the interbank FX spot market, in 2020 the NBG introduced a code of conduct for market participants,[8] and started using Bloomberg's BMatch platform.[9] Following these changes, the bid-ask spread on the BMatch platform narrowed more than sixfold compared to the Bloomberg Generic Composite rate platform that Georgian banks used before 2020. FX liquidity on the interbank market increased significantly.

[8] Similar to the FX Global Code.

[9] In Georgia, banks use Bloomberg's platform for interbank trades. The majority of interbank FX trades is executed on Bloomberg.

Chart A1.6. Interbank USD-GEL market turnover

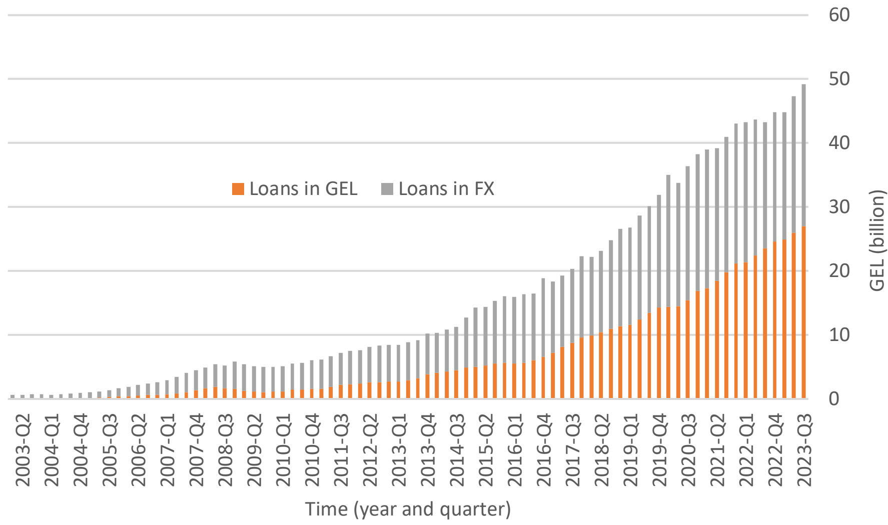


Source: NBG.

The banking sector

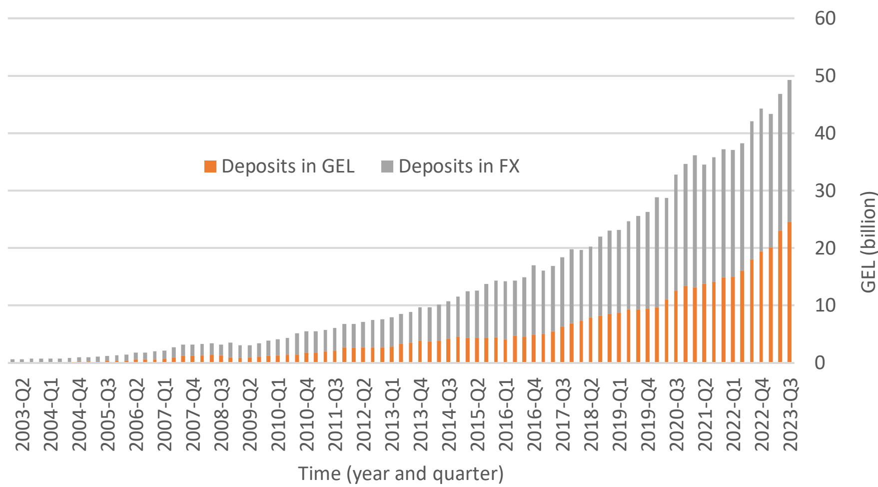
The banking system in Georgia has increased from less than 50 per cent of gross domestic product (GDP) in 2010 to around 90 per cent of GDP by 2023. Banks are foreign owned or controlled. The two largest banks, the Bank of Georgia and TBC Bank, make up more than 80 per cent of the total banking sector. The sector was liquid and well capitalised between 2010 and 2023, which was an important prerequisite for market development reforms. Loans and deposits grew steadily, and growth has even accelerated in line with market development. Since 2017 growth has been driven predominantly by GEL-denominated loans, reflecting banks' ability to manage liquidity more efficiently, by relying on the interbank market and other monetary policy instruments. The dollarisation of banking loans and deposits has been on a downward trend since the 2008 Russia-Georgia war and the global financial crisis, and has accelerated further since 2017.

Chart A1.7. Total loans



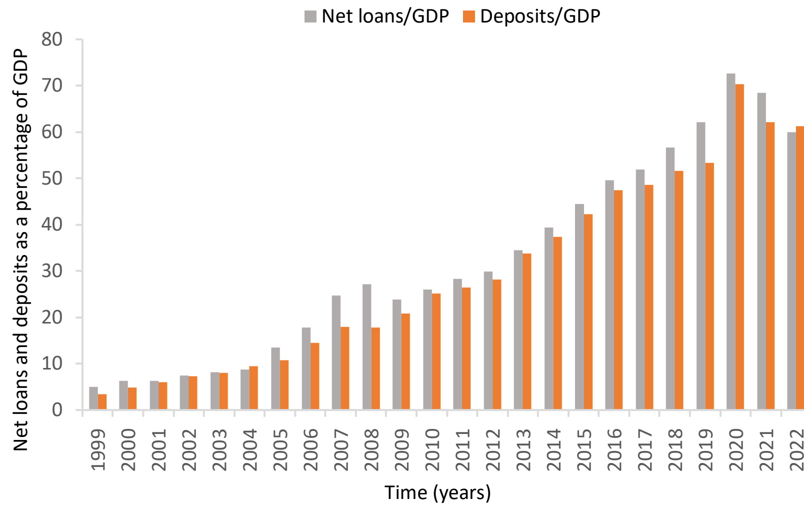
Source: NBG.

