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## Bank Credit and Economic Growth: Lessons from Moldova

## Policy Paper





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## POLICY PAPER

## BANK CREDIT AND ECONOMIC GROWTH: LESSONS FROM MOLDOVA

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### **Executive Summary**

This policy brief highlights the degree to which bank credit and economic activity are associated to one another in Moldova. I find that the two are highly correlated and that episodes of negative credit growth are also characterized by economic recessions. I also find that during credit crunches all banks tend to cut credit across all sectors of the economy. This observation is based on the 2015 recession, when both the systemically important banks and the banks that were defrauded have reduced the credit allocated to the economy. Ignoring the banks that were defrauded, the Moldovan banking sector saw its loan portfolio drop by 22% in real terms between 2014 and 2016.

Importantly, my findings also suggest that smalland medium-sized enterprises tend to be the ones that suffer the most in terms of access to loans when bank credit decreases abruptly. As a consequence, a reduction in bank credit can have sizable implications on firm entry and future economic growth. I propose two policy tools that the National Bank of Moldova could use to overcome the credit market deficiencies described above:

- The central bank should mandate a minimum loan ratio of 60% of total bank credit that commercial banks would have to lend to small and medium enterprises alone. This will ensure that commercial banks don't discriminate against smaller firms in favor of larger entities.
- 2) Second, the central bank should set up a supplementary loan system from which it would finance solely small and medium enterprises and that would amount to 4% of Moldova's Gross Domestic Product. This will serve as a countercyclical buffer against credit crunches and will guarantee that new business projects are started even when outside factors push the economy towards a slower growth rate.

Both these policy tools are not a novelty. They have been used by the Bank of Korea for decades and have proved to be very effective in serving as a backstop against cyclical variations in bank credit, as well as in fostering economic growth. The policy brief describes in greater detail how these instruments have been implemented abroad.

### Introduction

Levine (2005) shows that an ample body of empirical evidence supports the theory that growth in bank credit can be an important driver of economic growth. Unfortunately, Moldovan public authorities have paid little attention to this growth channel. The local politicians were always busy preparing for the next election campaign, while the National Bank of Moldova (NBM) has had to deal with bank fraud in the last couple of years.

In this paper, I highlight the importance of the bank credit channel for economic growth in Moldova. I find a strong positive correlation between credit growth and economic development. That is, prolonged declines in bank credit are associated with economic recessions. I then focus on the latest recession episode (2015) and decompose the decline in bank credit by banking institutions and by sectors of the economy. I find that the aggregate collapse in bank credit was mainly due to the reduction in credit stemming from the banks that were defrauded. However, when I exclude the delinquent banks from the calculations, my findings suggest that the rest of the banking sector has reduced its loan portfolio by 22% between 2014 and 2016. Most of the reduction in bank credit came at the expense of the construction sector (42% drop in loans). In fact, all sectors have felt the burden of having access to less credit and recorded significant negative bank credit growth rates across the



board. Importantly, sectors that normally have a high fraction of Small- and Medium-sized Enterprises (SME) were the largest group of losers.

To address these imbalances, I propose two policy tools that the NBM could use in order to enhance the stability of the bank credit market and foster economic growth. Both policies are based on existing instruments used by the Bank of Korea (BoK). These have proved to be extremely successful in ensuring a steady flow of credit into the economy and encouraging the growth of the SME sector.

The first policy tool is a loan ratio requirement that commercial banks operating in Moldova should follow. **The NBM should set a minimum SME loan ratio of 60% of total bank credit.** That is, local banks should lend 3/5 of their loan portfolio to the SME sector alone. This will ensure that any market distortion arising from information asymmetries across firms of different size does not have an effect on long-run economic growth.

The second policy tool is akin to a special purpose lending facility that is activated primarily during times of crisis. The NBM should set up a Supplementary SME Loan System amounting to 4% of Moldova's Gross Domestic Product (GDP) and devoted solely to providing loans to SME via commercial banks. This will allow the

### Fig. 2: Real GDP Growth Rate



Source: NBM, NBS, author calculations, year-over-year

central bank to respond to cyclical variation in access to credit. It can also be used to subsidize Moldovan SME by setting interest rates for the supplementary SME loans below the NBM reference interest rate. Moreover, access to the system can be withdrawn for banks that don't comply with the minimum SME loan ratio, reinforcing the efficacy of the first tool. These tools can be easily implemented by the NBM and do not require any political involvement. We have plenty of empirical evidence on the success of such tools in several Southeast Asian countries. The NBM should follow the best examples from abroad when deciding which policies to use for promoting long-run growth and financial stability.

