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# Assessment of the Nexus between the Banking System and Government Debt Market: Past Trends and Future Challenges

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## Abstract

*Owing to their capacity to stabilize the market, especially during turbulent times, banks can act as a buffer through an adequate mix of financial operations. Among them, of particular importance are the purchases of government debt securities. Nowadays, banks are being increasingly exposed to the debt securities issued by their own national governments, involving higher risks and weakening the banking system as such. Some national banks acknowledge there is a high risk of intensifying the link between the banking sector and the public sector due to increased direct exposures, represented by debt securities issued by the state and purchased by banks and by the loans provided to central/local governments. Against this background, the paper aims to analyse the situation from the issuer (government) and investors' (banks and their balance sheets) standpoint, by considering selected case studies (the Czech Republic, Hungary, Poland and Romania). In our considerations, we shall use the most recently available data on the bank holdings of debt securities issued by national governments, provided by the ECB database.*

**Keywords:** government debt, commercial banks, balance sheets, banking system, Covid-19 pandemic.

**JEL Classification:** E52, G21, H63

## 1. Introduction

The World Bank and IMF handbook (2001) have emphasized that commercial banks invest in government securities in order to meet liquid asset requirements,

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obtain a stable interest income to offset other more volatile investments, manage their short-term liquidity, and take positions on the future movement of interest rates. Commercial banks also use their government debt holdings to hedge their interest rate positions for repo transactions. However, commercial banks should not be forced to hold government securities. Heavy investments in government securities by commercial banks may reflect a weakness in their primary function which is lending.

This paper aims at presenting research findings on the role of government debt securities in the balance sheets of the central banks of four selected countries (the Czech Republic, Hungary, Poland, Romania) since 2007. The major focus is given to the year 2020 and the initial changes triggered by the outbreak of the COVID-19 pandemic.

The paper starts with an investigation of the benefits and risks taken on by banks as major investors on the government debt market. Next, it offers an analysis of government securities in banks' balance sheets covering a timeframe from 2007 to 2019. Particular attention is given to the presence of the banking sector in the government debt market during the Covid-19 pandemic (data from January-May 2020) for the selected cases. Finally, concluding remarks provide an analysis into the short- and medium-term consequences of the persistent interplay between the banking sector and the government debt market.

## 2. Problem Statement

The interplay between the banking system and the state, through banks' holding of government debt, is a largely debated issue and, against the background of the current global pandemic, it comes at the forefront of public and academic concerns.

At the root of this debate is the fact that Euro-area prudential regulation mechanism allows banks to assign a zero-weight to government debt held in their portfolios and hence to charge no additional capital for it. A direct consequence of this preferential regulatory treatment of banks' exposures to government debt is represented by banks' increased interest in purchasing and holding these financial instruments in their portfolio rather than other types of assets with various degrees of riskiness.

There is a large strand of literature that notices the concentrated exposure of banks in many countries across Europe to their own sovereign, by focusing on specific issues of interest. For instance, Gros (2017) starts from the belief that banks should be allowed to buy large amounts of their own sovereign in order to contribute to stabilizing the market during a crisis episode and explains why such reasoning is erroneous. Therefore, it is recommended that banks are discouraged from holding too much domestic government debt and that governments change the category of investors they are targeting for financing large public debts.

Some recent empirical research conducted by CESIFO (Saka, 2019) on a large bank-level dataset covering the entire Eurozone crisis outlined that this crisis had caused the reallocation of government debt from foreign to domestic banks. The explanation brought up by several other studies is twofold: i) governments have

imposed on to banks in their jurisdiction to expand their exposure on government bonds and hence to finance the state (Becker and Ivashina, 2018; De Marco and Macchiavelli, 2015); ii) the widespread belief that the state is less willing to default if sovereign debt is mainly held by domestic banks rather than foreign ones (Broner et al., 2010; Gennaioli et al, 2014). Evidence shows an informational friction. In normal times, the level of government debt held by domestic and foreign banks is balanced, while during financial or economic crisis episodes, it is noticed that foreign banks' access to real time information regarding the true repayment capabilities of the governments becomes of utmost importance.

Most studies identify the occurrence of risks and vulnerabilities for those banks which are heavily exposed to government debt. Pagano (2016) uncovers that in the aftermath of the 2008 global financial crisis, banks' exposures to domestic sovereign risk, due to holdings of government bond, have amplified the transmission of stress to the banking system. The author explains that the increased sovereign risk caused the market value of government bonds to drop, which further triggered equity losses for banks, amplified their default risk and their funding costs. A conclusion is that large domestic sovereign exposures of banks operating in fiscally vulnerable countries (such as those in the Euro-area periphery) can exacerbate the impact of the sovereign stress, the volatility of bank risk and lending.