Chart A1.8. Total deposits



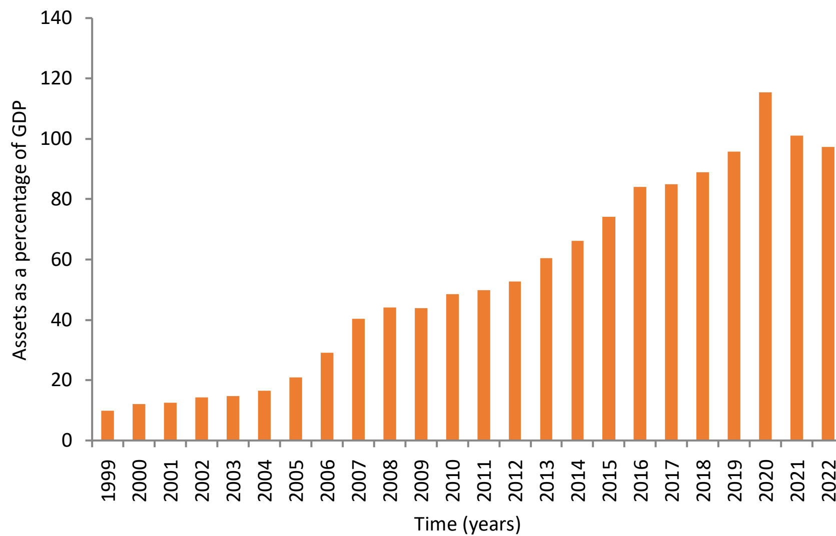
Source: NBG.

Chart A1.9. Net loans and deposits



Source: NBG.

Chart A1.10. Banking sector assets



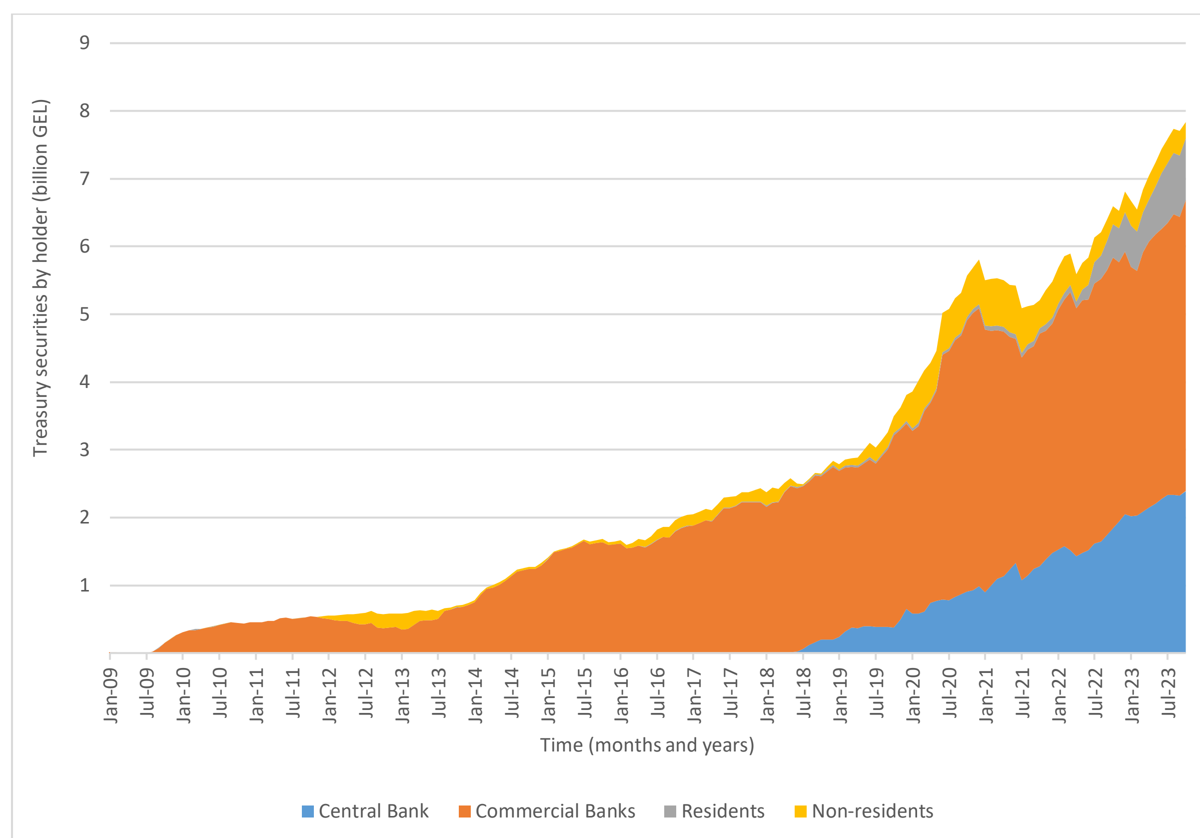
Source: NBG.

Government securities

The government still relied primarily on foreign-currency-denominated loans granted by international organisations in 2010. The share of GEL-denominated domestic government debt accounted for 22 per cent of total debt at the end of 2013, while total public debt to GDP stood at 34.7 per cent. Nonetheless, it is worth noting that government bond issuances developed between 2009 and 2014. Tenor had increased from one year in 2009 to 10 years in 2012 and the outstanding quantity of government securities had increased four and a half fold as of September 2014 (€551 million), compared to the end of 2009 (€121 million); and 22.5-fold as of November 2023 (€2.71 billion),

compared to the end of 2009 (€121 million). The Ministry of Finance has published auction calendars on a quarterly basis and auctions have been held free of charge since 2009. Government securities have been held mostly by banks (91 per cent) and the NBG (6 per cent). The secondary markets have not been active, with only 19 transactions in the first nine months of 2014. At the time, securities, including US Treasury securities, were not classified as liquid assets in Georgia. Both the Ministry of Finance and the NBG have aimed to increase the size of the government securities markets and encourage secondary-market trading.

