Study on Bank Interest Rates in the European Union

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Abstract

The study of interest rates is a topic of interest to financial analysts, investors, the public, managers in the banking system and the monetary authority. The paper adds to the group of studies investigating the evolution of bank lending rates under the influence of monetary policy decisions.

The issue is significant for the economy because more than 70 percent of private credit is provided through the banking system and as a result its movement has effects on financial stability. A large part of non-government credit is provided by banks and the change in interest rates to the private sector is consumer credit.

The study examines the monetary policy interest rate for EU countries, as well as the spread between the lending and deposit facility interest rates. Interest rates on loans falling due were analysed and the maximum and minimum values were highlighted. The high volatility of these rates at present makes our study topical.

Key words: monetary policy interest rate, banking system, spread
J.E.L. classification: G01, G20, G21, G24, G30, E50

1. Introduction

Banking is an important part of financial systems. At EU level, the banking system accounts for more than 70% of the financial system. Within household credit, consumer credit is growing.

The interest rate on loans is influenced by changes in the monetary policy interest rate. The paper will study the evolution of monetary policy interest rates in European countries. A monetary contraction is known to reduce the volume of credit in the banking sector, even if there is a stretched response (lag) (Dawood, 2019).

European economies and beyond are interlinked. As a result, the study of monetary policy interest rates in European countries is justified because monetary policy in one country and interest rates abroad have an effect on domestic credit.

Domestic credit determines financial intermediation. In Romania, financial intermediation in 2013 was at the same level as in 2006. In the last 15 years, the degree of financial intermediation has increased in Romania and in the EU (Munteanu & Dobre, 2021).

Studies on the causality between monetary policy and the banking or fiscal system as well as the effects on the economy have also been conducted by Lipară & Dănilă, (2015) and Ionascu & Zaif (2019).

2. Theoretical background

The subject of the relationship between the lending rate and monetary policy decisions has often been discussed in the literature. Established authors who have studied the impact of monetary policy on bank credit volume include Altunbas, Gambacorta and Margues Ibanez, (2010), Jumenez, Ongena, Peudro and Saurina (2012), Bruno &Shin (2015), Curdia& Woodford (2016).

A pioneering work in this regard is that of Barnanke& Blinder (1992). They empirically studied the influence of monetary policy on bank credit in the US. They concluded that an increase in the federal funds rate led to a decline in bank credit, but with a lag.

An extension of this work was done by Vera (2012), who reached similar conclusions: increasing the policy interest rate led to a decline in bank lending.

Atlubas, Gambacorta & Margues Ibanez have demonstrated that there is a bank lending channel operating in the euro area under bank risk. Financial innovation and international transfers have allowed standard ratios, calculated using bank balance sheet information, to fall nominally. They pointed out that traditional indicators such as liquidity, bank capitalisation, etc. should also be taken into account when assessing bank and credit risk, so that banks' ability and willingness to provide new loans can be correctly assessed. This information is important for investors.

3. Research methodology

The study will analyse the evolution of the monetary policy and standing facility lending networks for EU countries.

The monetary policy interest rate is the interest rate used for the main money market operations of central banks.

Standing facilities are the lending facility and the deposit facility granted to eligible participants by the Central Banks, to which they have access on their own initiative.

For the consumer credit interest rate survey, out of the 27 EU countries, 20 countries have data organised by three initial maturities of consumer credit: less than or equal to 1 year, between 1 and 5 years inclusive and over 5 years. The Central Bank of Denmark has data organised by four original maturities: up to and including 1 year, between 1 and 2 years inclusive, between 2 and 5 years inclusive and over 5 years, and the Central Banks of Estonia, Finland, Italy, Latvia, Malta and Sweden have published average interest rates on consumer loans.

It should be noted that in the case of Croatia, interest rates on loans with original maturities between 1 and 5 years inclusive were not published for the whole period under review, and for Luxembourg interest rates on loans with original maturities over 5 years were not available. Ireland, Italy and the Netherlands have not published data as of February 2022 at the time of the survey. Some data are not available in the countries: Latvia and Hungary, at the Central Bank of Latvia for average interest rates for December 2021 and at the Central Bank of Hungary for most data.