## The Evolution of Bank Credit and GDP in Moldova

Figure 1 plots the evolution of the real bank credit growth rate in Moldova<sup>1</sup> During the past 16 years, real bank credit grew at an annual average rate of 11.59%. However, credit growth has been lackluster since 2009, mostly due to the global financial crisis and the bank fraud episode. The average growth rate between 2009 and 2016 was a meager -0.27%.

To highlight how these trends in credit growth are associated with GDP, I plot in Figure 2 the real growth of GDP during the same period of time. While the growth rate of GDP does not follow one-for-one the growth rate of bank credit, there is a clear positive correlation between the two data series. The correlation coefficient is equal to 0.74 (0.78 between 2009 and 2015). Hence, **large negative swings in bank credit are associated with huge drops in GDP**. In fact, both episodes in which the growth rate of bank credit dropped below zero (2009 and 2015) were marked by negative growth rates of GDP. In both instances we know what caused the reduction in bank credit and GDP. The 2009 episode was a direct consequence of the global financial crisis, and Moldovan banks cut loans in response to lower projected global and domestic demand. The 2015 episode didn't have any international dimension and was a direct result of the fraud that occurred at the Banca de Economii, Unibank and Banca Socială. The evidence presented in Figures 1 and 2 also suggests that periods with above average growth in bank credit are associated with above average GDP growth.

Without implying causality, the evidence presented above emphasizes the role of bank credit in the evolution of Moldova's GDP. Hence, one way to understand fluctuations in GDP is by looking at times when bank credit is subdued. In what follows, I focus solely on one episode in which bank credit dropped significantly (2014-2016) and analyze in depth what caused this event and the repercussions it had on the economy.<sup>2</sup> To this end, I first determine the banks that decreased credit during this period of time. Next, I describe the sectors of the economy that experienced a drop in bank loans as a consequence of the bank fraud scandal. Lastly, I provide some policy solutions that the NBM could employ to foster bank credit and economic growth.



Source: NBM, NBS, author calculations; amounts are in 2012 MDL.

<sup>&</sup>lt;sup>1</sup> The Data Appendix has a thorough description of the data and methods used to create the figures in this paper.

<sup>&</sup>lt;sup>2</sup> I ignore the 2008-2009 drop in bank credit due to data availability issues. The NBM does not provide publicly available data on the breakdown of total bank loans by banking institution for years prior to 2012.

# Which Banks Decreased Credit between 2014 and 2016?

As shown in Figure 1, the real bank credit growth rate dropped to -39% in 2015 and -14% in 2016. To understand which banks reduced credit during these two years, I plot in Figure 3 the evolution of real bank credit across time and groups of banks. I use 2012 as the starting date because this is the year when NBM started reporting the breakdown of total bank credit by banking institution. I group the credit holdings of banks into four categories, motivated by the banking fraud episode that occurred in 2014.

The first group, MAIB+VB+MICB, consists of three banks: Moldova Agroindbank, Victoriabank and Moldindconbank. These are the largest commercial banks in Moldova, holding about 60% of the bank credit market (by average value of loans during this period). The second group is made up of problem banks: Banca de Economii, Unibank and Banca Socială. The third group includes banks that are owned by international financial institutions: Eximbank - Gruppo Veneto Banca, Mobiasbanca - Groupe Societe Generale, ProCredit Bank and BCR Chişinău. Lastly, all other banks are included in the fourth group. For each group, I sum up the holdings of individual banks to obtain the group's credit holdings.