Chart A1.11. Treasury securities by holder



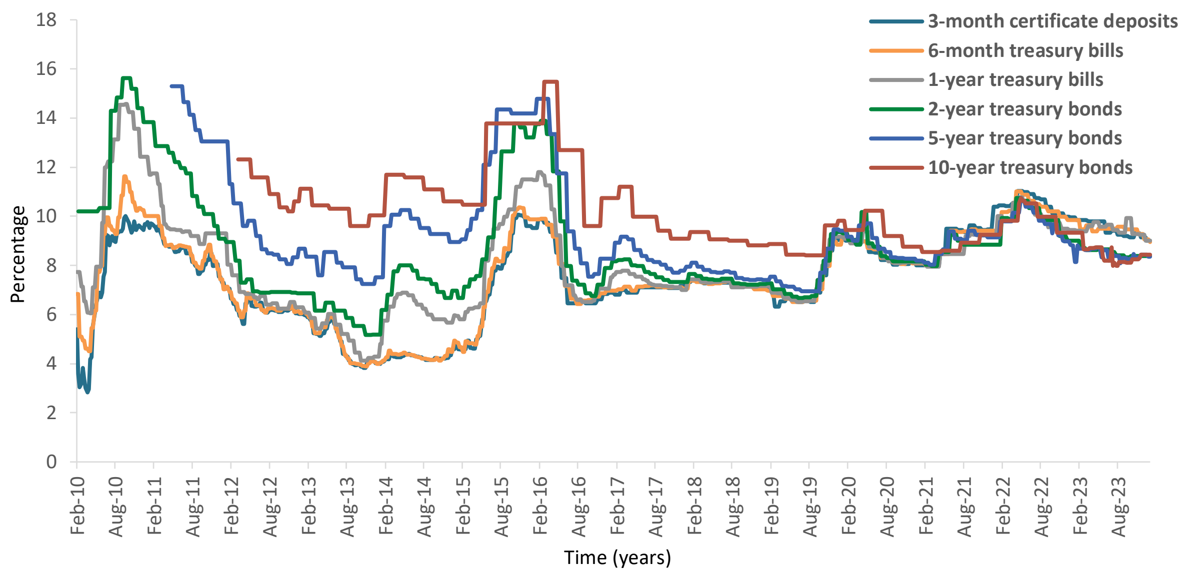
Source: NBG. See https://nbg.gov.ge/en/statistics/statistics-data (last accessed on 27 December 2023).

Since 2018 the Ministry of Finance has focused on larger benchmark bonds. The target size of the benchmark bonds was GEL 240 million (€82 million) in 2018, which had gradually increased to GEL 2 billion (€700 million) by 2023. A primary dealer pilot programme was launched in December 2020 through which five local commercial banks were selected as primary dealers and given exclusive access to selected benchmark bonds: the five-year bond in 2020 and the two- and five-year bonds in 2022, covering 70 per cent of total outstanding volume. Primary dealers are obliged to: (i) purchase a minimum of 10 per cent of the total bond issue in primary market auctions over every six-month period; (ii) provide regular bid or ask quotes to the secondary market via the Bloomberg platform within the 75 basis point spread; and (iii) automatically enter into transactions with quoted prices of

GEL 500,000 (€140,501); prevailing bid-ask spreads where around 200 basis points are quoted by two large banks only, without any obligation to trade).

For other tenors, commercial banks that met the broad criteria set by the NBG could place bids in the auctions. However, there were limits on the amount that could be allocated to each bank (50 per cent of the auctioned volume) or client (75 per cent of the auctioned volume). Since 2018 the development of the government bond market has accelerated, the maturity premium has narrowed and non-resident participation has increased. The secondary bond market is still shallow.

Chart A1.12. Maturity premium dynamics



Source: NBG.

Annex 2. Work carried out since 2010

The NBG announced that it would move to an inflation-targeting regime from the end of 2009. An efficient inflation-targeting framework requires:

- central bank policy and financial independence
- a well-defined price stability objective
- the central bank to have sufficient analytical capacity
- a well-defined FX policy
- a strong and prudently regulated financial sector
- a liquid interbank market with trade- and post-trade infrastructure
- efficient monetary policy instruments
- forward-looking communications.

The NBG has developed these conditions gradually thanks to technical assistance programmes supported by the EBRD, International Monetary Fund (IMF), World Bank, Asian Development Bank and others.

This section describes in more detail the work carried out over the period.

Independence and a well-defined price stability objective

By the end of 2009 the parliament of Georgia had adopted a new law defining price stability as the NBG's primary objective. The law allowed the NBG to use a wide range of instruments at its own discretion, set an inflation target and have sufficient capital buffers.

The NBG announced its consumer price index (CPI) inflation target at 6 per cent in 2010, with a plan for it to decline gradually to 3 per cent by 2018. The NBG announced from the beginning that it would keep the inflation target at 3 per cent in the long run. The NBG defines price stability as a CPI inflation rate of around 3 per cent over the medium term.

The law prohibits the NBG from lending to the government. Since 2005, around GEL 900 million (€340 million) of outstanding debt has been restructured with market terms and, every year, part of the debt has been converted into tradeable papers that the NBG can use for open market operations. The law also created a capital buffer of 15 per cent of monetary reserves and allowed the NBG to keep FX revaluation gains as reserves to compensate possible future revaluation losses. The NBG's management was also given the freedom to allocate as many resources as it needed to implement monetary policy without the need for prior approval from the central bank's board. Combined, these measures have improved the NBG's balance sheet and increased the credibility of its monetary policy framework and implementation.

Improving the central bank's analytical capacity

As part of the drive to increase the capacity and understanding of the functioning of the Georgian financial system, the NBG implemented a number of models for liquidity and inflation forecasting. A memorandum was signed with the Ministry of Finance that enabled the NBG to receive information in advance regarding possible changes to the government's single treasury account at the NBG. The liquidity forecasting framework has continued to be improved gradually.

Technical assistance programmes to improve monetary policy

The EBRD's involvement with monetary policy reform in Georgia started in 2012 with a technical assistance project that aimed to scope the NBG's capacities and needs, so as to establish and maintain a forecasting and policy analysis system. The original scoping exercise was followed by additional technical assistance projects implemented between 2013 and 2015. The technical assistance set up a macro-forecasting model, customised it for Georgia and used this analytical framework for forward-looking decision-making and external communications.