A similar conclusion is reached by Altavilla et al. (2016), who claim that in stressed Euro-area countries, the banks exhibiting the largest exposure to the sovereign experienced significant increases in the solvency risk, sharper reductions of their lending activity and more pronounced rises of their lending interest rates than the less exposed banks. There is found a direct relationship between the drop of government bonds' price and the decreases in the loan growth rate.

Cooper and Nikolov (2018) explore the "diabolic loop" established between the government and the banking system and warn about potential bank solvency vulnerabilities. The authors argue that low confidence in governments' capabilities decreases the market value of government bonds, a trend that has a negative impact on banks' balance sheets and threatens their future solvency. In case a large-scale bank failure occurs, the government will provide incentives for bailing it out in order to prevent a costly default. The tight interplay between the government and banks is fuelled by banks' desire to hold riskless government debt, rather than issue sufficient equity to protect their own solvency and depositors against potential loss.

Other studies (e.g., Gennaioli et al., 2014) document too the dangerous link between the sovereign and the banking system, arguing that a government default may severely impact banks' balance sheets, generating a decrease in lending to the real economy, a decline in overall economic activity, and even lead to a banking crisis. Gennaioli et al. (2018) rely on a broad sample of 20,000 banks in 191 countries and 20 sovereign default episodes, to perform an in-depth analysis on the role played by large sovereign exposures during sovereign defaults. The findings indicate that banks tend to hold a large share of government bonds in normal times, particularly those banks which grant fewer loans and operate in less financially-

developed countries. In times of sovereign default years, the financial behaviour of banks holding an average exposure to government bonds reports a change, implied by a lower growth rate of loans.

Another debated belief is related to the particular involvement of undercapitalized banks in purchasing government bonds, in order to take advantage of the zero risk-weight assigned to domestic sovereign exposures or to increase profitability with no risk taking. Lamas and Mencía (2019) took it off from this assumption and verified the validity of this statement empirically. They discovered that poorly capitalized banks are not associated with higher holdings of domestic sovereign bonds, neither had they taken advantage of the depressed financial market conditions to expand their portfolios of government bonds.

Chronopoulos et al. (2019) have focused on identifying the set of leading factors lying at the root of bank holdings of own government debt and relied on a dataset of 295 banks in 35 countries. Their findings indicate that the main determinants are represented by the structure of bank ownership (domestic, foreign, or government ownership), the quality of bank governance, and the level of the country's financial development. An interesting conclusion is that banks' home bias in holding government debt is widely spread, being considered an international phenomenon, owing to a mix of both bank-specific and country-specific factors.

## 3. Aims of the Research

Having as the starting point the literature overview abovementioned, our paper aims at bringing a fresh perspective on the nexus between the government and the banking sectors in four Central-Eastern European countries, by investigating the evolution of banks' exposure to government debt and putting particular emphasis on the current distress period represented by the Covid-19 pandemic crisis.

## 4. Research Methods

The major method applied in the quantitative research is a statistical and comparative analysis based on the ECB database (Statistical Data Warehouse). The analysis takes into account the data on the general government sector (GG) and monetary financial institutions (MFIs) in accordance with the ECB methodology and Eurostat.

## 5. Findings

In the years 2007-2019, public debt in the four selected countries was on the rise. In Hungary only, the public debt figure was above the EU criterion of 60% of GDP. Nonetheless, the biggest difference between 2007 and 2019 was reported in Romania, and the smallest in Hungary. In terms of the average debt against GDP, the countries under investigation ranked as follows: Hungary, Poland, Czech Republic, and Romania (Table 1).

**Table 1. Government debt (in percentage points)**

| | Czech Republic | Hungary | Poland | Romania |
|---|---|---|---|---|
| 2007 | 27.5%GDP | 65.7%GDP | 44.5%GDP | 11.9%GDP |
| 2019 | 30.8%GDP | 66.3%GDP | 46.0%GDP | 35.2%GDP |
| dynamic (2007-2019) | 3.3 | 0.7 | 1.5 | 23.3 |
| average level (2007-2019) | 36.4 | 74.7 | 50.8 | 31.0 |

*Source:* Own calculations based on ECB data

MFIs played a significant role on the government debt market. In the countries under investigation, the share of MFIs as investors in debt portfolio oscillated between 20% and 50% on average.