The first striking feature of Figure 3 is the zero loans issued in 2015-2016 by problem banks. These banks were defrauded in 2014 and forcefully closed down by the NBM in 2015. As a consequence, their credit portfolio is no longer reported by the NBM for 2015 and 2016. The NBM and the Moldovan government took over the loan portfolio of these banks. Unfortunately, there is no public record of what the market value (or the recovery rate) of these loan portfolios was in 2015 and 2016. Anecdotal evidence indicates that some or all of the performing loans were transferred to the first group of banks (MAIB+VB+MICB), while most of the non-performing loans of problem banks are still on the balance sheet of the local government. If this indeed were the case, then we would see an increase in total loan holdings of the first group of banks in 2015-2016, but these banks actually experienced a drop in the overall value of their loans. Hence, even if a large fraction



of the loan portfolio of problem banks consisted of performing loans and these were indeed transferred to the group of big banks, it is highly unlikely that these were enough to make up for the decrease in bank credit of MAIB+VB+MICB.

A more likely scenario is that the loan portfolio of problem banks included mainly non-performing loans. The data seem to support this scenario, since real bank credit offered by problem banks almost tripled in size in 2014, from 6.89 billion Moldovan Lei (MDL) in 2013 to 15.25 billion MDL in 2014. The bulk of this growth came from Banca Socială, which saw its loan portfolio go from 2.60 billion to 13.70 billion (a sixfold increase). This growth implies that Banca Socială increased its market share to a whopping 28.77% from 6.66% in just the span of one year. The other two banks in this group experienced a drop in the value of their loan portfolio in 2014. In fact, Banca de Economii saw its credit portfolio decline from 2.21 billion in 2012 to 0.76 billion in 2014. Unibank is another example of the type of shenanigans occurring in the Moldovan bank market during 2012-2014. In 2012, this bank reported loans of 0.88 billion MDL, while in 2013 it had a loan portfolio of 3.13 billion MDL, and then went back to holding 0.80 billion MDL in 2014. The strange increase in 2013 implies that Unibank extended its market share by 5.5 percentage points in a span of just one year. It's puzzling to me how such noticeable trends in the data were not addressed right away by local supervision authorities, especially given the fact that bank loans didn't grow at the same rate for the other three groups of banks (MAIB+VB+MICB, foreign owned and other) as seen in Figure 3 and didn't accumulate overnight.

The second striking feature of Figure 3 is how bank credit evolved for the biggest banks (MAIB+VB+MICB) during this period of time. Between 2012 and 2014, these banks expanded their portfolio by more than 3 billion MDL. In the next two years their loan portfolio shrank below the 2012 level, to a total of 16.81 billion MDL. In contrast, foreign owned banks and other banks experienced modest declines during 2015-2016. This implies that, when we exclude the problem banks, the greater part of the drop in aggregate bank credit came from the largest banks. The MAIB+VB+MICB group lost 5.75 billion MDL in portfolio loans between 2014 and 2016, while foreign banks lost 1.08 billion MDL and other banks lost 0.34 billion MDL during the same period of time.

To sum up, there were two main causes of the decrease in aggregate bank credit during 2015 and 2016. The drop in bank loans from problem banks was the major source of distress in the credit market. However these loans should not be viewed as essential for economic growth, since, given the evidence presented above, these banks were quite likely issuing fake/non-performing loans in 2013 and 2014. So, the artificial growth in bank credit stemming from these banks was unlikely to create any long-term economic growth to begin with. The more important factor for economic growth is the drop in bank credit provided by MAIB+VB+MICB. These banks were responsible for about 80% of the decrease in aggregate credit between 2014 and 2016 (excluding problem banks). In what follows I will look at which sectors did this group of banks decrease their credit to, between 2014 and 2016.<sup>3</sup>

<sup>&</sup>lt;sup>3</sup> Unfortunately, I cannot repeat the same exercise for problem banks, in order to highlight the nature of fake/non-performing loans issued by these financial institutions. The NBM does not provide a loan portfolio breakdown by economic sectors for problem banks after these banks were closed. Furthermore, the total volume of credit recorded in the sectorial breakdown data for 2014 for Banca Socială does not correspond to the publicly available balance sheet data (1.96 billion MDL vs. 15.08 billion MDL; amounts are in 2014 MDL).