A well-defined FX policy

The NBG followed a managed float FX regime by 2010, which was gradually converted to a floating regime. The NBG initially eased exchange rate management and focused on FX policy reforms to make the exchange rate more market determined. To do this, the NBG moved the interbank FX market infrastructure from the Tbilisi Interbank Currency Market (TICM) to the Bloomberg platform. With the TICM, interbank FX trade was only conducted once a day, while on the Bloomberg platform, trading was allowed all day. The NBG had been making interventions on the TICM almost daily: the central bank would try to match the difference in bid-ask at the time of the fixing. Auctions carried out on the Bloomberg platform have replaced these interventions. At auctions, the NBG would announce the intervention volume and take the best price. The main idea of the reform was to switch from price-based to volume-based FX interventions.

This change has resulted in increased flexibility of the short-term exchange rate, which is an important feature of an FX market. The exchange rate has become less predictable in the short term and FX interbank market liquidity has increased. By the end of 2020 the NBG had implemented a Bloomberg BMatch platform that increased interbank FX market liquidity even further. Increased liquidity and flexibility have improved the transmission channel and helped the stability of the GEL in the long run.

A strong and prudently regulated financial sector

A healthy financial sector is a prerequisite for efficient monetary policy transmission and for interbank market development. By the end of 2009 supervision of the financial sector, which had before been separate from the central bank, was centralised at the NBG, making the central bank a mega

regulator.[10] With technical assistance, largely from the IMF and World Bank, the NBG has gradually improved its banking regulation function to align with international standards.

To improve liquidity risk management, the NBG introduced short-term liquidity ratios (liquid assets had to exceed 30 per cent of deposits and other short-term liabilities of less than six months). This measure was later complemented by an additional requirement for non-resident deposits. In particular, banks were required to hold more than the standard level of liquidity if the share of non-resident deposits exceeded 10 per cent of their total deposits. The NBG implemented Basel III liquidity standards – the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR) in 2017 and 2019, respectively. In addition, for the overall LCR requirement of 100 per cent, there are also differentiated requirements according to currency (75 per cent for the GEL and 100 per cent for FX-denominated currencies). The NBG's LCR regulation also applies different run-off rates on deposits, depending on the type of account (how stable they are), name concentration and the owner's residency status, to capture corresponding risks.

To strengthen banks' capital positions, in 2017 the NBG implemented the Basel III capital framework, which is largely aligned with the EU Capital Requirements Regulation. In addition to minimum requirements, systemic banks have a 1 per cent to 2.5 per cent capital surcharge (figures are from 2018), while the Pillar 2 capital buffers include:

- a currency-induced credit-risk buffer for unhedged FX exposures (which was previously 75 per cent of additional risk-weighted assets and, since 2023, has been between 40 per cent and 100 per cent, depending on loan dollarisation)
- credit-concentration buffers for both the name and sectorial concentration of the loan portfolio
- a General Risk Assessment Program (GRAPE) buffer set by an annual supervisory review process
- credit-risk-adjustment buffers created as a result of transiting to International Financial Reporting Standards (IFRS) reporting in 2023.

The NBG also takes a quarterly decision on setting the countercyclical capital buffer. For example, the NBG recently announced the need for banks to build a positive neutral buffer of 1 per cent from March 2024, the first time this measure has been taken.

FX exposure

To limit FX risk exposure, the NBG introduced a net open currency position limit in 2006. In 2011 the central bank implemented differentiated reserve requirements, higher for FX liabilities and increased reserve requirement coverage to include all liabilities with remaining maturity of up to two years in FX

[10] The NBG supervises both bank and non-bank financial institutions, and capital markets. Insurance supervision, however, was made separate again in 2013.

and up to one year in GEL. In 2021 the reserve requirement rate was differentiated by banks according to their deposit dollarisation levels.

To support financial stability, the NBG also introduced responsible lending regulations for households. In 2019 borrower-level lending standards were implemented, capping the maximum payment-to-income and loan-to-value ratios, with further restrictions for unhedged lending.

The NBG implemented a new banking resolution regime in 2019 in line with the EU Bank Recovery and Resolution Directive. The central bank introduced a minimum requirement for own funds and eligible liabilities (MREL) of 20 per cent in 2023 and submitted a law to collect resolution fund contributions from banks from 2025. The coverage of the deposit insurance scheme introduced in 2017 will be increased to GEL 30,000 (€10,300) from 2024.

The NBG established a corporate governance code in 2018, which included a gender-diversity requirement for the board; strengthened the top-down and bottom-up stress-testing framework; started publishing an annual financial stability report (since 2019); started publishing a supervisory strategy document to enhance the transparency and predictability of policy; mandated a microfinancing institution to comply with prudential standards (in 2018); introduced a sustainable finance framework with a detailed roadmap on how to support banks' green and social activities; transitioned commercial banks from local generally accepted accounting principles to IFRS reporting in 2022; implemented a range of EU directives to improve the financial consumer protection framework, including a recent code of ethics; and devoted significant resources to support consumers' financial literacy. The NBG also runs a range of initiatives on how to incentivise innovation in the financial sector, including open banking, the Regulatory Lab and central bank digital currencies.

Regulatory reforms have supported financial sector resilience. Georgian banks are characterised by high levels of capital and liquidity buffers, combined with strong profitability and low ratios of non-performing loans (currently at an historic low).

A liquid interbank market with trade- and post-trade infrastructure

Interbank market liquidity depends on the efficiency of trade- and post-trade infrastructure. To increase efficiency and market transparency, the NBG has used Bloomberg's trading platform for all monetary operations since 2009. Bloomberg is integrated with real-time gross settlement (RTGS) and central securities depositories (CSDs), which allows for delivery-versus-payment settlements in repo markets and decreases transactional risks to virtually zero for all money market transactions in local currency. The NBG has implemented integrated CSDs since 2018, serving both the government securities and private capital markets. The Georgian security settlement system is a single space that includes the CSD and auction functionality, and is fully integrated with RTGS.[11]

[11] See https://www.imf.org/en/Publications/analytical-notes/Issues/2021/03/17/Guidance-Note-For-Developing-Government-Local-Currency-Bond-Markets-50256 (last accessed on 27 December 2023).