4. Findings

4.1. Evolution of monetary policy interest rates

Below we have presented and analysed key interest rates in the European Union from January 2017 to February 2022.

Figure no. 1. Policy interest rates at EU level

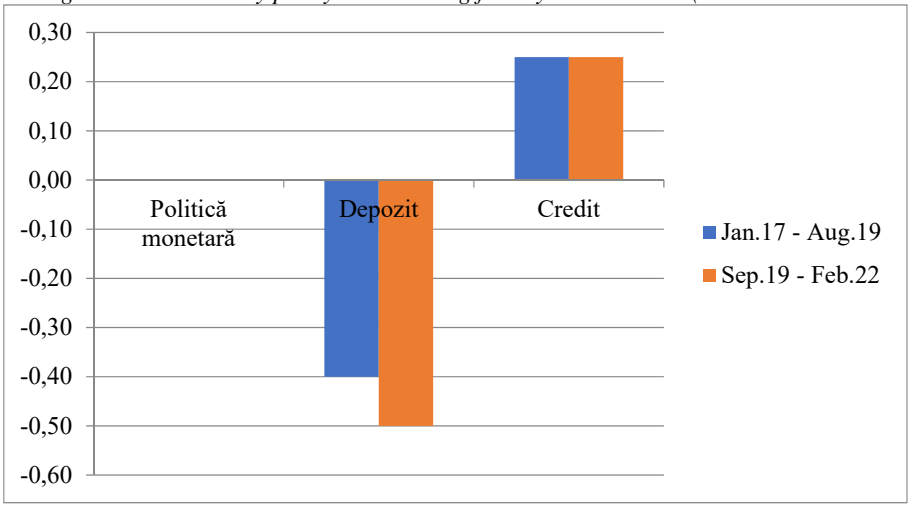
	Valid from date of:	Interest rate of monetary policy (%)	Deposit interest rate (%)	Lending interest rate (%)
Eurozone	18.09.2019	0,00	-0,50	0,25
Bulgaria	01.02.2022	0,00	-	-
Czech Republic	06.05.2022	5,75	4,75	6,75
Croatia	02.10.2017	0,05	0,00	2,50
Denmark	01.10.2021	-0,60	-0,60	-0,45
Poland	06.05.2022	5,25	4,75	5,75
Romania	11.05.2022	3,75	2,75	4,75
Sweden	04.05.2022	0,25	0,15	0,35
Hungary	27.04.2022	5,40	5,40	8,40

Source: own processing based on data provided by ECB & non-euro EU central banks [accessed 20.05.2022]

As the Central Banks of Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Portugal, Slovakia, Slovenia, Spain and the Netherlands are part of the Eurosystem and use the euro as their national currency, references to them as a whole are made by the term Eurozone.

Figure 1 shows that most central banks have adjusted their monetary policies in 2022.

Figure no 2. Monetary policy and standing facility interest rates (Euro area . Jan 2017 - Feb 2022)



Source: own processing based on ECB data [accessed 20.05.2022].

In the year 2022, among the non-euro EU countries, Romania made the most changes in the monetary policy interest rate, In May (11.05.2022) it increased by 0.75 percentage points, from 3.00% to 3.75%. The same change occurred in the standing facilities, i.e. the interest rate on the lending facility increased from 4.00% to 4.75% and the interest rate on the deposit facility increased from 2.00% to 2.75%.

4.2. Changes in interest rates charged by credit institutions on consumer credit

In order to analyse the relationship between official central bank interest rates and bank interest rates, we have chosen to look at the area of consumer bank lending. Thus we studied the evolution of consumer credit interest rates for the period 2017 to February 2022. We highlighted the categories: existing consumer loans outstanding and new loans in euro currency for EU countries.

We considered annual as well as quarterly averages to observe the impact of the COVID-19 pandemic on consumer credit interest, as well as differences between pre-pandemic, pandemic and current periods.