# Which Sectors Experienced Decreased Borrowing in 2015-2016?

Figure 4 plots the growth rate of real bank credit for different types of borrowers, based on the combined loan portfolio of Moldova Agroindbank, Victoriabank and Moldindconbank. Bank credit decreased across all types of borrowers in 2016 compared to 2014. The construction sector saw a 42.43% drop in loans coming from this group of banks. Energy companies and general industry experienced similarly sized declines of about 30%. Sole proprietorships, which should be thought of as small businesses owned by individuals, had their credit cut by 31.32%. The service and trade sectors lost about a quarter of their loans. To sum up, across the vast majority of sectors, bank credit dropped by more than 20% in a span of just two years. Moreover, sectors that are characterized by a larger fraction of SME in total number of firms (sole proprietorships, services, trade and agriculture) were among the ones that were hit hardest.

The natural question that arises given this magnitude of the reduction in bank credit is what could have been done to undo these changes. Another question that follows is which public institution should be involved in sorting out credit market inefficiencies. In the next section, I answer these questions and provide some policy recommendations that could stabilize the credit market and foster economic growth.

## A Plea for Intervention

The evidence presented so far in this paper suggests that the evolution of the Moldovan credit market is highly correlated with local economic growth. That is, sharp drops in bank credit are associated with economic recessions. Given this evidence, what can be done to avoid hard landings in the bank credit market?

Moldova doesn't need to reinvent the wheel when it comes to the policy tools it uses to avoid credit market freezes. It should follow the example of other countries that have been successful in creating a strong credit market and use the policy tools that were developed there. The way the Republic of Korea has dealt with its credit market inefficiencies is probably the best example for Moldova.<sup>4</sup> In the 1960s, Korea had a tiny domestic bank credit market, at around 15% of GDP, according to the World Bank (Moldova's 2015 domestic credit to private sector by banks as a share of GDP stands at 32.2%).<sup>5</sup> Through a series of credit market reforms, Korea had managed to double the size of its credit market by the end of the 1970s. As of 2015, this ratio is around 140% of local GDP. So, which policy measures did Korea use to achieve such an impressive bank credit growth rate?

A big role in this development was played by the Bank of Korea (BoK). It used a multitude of policy tools to prop up the credit market in the 1960s and hasn't been shy to adopt new credit market policies or reshape old ones ever since. In what follows, I'll describe two of the policies that I think are of great relevance for Moldova today.

The BoK realized early on in Korea's economic development process that the best way to stimulate the economy is by ensuring that SME have access to cheap and steady credit. The SME have a hard time borrowing in the bank credit market because most of them have a short credit history and little assets to guarantee a bank loan. Hence, banks are resilient to lend to such entities even in times when the credit market is functioning properly. In the same time, SME tend to grow at a much faster rate than older establishments and, as a consequence, can increase the overall GDP growth rate by a higher margin. To solve the credit market inefficiency, the BoK directed the Korean banks to follow a SME loan ratio in 1965.<sup>6</sup>

The SME loan ratio sets a minimum share for loans that commercial banks have to devote to SME in their credit portfolio. Currently this ratio is set to 45% of the extended loans for all commercial banks (see Yi, 2012). For the sake of comparison, in Moldova's case this ratio is not currently mandated and was equal to 26% in December 2016 (according to the NBM data on SME loans). Clearly, our country could do better than this. Hence, the first policy tool for enhancing SME access to bank credit is that **the NBM set a minimum SME loan ratio of 60% for commercial banks operating in Moldova**.

The reason I'm opting for a higher ratio in the case of Moldova is because we have a lot of ground to cover in terms of catching up with the economic development of high-income countries. So, our actions have to be bolder. Another reason why I would push for a higher SME loan rate is due to the fact that Moldova doesn't have a state-owned bank that could devote more credit to the SME sector. In Korea's case, the Industrial Bank of Korea (owned by the Korean government) has to disburse 70% of its funding resources to SME. Aside from this special purpose bank, the Korean government offers numerous loan guarantee schemes for SME that are an order of magnitude larger than what the Moldovan government currently offers to its SME sector. Lastly, probably the major reason I opted for a 60% ratio is

<sup>&</sup>lt;sup>4</sup> Korea is not the only country to intervene heavily in its credit market. For more examples, including a description of the policy tools used, see Table 2.3 in Asian Development Bank (2015).