In 2010 the NBG updated the RTGS system to provide effective and reliable payment services to banking sector consumers. Operational risks are minimised, interbank payments are settled in real time, and access to the system and information security is ensured using modern technologies. Through the RTGS system, banks can use an intraday liquidity facility (ILF) with the CSD system. Participant banks may use an ILF in the RTGS system as long as they have pledged securities available. Settlements for trades initiated from Bloomberg or the CSD are automated. These arrangements ensure that the trade- and post-trade infrastructure meets all requirements for a safe and efficient system, which is an important prerequisite for money market development.

Efficient monetary policy instruments

The objective of the improvements to the monetary policy framework was to increase the NBG's influence over short-term rates and strengthen the interest rate transmission mechanism, with short-term rates impacting longer-term interest rates and, ultimately, inflation. The NBG initially focused on stabilising short-term interest rate volatility and increasing its participation in monetary policy operations.

In 2008 the NBG introduced a short-term interest rate as an operational target, replacing a quantity-based reserve money target. Before the change, the NBG had relied on required reserves, FX and deposit auctions as monetary policy instruments. Since 2009 the main operational instrument has been one-week refinancing loans; standing facilities and the purchase or sale of government and central bank papers serve as fine-tuning instruments.

To decrease the volatility of short-term interest rates, in 2010 the NBG introduced an overnight deposit facility and set the overnight corridor at 400 basis points (± 200 basis points in each direction). The size of the corridor has decreased gradually to 150 basis points (± 75 basis points in each direction). Unlike other underdeveloped capital markets where there is a lack of trust among banks, the Georgian interbank market had sufficient credit lines to facilitate the even distribution of liquidity within the system. In December 2013 banks started repo trades with a locally developed master repo agreement based on the ICMA's GMRA.

Before 2010 the banking system had operated with excess liquidity. To improve bank participation in central bank monetary operations, the NBG decided to work under a structural liquidity deficit. This was because the cost of poor liquidity management is much higher for a liquidity-strapped bank (there is a penalty for failing to meet reserve requirements) than it is for a bank with abundant liquidity (failing to benefit from excess liquidity is an opportunity cost that is not visible on the books). In other words, under a structural liquidity deficit, banks seem to have paid more attention to the interest rate set by the central bank, which made it possible for market rates to be stabilised close to the policy rate. To implement this approach, the NBG created a structural liquidity deficit by borrowing with three- and six- month CDs between 2011 and 2015. In this environment, deficit banks were borrowing short-term funds to meet their demand for reserve funds and were therefore actively

engaged with the NBG. The efficiency of monetary operations increased as a result, the transmission channel was improved and banks started to issue longer-term loans in local currency. As demand for GEL has increased, liquidity mop-up has no longer been needed to generate a structural liquidity deficit, and the number of CDs has been reduced to a minimum.

Forward-looking communications

A number of technical assistance projects supported by the IMF and the EBRD helped the NBG to improve its communications. The NBG started publishing monthly monetary policy decisions in 2008 and, since 2013, has held its monetary policy committee eight times a year, each followed by a press statement, and has published forward-looking inflation reports four times a year (after every second monetary policy committee). The NBG started publishing interest rate curve forecasts in 2016 as forward guidance that immediately helped maturity premia on government securities to decrease significantly. After every second monetary policy committee meeting, the NBG's governor would have a press conference with the media and the vice-governor would meet with analysts. Communications on monetary policy are made at pre-announced dates and times.

Derivatives legal reform

The legal reform project took two years to complete. It started in 2016 and was completed in 2018, with the amended law being approved by the parliament in December 2019.

A floating exchange rate and variable market-driven interest rates (with the short-term end-of-yield curve steered by central bank monetary operations towards the policy rate) are cornerstones of Georgia's inflation-targeting regime. Volatility in these two rates creates risks for households and corporations. If unmanaged, these risks can hamper overall financial stability and hinder stable economic development. This instability can have profound social impacts, especially in highly dollarised environments, and so it cannot be neglected in policymaking. This is why derivatives – as the most efficient and widely used instruments to manage market risks – have a crucial role to play when considering market development priorities from the outset.

The implementation of a comprehensive derivatives legal framework in Georgia marked a significant milestone in the country's financial sector reform efforts. Sponsored by the EBRD and in close cooperation with the ISDA, the initiative aimed to address critical issues relating to the enforcement of derivative netting and financial collateral in Georgia under bankruptcy.

The project commenced with a legal gap analysis in 2015, conducted in collaboration with the ISDA and two leading local law firms, MKD Law and DLA Piper. The ISDA played a pivotal role by providing essential insights and raising pertinent questions about the existing regulatory landscape in Georgia. The NBG and law firms provided comprehensive answers, laying the foundation for the subsequent stages of the project.

Following the initial analysis, an external consultant was engaged in 2016 to develop a concept paper focusing on the creation of a robust derivatives legal framework tailored to Georgia's needs. This concept paper served as the blueprint for a comprehensive legislative package that was developed in the subsequent years. A working group was established, comprising representatives from the local financial sector, leading law firms and NBG employees. Their collaborative efforts led to the development of a legislative package that included the Law on Financial Collateral Arrangements, Netting and Derivatives, along with 15 related amendments to separate legislative acts. This legislative package was designed to provide a solid legal foundation for derivative activities in Georgia and to facilitate netting and collateral arrangements, which are critical components of modern financial markets.

The culmination of these efforts occurred in December 2019 when the parliament of Georgia adopted the newly crafted derivatives law. This legislative milestone laid the groundwork for the integration of Georgia into international financial markets and enhanced the country's attractiveness to investors seeking to engage in derivative transactions.

In July 2020 another pivotal moment arrived with the issuance of a clean ISDA legal opinion by law firm Dentons. This opinion affirmed the validity and enforceability under Georgian law of the close-out netting provisions of the ISDA Master Agreement. This validation provided much-needed legal certainty for market participants engaging in derivative transactions, further bolstering Georgia's position as a favourable destination for derivatives trading and investment.