For Eurozone countries, where the monetary policy interest rate and the lending facility rate have remained constant, for loans with an original maturity of one year or less, the minimum interest rate is 0.94% (March 2019, Luxembourg) and the maximum interest rate is 14.68% (February 2022, Greece), for loans with an original maturity between 1 and 5 years inclusive the minimum rate is 1,94% (March 2020, Luxembourg) and the maximum rate is 9.88% (December 2018, Greece), for loans with an original maturity of more than 5 years the minimum rate is 2.52% (December 2021, Netherlands) and the maximum rate is 7.02% (February 2019, Slovakia), and for average interest rates the minimum rate is 4.34% (December 2021, Italy) and the maximum rate is 330.51% (March 2019, Malta).

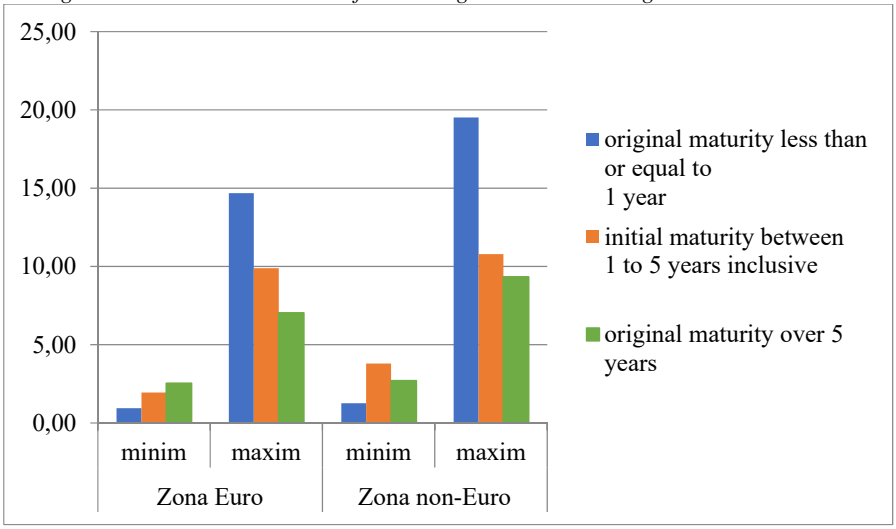
The differences between interest rates in February 2019 and February 2020 are between a decrease of 299.21 percentage points (Malta) and 1.47 percentage points (Lithuania), respectively, and an increase of 3.59 percentage points (Lithuania). The differences between March 2019 and March 2020 interest rates are between a decrease of 307.58 percentage points (Malta) and 1.38 percentage points (Lithuania), respectively, and an increase of 3.47 percentage points (Lithuania).

The differences between interest rates in March 2020 and December 2020 are between a decrease of 5.22 percentage points (Malta), and an increase of 0.55 percentage points (Cyprus). The differences between interest rates in February 2020 and February 2021 are between a decrease of 6.35 percentage points (Malta), and an increase of 0.55 percentage points (Lithuania). The differences between interest rates in March 2020 and March 2021 are between a decrease of 5.24 percentage points (Malta), and an increase of 0.72 percentage points (Cyprus). The differences between interest rates in February 2020 and February 2022 are between a decrease of 4.51 percentage points (Malta), and an increase of 1.01 percentage points (Lithuania).

For non-euro area countries, for the period January 2017 to February 2022, for loans with an original maturity of one year or less, the minimum interest rate is 1.26% (December 2021, Denmark) and the maximum interest rate is 19.52% (December 2017, Czech Republic), for loans with an original maturity of 1 to 5 years inclusive the minimum rate is 3.80% (December 2021 and February 2022, Bulgaria) and the maximum rate is 10.79% (December 2017, Czech Republic), for loans with an original maturity of more than 5 years the minimum rate is 2.69% (February 2022, Denmark) and the maximum rate is 9.32% (December 2017, Czech Republic), and as regards average interest rates, these are only found at the Central Bank of Sweden, with the minimum rate being 4.86% (December 2017) and the maximum rate 6.92% (February 2022).