<sup>&</sup>lt;sup>5</sup> These estimates come from the World Bank online data tool. Moldova does equally poor when compared to the EU average, which stands at 98%. Central Europe and the Baltics have bank credit to private sector at about 48% of GDP.

<sup>&</sup>lt;sup>6</sup> Knowledgeable people can disagree on what constitutes an SME. The BoK has different definitions depending on the economic sector in which the SME operates. I am an ardent supporter of such differentiations, since labor productivity varies considerably across sector and some sectors can create a lot of value with very little human capital.

due to the involvement in the Moldovan credit market decisions of the local political class. It's not uncommon that large enterprises obtain credit in Moldova mainly due to their connections to local politicians and not because their business plans are in any way better than the ones coming from SME. Politicians can wield their bureaucratic and legislative power to ensure that their patrons get access to bank credit. If a SME ratio were used, banks would have to issue new SME loans for every MDL of bank credit that they lend after political interference to large firms. This way the NBM would alleviate some of the problems arising from unfair competition in the bank credit market. minimum) lose access to this tool. It also adjusts the ceiling of the Loan System depending on the nature of credit market inefficiencies. Figure 5 plots the evolution of this ceiling from its inception to 2016. The striking feature of this chart are the upticks in the level of the ceiling during crises (1998 – Asian financial crisis; 2001 – dotcom bubble burst; 2008-2009 – global financial crisis; 2013-2016 – the slowdown in Korean GDP growth). This evidence above highlights the proactive role that the BoK takes when credit is more likely to flee the SME sector. While the tool is not significant in size, about 3 to 9 trillion Korean GDP in 2016, it serves as an



Fig. 5: Bank Intermediated Lending Support Facility

The tool I described above is extremely simple in nature, but doesn't ensure that bank credit would keep flowing to the SME during systemic credit crunches. As the evidence in Figure 4 suggests, the SME sector (sole proprietorships, industry, services, and trade) is one of the most affected when total credit decreases abruptly. In such cases, cyclical variations cannot be directly addressed using the SME loan ratio, since all loan types are shrinking during these episodes.

Fortunately, the BoK has come up with another policy tool that could alleviate some of the short-term pain. The BoK Aggregate Credit Ceiling Loan System was introduced in 1994 and provides a limited amount of loans to banks that have a positive SME loan record. Hence, the BoK makes sure that commercial banks that don't perform well when it comes to SME financing (i.e., have a SME loan ratio below the mandated important backstop against cyclical variations in bank credit devoted to the SME.

Aside from adjusting the amount of funds devoted to this special purpose credit facility, the BoK can adjust the interest rate it charges for this type of loans. Figure 6 plots the evolution of the BoK base rate and the SME facility lending rate after inflation was subtracted between 1994 and 2016.<sup>7</sup> While the real base rate is on average positive in real terms during this period, the SME rate is negative. Hence, the BoK is effectively subsidizing small- and medium-sized firms. Again, notice that the interest rate subsidy is higher in periods of turmoil (1998, 2001, 2008).

Source: BoK, author calculations, amounts are in 1993 Korean Won

<sup>&</sup>lt;sup>7</sup> Data on the SME rate stops in 2012. The BoK started reporting the SME interest rate in a disaggregated fashion since 2013, for different types of industries (e.g., trade financing, high tech, etc.). No data on the base rate was available on the ECOS online data tool of the BoK prior to 1999.

Given these findings, my second proposal is that the NBM set up a Supplementary SME Loan System amounting to 4% of GDP, in order to respond to cyclical variation in bank credit awarded to these entities. I base the 4% figure on the fact that economic recessions usually involve 4% drops in GDP on average in Moldova, as seen in Figure 4. In 2015 prices, this facility would be worth around 5 billion MDL, which would have covered a sizable part of the loss in bank credit experienced in Moldova in 2015 and 2016. And this lack of attention might cost our country a lot, since Moldova will need 16 years to double its current GDP if it keeps growing at an average of 4.47% (as it did between 2008 and 2015). But even by doubling the GDP per capita level, Moldova will still be 2 times below the current Romanian per capita GDP (assuming no population growth in both countries). And given Moldova's emigration problem, it could well be that in 16 years there will be no active population in this country to enjoy the benefits of stable/low inflation that we as a society worry so much about.