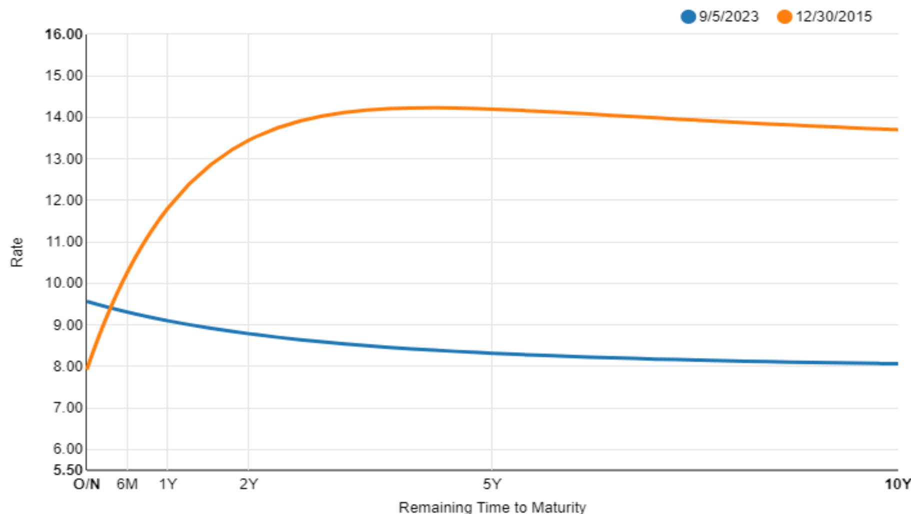
In parallel with obtaining the clean ISDA legal opinion, a crucial step was taken to further align Georgia's derivatives market with international standards. Recognising the need for a standardised framework that accommodated Georgian legislation, while replicating the structure and content of the ISDA Master Agreement, an ISDA-like local master agreement was meticulously crafted. The local master agreement was developed by the GFMTA, based on the new law and the ISDA international template. The local version drafted in Georgian was intended for the local market (the global ISDA agreement was used for the cross-border market) and took into account some local legal specificities, including terminology as stipulated in the law. This local agreement not only ensured consistency with international best practices but also considered the specific nuances of Georgian law, thus providing market participants with a familiar yet legally sound framework for derivative transactions. This development significantly streamlined the process for domestic and international market players, fostering confidence in the Georgian derivatives market.

Building GEL government curves

In 2015 the EBRD hired OGResearch as an external consultant to assist the NBG in developing a methodology to calculate the government yield curve based on a Nelson-Siegel model relying on primary market transactions. The curve was published on the NBG website and has become an invaluable tool for local market participants in pricing and valuing Georgian government securities.

The precise pricing enhanced liquidity and therefore fostered more flexible and resilient financial markets. When investors perceived that their investments were priced using a reliable curve, they became more likely to make local-currency investments.

Chart A2.1. GEL yield curve



Source: NBG. See https://nbg.gov.ge/en/page/georgian-lari-yield-curve (last accessed on 27 December 2023).

Development of risk-free rate-linked instruments

TIBR reform

In 2008 the NBG started publication of TIBRs – TIBR1 and TIBR7. TIBR1 represented the weighted average interest rate on overnight, unsecured interbank loans, and TIBR7 on interbank loans with a maturity of up to one week (excluding overnight loans). These two indicators clearly reflected the situation on the local money market, and they were used by the NBG to forecast the market's GEL liquidity needs. If interbank rates exceeded the monetary policy rate, this was an indication of increased liquidity needs in the market that would be satisfied by increases in the volume of refinancing loans. If the interbank rates were lower than the monetary policy rate, which would be a sign of excess liquidity, then the NBG would reduce the volume of refinancing loans.

Although the NBG and commercial banks used TIBR1 and TIBR7 for analytical purposes and forecasting liquidity needs, these rates were rarely used by Georgian financial market participants as benchmarks or reference rates for financial instruments. Instead, the NBG's CD rate or monetary policy rate was used as a reference rate for money market instruments and for floating-rate loans (mainly for mortgages). Although both rates were close to the rate at which banks managed their marginal short-term liquidity, the basis risk between interbank rates and NBG rates was a limiting factor to the development of deeper and longer-term GEL financial and capital markets. The market

was missing a credible and transparent reference rate that would be reflective of a deep underlying market and fully transaction based, and that would replace the NBG's CD and monetary policy rates as reference rate for pricing money market and derivative instruments. Starting in August 2018, with support from the EBRD and as approved within the MMWG, a reformed overnight TIBR was established by the NBG as a risk-free overnight rate benchmark, which is published daily. The reform of the TIBR followed a global trend whereby in recent years domestic interest rate benchmarks have been undergoing fundamental reviews and reforms to improve their robustness, transparency and governance.

Compounding TIBR average rates and a compounded TIBR index

To support the creation of term floating-rate financial instruments, the NBG started publishing compounding TIBR average rates in March 2019 and a compounded TIBR index in October 2021. Compounding TIBR average rates cover tenor of one-, three- and six-month periods and are compounded averages of overnight TIBRs over the preceding period.

The TIBR index measures the cumulative impact of compounding the overnight TIBR on a unit of investment over time, with the initial value set to 100.0000 on 1 August 2018. The TIBR index is compounded by the value of each TIBR thereafter.[12] TIBR index value reflects the effect of compounding the TIBR each business day and allows the calculation of compounded TIBR averages over any time period with a simple formula using the index at the start and end of such period.[13, 14]

The methodology used for calculating the overnight TIBR; the one-, three- and six-month TIBRs; and the TIBR index was introduced with the assistance of the EBRD and in close partnership with market participants.

Endorsing the reformed TIBR and using it in the market

- To support the use of the reformed TIBR in market instruments, the MMWG focused on developing conventions for TIBR-linked (cash and derivative) instruments.
- After the launch of the TIBR indices, the EBRD lobbied with Bloomberg to overhaul its landing page for Georgia to include the developed TIBR indices and traded volumes. The page was overhauled in 2020 to present relevant market information for Georgia.
- Market transactions: To support the use of the TIBR in financial instruments, in 2019 the EBRD issued the first bond indexed to the three-month TIBR. Since then, GEL 2.3 billion (€701 million) of corporate and IFI bonds have been issued linked to TIBR indices. Having signed ISDA Master Agreements and credit support annexes with the three prominent banks

[12] For example, the TIBR index value on 2 December 2022 reflects the effect of compounding the TIBR each business day from 1 August 2018 through to 2 December 2022.