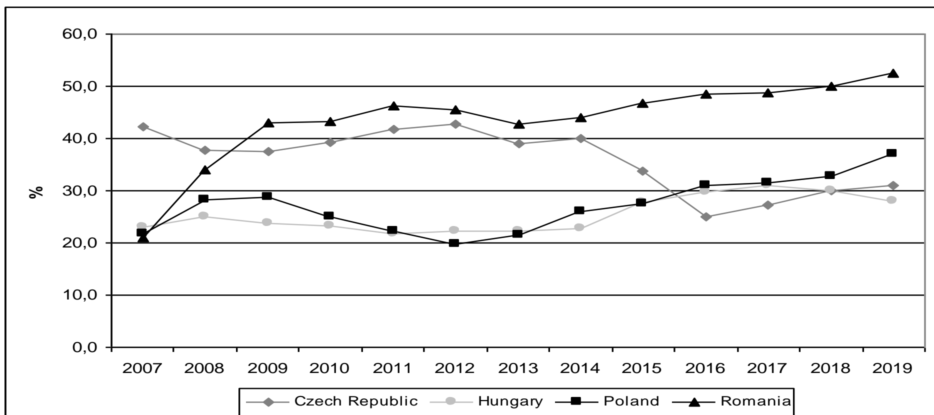



**Figure 1. Share of MFIs in government debt as investors**
*Source:* Own calculations based on ECB data

Monthly data for 2007 - May 2020 indicate an increase in the value of government securities in MFIs assets (Figure 2). Particularly interesting is the systematic growth of the balance sheet position in Poland after 2012. Similarly, after its accession to the EU, Romania reported an increase in the nominal value of government bonds purchased by banks, too. In March-May 2020, Poland and Romania reported relatively the highest increase in MFIs activity on the debt market and, historically, the highest level of this balance sheet position.

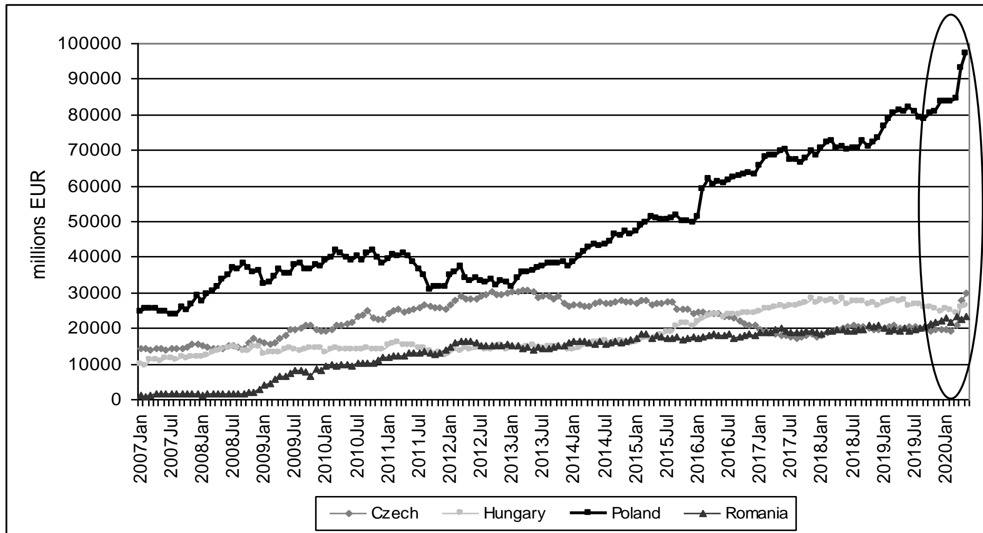



**Figure 2. Holdings of debt securities issued by domestic General Government reported by MFIs excl. ESCB (nominal stock)**
*Source:* ECB database

Since April 2020, in three out of the four countries under investigation, the gap between growth rates of loans to residents total and holdings of government debt by MFIs remained negative (Table 2). This means that the government debt securities growth was more dynamic than the growth of total loans granted by MFIs. It was noticed that the gap was positive in Hungary only.

**Table 2. Gap between loans to domestic residents total and holdings of government debt by MFI (in percentage points)**

| | Czech Republic | Hungary | Poland | Romania |
|---|---|---|---|---|
| 2020 Jan | 9.5 | 17 | -1.7 | -3 |
| 2020 Feb | 12.3 | 16 | 0.4 | -2.2 |
| 2020 Mar | 2.7 | 17.7 | -0.9 | -6.1 |
| 2020 April | -42.5 | 13.8 | -13.8 | -8.1 |
| 2020 May | -42.4 | 16.1 | -19.7 | -5.7 |

*Source:* Own calculations based on ECB data

It is noteworthy that the share of loans granted to the general government sector by MFIs also began to grow steadily (with a growing trend notably visible in Romania). This might signify the increased engagement of MFIs in financing the government with all the financial instruments available (Table 3).