The differences between interest rates in February 2019 and February 2020 are between a decrease of 1.48 percentage points (Bulgaria) and an increase of 1.84 percentage points (Sweden). The differences between March 2019 and March 2020 interest rates are between a decrease of 1.52 percentage points (Bulgaria) and an increase of 1.95 percentage points (Bulgaria). The differences between interest rates in March 2020 and December 2020 are between a decrease of 1.60 percentage points (Poland), and an increase of 0.16 percentage points (Denmark). The differences between interest rates in February 2020 and February 2021 are between -1.70 percentage points (Poland) and -0.04 percentage points (Sweden). The differences between interest rates in March 2020 and March 2021 are between -1.60 percentage points (Poland) and -0.08 percentage points (Denmark). The differences between interest rates in February 2020 and February 2022 are between a decrease of 2.79 percentage points (Romania), and an increase of 0.30 percentage points (Poland).

Figure no 3. Bank interest rate for existing loans outstanding in the EU - minimum and maximum



Source: developed by the authors based on the collected data Eurostat

4.3. Interest rate developments on new consumer loans

Of the 27 EU countries, 16 have data organised by three fixed initial interest rate periods for consumer credit: less than or equal to 1 year, between 1 and 5 years inclusive and over 5 years. The Central Banks of Croatia, Denmark, Ireland, Italy and Lithuania have data organised by two fixed initial interest rate periods, less than or equal to 1 year and more than 1 year. The Central Banks of

Estonia, Finland, Latvia, Malta, Poland and Sweden published average interest rates on consumer loans.

Thus, for Eurozone countries for loans with an initial fixed interest rate period of one year or less, the minimum rate is 0.90% (March and December 2021, Luxembourg) and the maximum rate is 11.37% (February 2022, Greece).

The differences between interest rates in February 2019 and February 2020 are between a decrease of 2.13 percentage points (Lithuania), and an increase of 7.94 percentage points (Latvia). The differences between March 2019 and March 2020 interest rates are between a decrease of 2.01 percentage points (Netherlands) and an increase of 1.85 percentage points (Greece). The differences between interest rates in March 2020 and December 2020 are between a decrease of 1.08 percentage points (Belgium), and an increase of 2.30 percentage points (Latvia). The differences between interest rates in February 2020 and February 2021 are between a decrease of 9.08 percentage points (Latvia), and an increase of 1.93 percentage points (Austria). The differences between interest rates in March 2020 and March 2021 are between a decrease of 2.53 percentage points (Estonia), and an increase of 0.73 percentage points (Austria). The differences between interest rates in February 2020 and February 2022 are between a decrease of 8.33 percentage points (Latvia), and an increase of 4.02 percentage points (Slovakia).

For non-euro area countries, for loans with an initial fixed interest rate period of one year or less, the minimum rate is 1.07% (February 2020, Denmark) and the maximum rate is 10.88% (December 2017, Czech Republic).

The differences between interest rates in February 2019 and February 2020 are between a decrease of 2.03 percentage points (Denmark) and an increase of 1.93 percentage points (Czech Republic). The differences between March 2019 and March 2020 interest rates are between a decrease of 1.28 percentage points (Bulgaria) and an increase of 1.93 percentage points (Sweden). The differences between interest rates in March 2020 and December 2020 are between a decrease of 1.43 percentage points (Bulgaria), and an increase of 0.31 percentage points (Sweden). The differences between interest rates in February 2020 and February 2021 are between a decrease of 1.76 percentage points (Bulgaria), and an increase of 0.96 percentage points (Croatia). The differences between interest rates in March 2020 and March 2021 are between a decrease of 3.62 percentage points (Bulgaria), and an increase of 0.48 percentage points (Croatia). The differences between interest rates in February 2020 and February 2022 are between a decrease of 2.75 percentage points (Bulgaria), and an increase of 1.34 percentage points (Sweden).

5. Findings

Monetary policy in EU countries has common elements, but there are also differences. All central banks set the monetary policy interest rate as well as lending and deposit facility rates as monetary policy instruments. However, the rate corridors differ from country to country. In this paper we have analysed the spread between the interest rate on the lending facility and the interest rate on the deposit facility. We present these analyses for countries where the spread is greater than 0.5 percentage points.