[13] Without having to compute and compound each daily rate over the period. This is possible because the index internalises the daily compounding calculation.

[14] The TIBR index is similar to the SOFR index published daily by the Federal Reserve Bank of New York (SOFR averages and index data, Federal Reserve Bank of New York (newyorkfed.org).

in Georgia, the EBRD started executing OIS transactions in October 2018, initially to test the pricing, booking and valuation of the GEL OISs. These test trades were followed by actual transactions conducted with locals for portfolio-management purposes.

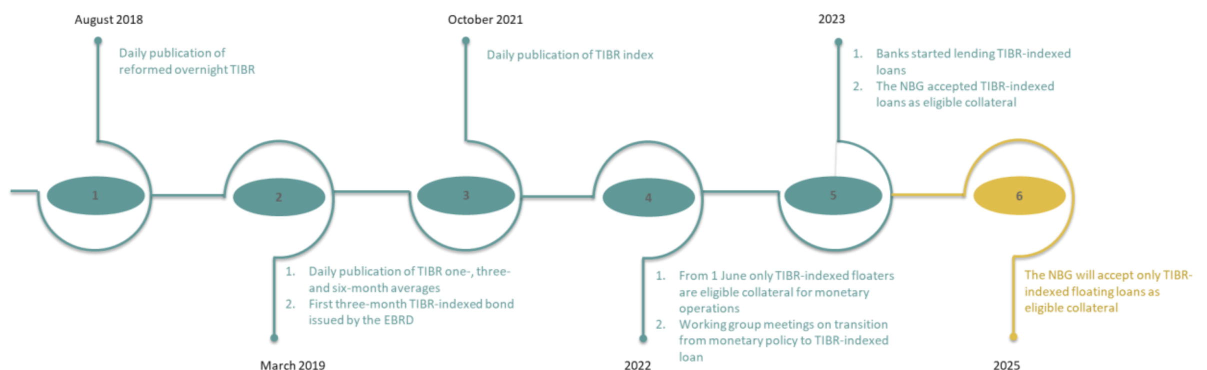
- With regard to the NBG's work on amending the operational framework for promoting the use of the TIBR in mortgages and other bank loans, the NBG made it mandatory for the following eligible collateral to be indexed with the TIBR:
  - floating-rate notes issued after June 2022
  - floating-rate loans and mortgages issued after January 2023.

Within the transitional period between January 2023 and January 2025, non-TIBR indexed floating-rate loans and mortgages issued before January 2023 will be gradually excluded (with a predetermined schedule) from the list of eligible collateral. From January 2025 only TIBR-indexed floating-rate loans and mortgages will be accepted as eligible collateral.

High-quality GEL-denominated credit claims (mortgage loan pools) are used by commercial banks as collateral for overnight loans and one-week refinancing loans and are pledged to the NBG. Most of the mortgages have a floating rate structure, where the interest rate is calculated as the sum of the monetary policy rate and bank margin. To increase the use of TIBR indices, since 2021 the NBG has held several meetings with commercial banks to introduce a TIBR-transition initiative. During the meetings and presentations, commercial banks were provided with detailed materials, guidance and methodologies of TIBR indexation techniques that were designed in line with the approaches of the EBRD, Bank of England and European Central Bank.

Under the TIBR-transition project, from July 2023 TIBR-indexed mortgages will gradually replace monetary policy-indexed mortgages in the credit claim collateral used for NBG operations, and by 2025 only TIBR-indexed mortgages will be accepted.

Figure A2.1. TIBR adoption roadmap



Source: NBG.

From 2027 TIBR-indexed mortgage covered bonds will replace credit claims in the NBG eligible collateral used for overnight and one-week loans.

Developing the OIS market – capacity building

- Between 2016 and 2017 a series of derivatives training sessions were conducted featuring Joseph Carrico and Rick Grove, both leading trainers in the field.
- The EBRD has sponsored the assessment of derivatives market development, the comprehensive evaluation of the infrastructure, and the identification of areas for enhancement.
- In June 2023 the EBRD hosted a Georgian delegation at its headquarters in London for a week-long training on derivatives. The delegation comprised professionals from the treasuries of commercial banks, the pension fund, the NBG and the Ministry of Finance. The training covered a wide range of derivatives, with particular focus on OISs and their involvement in other longer-term or different types of derivatives. The EBRD stressed the importance of proper risk management for financial market participants and the ability to hedge their risks efficiently. In this regard, the EBRD has shared valuable experience of their own risk-management practices and the practical implications of using OIS and other derivatives to hedge these risks. Training participants also enjoyed the opportunity to meet with Citibank, Bloomberg and the ISDA and to discuss derivatives in more detail.

OIS market quotes to help transparency

In May 2021 the EBRD started contributing daily quotes to the GEL OIS market.

Figure A2.2. The EBRD's daily GEL OIS quotes on Bloomberg

GEL OIS	Price Bid	Price Ask	Time
1) GEL SWAP OIS 1W	10.972	11.048	03/13
2) GEL SWAP OIS 1M	10.872	11.006	03/13
3) GEL SWAP OIS 3M	10.657	10.887	03/13
4) GEL SWAP OIS 2W	10.968	11.076	03/13
5) GEL SWAP OIS 2M	10.815	11.000	03/13
6) GEL SWAP OIS 6M	10.351	10.735	03/13
7) GEL SWAP OIS 9M	10.200	10.518	03/13
8) GEL SWAP OIS 1Y	10.063	10.289	03/13
9) GEL SWAP OIS 2Y	9.719	9.974	03/13

Source: Bloomberg.

The EBRD's participation motivated other banks to quote in the OIS market. Currently, four local banks and the EBRD provide daily quotes up to two-year tenor on Bloomberg for the GEL OIS market.