**Table 3. Share of loans to government in total loans to domestic residents in MFI balance sheets (in percentage points)**

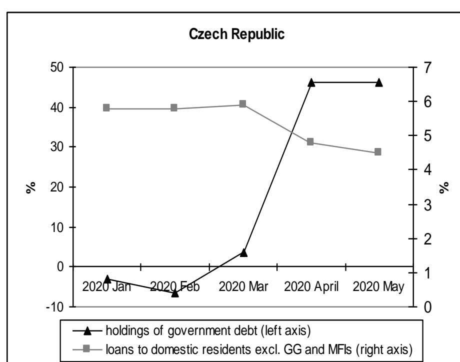
| | Czech Republic | Hungary | Poland | Romania |
|---|---|---|---|---|
| 2020 Jan | 0.8 | 3.2 | 6.1 | 2.9 |
| 2020 Feb | 0.8 | 3.3 | 6.1 | 3.0 |
| 2020 Mar | 0.9 | 2.9 | 6.0 | 4.2 |
| 2020 April | 0.9 | 2.9 | 6.0 | 5.6 |
| 2020 May | 1.0 | 3.0 | 6.2 | 5.7 |

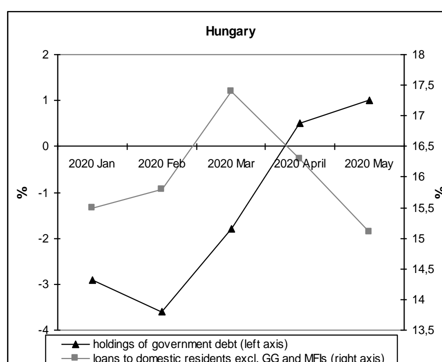
*Source:* Own calculations based on ECB data

The outbreak of the COVID-19 pandemic resulted in the lock-down of the economies under analysis and many other economies across the world. The period from March to May 2020 reflects an economic stagnation. As a result, economies worldwide require huge financial support. The major role in this respect should be played by MFIs.

As analysis findings show, the beginning of the COVID-19 pandemic saw the reversed trends between the dynamics of maintaining government securities and granting loans to entities other than public and financial ones. In each of the countries under analysis, March or April marked the beginning of the trend change (Figure 3). Partially, this circumstance was brought about by the restrictions under which many businesses and financial institutions were closed, further exacerbated by the immobility of the society.

Today, it is essential to carry out further analyses into the trends under discussion as maintaining or aggravating the trends over the months to come could threaten both the economy and the banking sector itself.



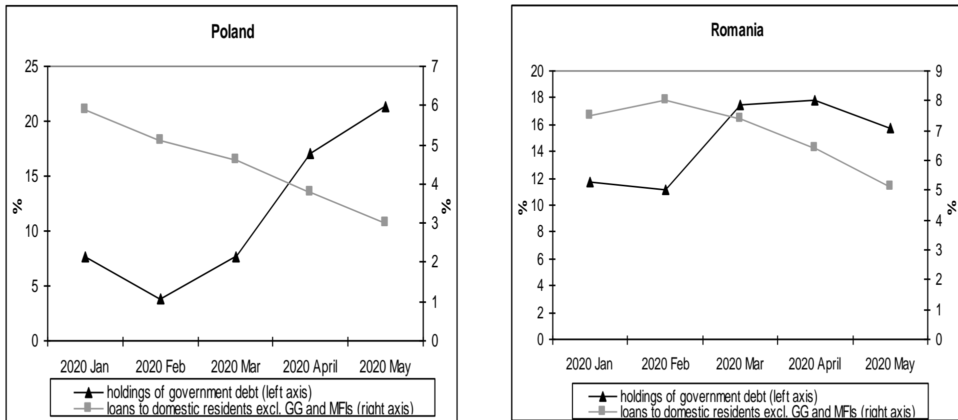



**Figure 3. Growth rate of holdings of government debt by MFIs versus loans to domestic residents (excl. GG and MFI)**

*Source:* ECB database

## 6. Conclusions

Following the example of the European Central Bank, which launched the Public Sector Purchase Programme in 2015 and the Pandemic Emergency Purchase Programme in March 2020, the central banks of the states outside the Euro zone also intensified the purchase of government securities. Thus, commercial banks are now becoming increasingly engaged in operations involving central banks.

As the analysis findings reveal, since the outbreak of the previous financial crisis in 2008, most of the countries under analysis demonstrate a growing trend in relation to both the nominal value of government debt and the role of banks in the government debt market. This means that in that respect, the countries were not well prepared to face the current crisis.

The findings of the research carried out at the beginning of the pandemic crisis (i.e. March-May 2020) in selected CEE countries signal a number of initial problems that can be exacerbated by the financial and economic impact of the pandemic in the months to come. The European Commission forecasts an average drop in GDP across the EU by 7.5% and an increase of public debt of as much as 95% of GDP (EC, 2020). These forecasts alone are a good reason to carry out further observations in this respect.

The growing gap in the countries under research might imply an increased risk of MFIs being excessively involved on the debt market which translates into reducing the basic function of banks, i.e. granting loans to the non-government sector.

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