#### Fig. 6: BoK Real Interest Rates



Source: BoK, author calculations

Critics of my proposal could argue that the tools I described above are going to create inflationary pressures. While that could be indeed the case, I have three arguments against this critique. First and foremost, the SME loan rate is a portfolio reshuffling instrument that shouldn't contribute to long run variation in inflation rates. In fact, if the NBM helps SME succeed in Moldova, this would translate into higher national income over the long run. And, since higher-income countries tend to have lower inflation rates, this policy tool might lead to lower inflation over the long run. Second, the Supplementary SME Loan System does indeed involve interest rate subsidies which could potentially be inflationary. However, if these subsidies are managed correctly, as done by the BoK, the short-term increase in inflation will be modest because the SME sector currently represents a small fraction of the Moldovan GDP.

Lastly, I believe that the NBM currently focuses too much on inflation and very little on economic growth.

I urge the NBM to follow the policy advice described above and intervene in the bank credit market. According to the Barometer of Public Opinion (2016), trust in banks is at an all-time low, close to the complete mistrust level. To top that, the Moldovan economy and its banking sector need help more than ever to create economic growth (as shown in Figures 1 and 2). While the NBM should keep its focus on inflation, it shouldn't ignore its other objective - to promote economic growth. The tools that I've proposed in this paper have proved to be extremely useful in jumpstarting economic growth elsewhere and are expected to have the same effect in Moldova. These tools also complement the reforms of the business support programs that the development partners of Moldova have highlighted in the Briefing Book (2015), by ensuring that the SME have access to adequate funding from the primary source of credit in the economy - the National Bank of Moldova.

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## Data Appendix

#### Figure 1

This figure was constructed using balance sheet data for commercial banks provided by the NBM. For the period spanning between 1999 and 2011, I collected the amounts in December of each year for "Loans and financial leasing (gross/total)" from the archived file posted online by the NBM. From 2012 to 2016, I used the December data for "Loans and advances" available on the NBM online data tool, in the section "Banking Supervision Statistics / Financial Reports on the Banking Sector". The data comes in nominal amounts, so I used the CPI series from the National Bureau of Statistics (NBS) to convert the bank credit data to the prices in 1999. I then computed the annual growth in real bank credit.

#### Figure 2

This figure was constructed using data on GDP (current prices) provided by the NBM and stored on the website of NBS. I've used the CPI series to convert the nominal GDP to real terms (similar to the procedure described above, using end-of-year CPI to adjust the GDP data). I then compute annual growth rates that are plotted in Figure 2.

#### Figure 3

This figure was constructed using balance sheet data for commercial banks provided by the NBM. I used the December data for "Loans and advances" available on the NBM online data tool, in the section "Banking Supervision Statistics / Financial Reports on the Banking Sector". The data comes in nominal amounts, so I used the CPI series from the National Bureau of Statistics (NBS) to convert the bank credit data to the prices in 2012.

#### Figure 4

This figure was constructed using data on the structure of the credit portfolio for commercial banks provided by the NBM. I used the December (2014 and 2016) data on the sectorial credit available on the NBM online data tool for each bank, in the section "Banking Supervision Statistics / The Structure of Credit Portfolio of the Banking Sector / On branches" of online tool. The data comes in nominal amounts, so I used the CPI series from the National Bureau of Statistics (NBS) to convert the 2016 bank credit data to the prices in 2014.

#### Figure 5

This figure was constructed using data from the ECOS online data system provided by the BoK. I obtained the amount allotted for the Bank Intermediated Lending Support Facility from the section "Main Accounts of the Bank of Korea and Base Rate / Loans and Discounts in Won of the BOK(End of) / Bank Intermediated Lending Support Facility". The data comes in nominal amounts, so I used the annual CPI series from ECOS to convert the loan data to 1993 prices.

#### Figure 6

This figure was constructed using data from the ECOS online data system provided by the BoK. I obtained the interest rates from the section "Main Accounts of the Bank of Korea and Base Rate / Bank of Korea Base Rate & Interest Rates on Loans and Discounts of the Bank of Korea". The rates are in nominal terms, so I used the annual CPI series from ECOS to compute the inflation rate, which I later use to bring the interest rates to real terms.

All data files necessary to produce these charts are available upon request.