Figure A2.3. Five banks' daily quotes for a three-month GEL OIS quotes

** TICKETS LAUNCH INTO BMTF **

GEL SWAP OIS 3M | 92) Order Book | 97) Settings | All Quotes

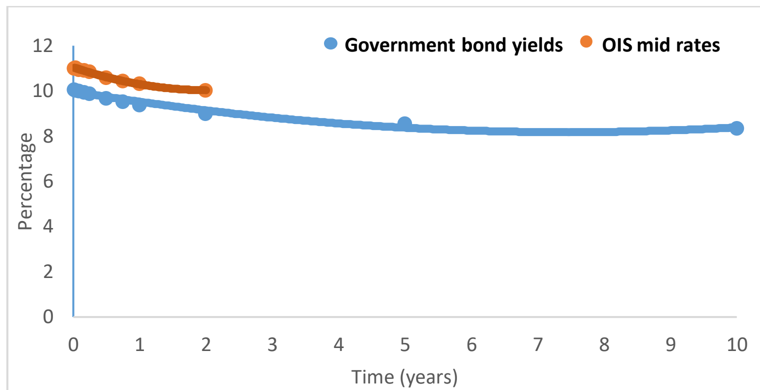
14:54:06 | 95) Receive | 96) Pay | BMTF | Filter By All

PCS	Firm Name	CCP	Bid / Ask	BSz(MM)	ASz(MM)	Time
BGN	Bloomberg BGN	OTC	10.3509 / 11.3697	x		14:34
BOGE	Bank of Georgia	OTC	10.3103 / 11.4103	x		14:34
TBCG	TBC Bank Georgia	OTC	10.6615 / 11.2615	x		14:08
LBGE	JSC LIBERTY BANK	OTC	10.2603 / 11.4603	x		13:34
BSBG	BASISBANK	OTC	10.0000 / 12.0000	x		09:28
EBRD	EBRD	OTC	10.6574 / 10.8873	x		03/13

Source: Bloomberg.

This has enabled the EBRD to convince Bloomberg to generate composite OIS rates (up to two-year tenor) for the Georgian market.

Chart A2.2. Bloomberg's GEL OIS curve versus the NBG's government bond yield curve



Source: NBG.

The publication of (longer-tenor) OIS and cross-currency swap curves on Bloomberg has been publicly available for Georgian banks since September 2023. Local banks and the NBG will be able to use the OIS and cross-currency swap curves for valuation and pricing purposes, as well as for gauging expectations regarding the future course of operational targets (that is, the TIBR).

The EBRD has financed a technical cooperation project on measuring the IRRBB for Georgia with the aim of improving local banks' interest rate hedging activity. The EBRD has supported the NBG in its efforts to lead local banks (and the pension fund) in the procurement of a treasury management system for the Georgian market. The fact that banks do not currently have a treasury front office system for booking, valuing and risk managing derivatives impedes the development of the derivatives market.

Annex 3. Overview of the different approaches to financial market development

The traditional approach – consultant led and project specific

Pros:

- Quick to write reports and obtain answers to specific questions
- Access to global knowledge and a pool of experts

Cons:

- Consultant quality can vary
- Consultant does not always know the local market participants
- Local knowledge is limited at the beginning and needs to be built up before meaningful discussions can take place
- Local knowledge is based on local market participants' interpretation of answers to questions
- If the terms of reference are drafted narrowly, the report can be narrow in scope and not take the full complexity of building a new market ecosystem into consideration
- Follow-up on recommendations is left open
- Engagement is short term and so willingness to follow through on recommendations can be limited

Another traditional approach – a local embedded adviser

Pros:

- Consultant develops deep local knowledge and understanding
- Consultant knows the important individuals required to work on improving the local financial system
- Buy-in from the local authorities to prove that an in-country adviser is worth the money invested in the individual

Cons:

- Difficult to find the right consultant
- Risk that the consultant becomes too localised or loses the "edge" of an external adviser, who can be constructively critical
- Risk that when representing the hiring body (such as the Ministry of Finance or central bank), market participants may be less open to discussing or working on real issues than they might be if or when working for a more "neutral" external party (such as a development finance institution)
- Knowledge base can be limited

- Costly for the donors

The EBRD's approach to building the foundations for financial market development – long-term regular advisory work combined with market participation

Pros:

- The combination of market participation and an advisory function creates deep understanding and trust between parties and showcases how new instruments or ways of thinking can help local financial market participants.
- The MMWG as a convening mechanism and change driver is key. It meets regularly and treats market building from the ground up, addressing one issue after the other. The working group has a constantly evolving work plan to help it keep improving the local system.
- Standard diagnostics can be used to measure the state of the local system and ways to improve its functioning.
- Knowledge is based on actual market participation.
- Knowledge base is broad and deep as the EBRD Treasury can use the experience it has from every market and market segment it operates in (both in developed and emerging markets).
- Market participation with the EBRD's involvement ensures there is constant dialogue, which enhances relationships with local financial-system participants and creates mutual trust and understanding.
- The EBRD is interested in developing a local-currency market to support its risk management of its own local currency-lending activity.

Cons:

- Costly; realistically, it can only be done in conjunction with running a local lending or investment operation.

Glossary

CD	certificate of deposit
CPI	consumer price index
CSD	central securities depository
EBRD	European Bank for Reconstruction and Development
FX	foreign exchange
GDP	gross domestic product
GEL	Georgian lari
GFMTA	Georgian Financial Market Treasury Association
GMRA	Global Master Repurchase Agreement
GRAPE	General Risk Assessment Program
ICMA	International Capital Market Association
IFI	international financial institution
IFRS	International Financial Reporting Standards
ILF	intraday liquidity facility
IMF	International Monetary Fund
IRRBB	interest rate risk in the banking book
ISDA	International Swaps and Derivatives Association
LCR	Liquidity coverage ratio
Libor	London interbank offered rate
MMWG	Money Market Working Group
MREL	minimum requirement for own funds and eligible liabilities
NBG	National Bank of Georgia
NSFR	net stable funding ratio
OIS	Overnight Index Swap
RTGS	real-time gross settlement
TIBR	Tbilisi Interbank Rate
TICM	Tbilisi Interbank Currency Market

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