In the case of the Czech Republic, the difference of 0.50 percentage points between the facility rate between February 2019 (2.75%) and February 2020 (3.25%) can be seen in the difference of 1.93 percentage points between the interest rates charged by credit institutions on new loans with an initial fixed interest rate period of 1 year or less; the decrease in the lending facility rate by 0.75 percentage points between March 2019 (2.75%) and March 2020 (2.00%) is reflected in the decrease in the interest rate on new loans with an initial fixed interest rate period of more than 1 year and less than 5 years inclusive by 0.64 percentage points; the difference of 2.25 percentage points in the credit facility rate between February 2020 (3.25%) and February 2021 (1.00%) had the effect of decreasing the interest rate on new loans with an initial fixed interest rate period less than or equal to 1 year and between 1 and 5 years inclusive by 1.45 and 1.12 percentage points, respectively.

The 0.50 percentage point difference in the interest rate on the Danish Central Bank's lending facility between February 2020 (0.05%) and February 2022 (-0.45%) influenced interest rates on both existing outstanding and new loans. In Denmark, existing outstanding loans organised into four initial maturities: less than or equal to 1 year, between 1 and 2 years inclusive, between 2 and 5 years

inclusive and over 5 years, where the difference was 0.72, 0.90, 1.09 and 0.89 percentage points respectively, and the 0.90 percentage point difference in new loans was found in loans with an initial fixed interest rate period of less than or equal to 1 year.

Data from the Central Bank of Poland put almost all values above the 0.50 percentage point threshold. Thus, the one percentage point difference between March 2019 (2.50%) and March 2020 (1.50%) in the lending facility is almost entirely reflected in the difference in interest rates on existing outstanding loans with original maturities of one year or less in the same period; the one percentage point difference in the credit facility between March 2020 (1.50%) and December 2020 (0.50%) and between March 2020 (1.50%) and March 2021 (0.50%) yield differences on existing loans of between 1.20 percentage points and 1.60 percentage points for all original maturities; the two percentage point difference in the credit facility between February 2020 (2.50%) and February 2021 (0.50%) yielded differences of between 1.20 percentage points and 1.70 percentage points for all original maturities.

The evolution of the monetary policy interest rate and the spread between the interest rate on the lending facility and the deposit rate announced by the National Bank of Romania had a stronger effect on interest rates on existing loans with a maturity of one year or less, ranging from 1.08 percentage points to 1.36 percentage points.

6. Conclusions

The study confirmed that there is a link between the change in the policy interest rate and the evolution of bank lending, even if it occurs with a delay.

From January 2017 to February 2022, the interest rate set by EU central banks was found to be directly linked to the interest rate on bank loans in general and consumer loans in particular. The study found that some central banks such as Denmark, Sweden and Hungary had negative official interest rates in some periods.

The evolution of interest rates charged by credit institutions on existing outstanding and new consumer loans in euro showed that there is an impact of the COVID-19 pandemic on consumer credit interest rates.

Thus, for outstanding consumer loans, interest rates ranged from 0.94% to 14.68% in the Eurozone and from 1.26% to 19.52% in non-Euro countries. Denmark, Poland and Romania had large differences of more than one percentage point in the interest rates charged by credit institutions as a result of changes in the interest rate on the credit facility. These had a greater impact in Poland, where the credit facility rate differed by one percentage point between March 2020 and December 2020, and by two percentage points between February 2020 and February 2021, both causing differences of more than 1.20 percentage points on all outstanding consumer loans, regardless of original maturity.

For interest rates on new consumer loans we used data only for loans with an initial fixed interest period of less than or equal to one year, which showed that the interest rate was between 0.90% and 11.37% in the Eurozone and between 1.07% and 10.88% in non-Euro countries. We found differences of more than one percentage point in interest rates charged by credit institutions on new loans in the Czech Republic. Thus, the 0.50 percentage point difference in the credit facility between February 2019 and February 2020 resulted in a difference of 1.93 percentage points on loans with an initial fixed interest period of less than or equal to one year, while the difference of 2.25 percentage points between February 2020 and February 2021 resulted in differences of more than 1.12 percentage points on loans with an initial fixed interest period of less than or equal to one year and between 1 and 5 years inclusive.

As a future research direction, the influence of monetary policy on bank risk indicators can be analysed based on balance sheet information in which credit plays an essential role.

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