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# Economic research in banking – a survey

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## Abstract

This paper surveys the literature on economic research in banking. Two streams of empirical research were reviewed. The first stream of empirical research focus on research examining the effect of bank behaviour on economic performance. The second stream of empirical research focus on research on the effect of economic events on bank behaviour and performance. We provide our views about what we have learned from this research.

**Keywords:** bank performance, economy, banks, economic research, financial institutions.

**JEL Classification:** G21, G28.

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## 1. Introduction

This paper explores the economic research in banking. Banks perform an important role in most economies. Banks act as a catalyst for economic growth and development each time they channel financial resources or credit from savers to borrowers. Borrowers use the credit provided by banks to carry out productive activities that lead to increase in economic output. In most economies, banks provide the largest amount of credit to economic agents in the economy. As a result, there has been renewed research interest into the impact of bank activities on the economy and the impact of economic changes on banks.

This paper argues that the economic factors that constantly affect bank activities make banks interesting to study as a separate industry in the economic literature. Banks' special role in financial intermediation differs from the role of other financial institutions. Their unique function makes them an important subject to be investigated and banks provide a fruitful setting to investigate the effect of economic factors on banks. Our interest in studying about banks in the economic literature may also be explained by the importance of bank behavior in influencing monetary policy variables such as inflation and interest rate. Changing economic conditions also create incentives for banks to alter their loan pricing decisions to reflect current economic realities. This puts banks at an advantage compared to other firms which further reinforce the importance of banks in the economy.

We classify economic research in banking into two streams based on a broad set of research questions. The first research question is: how do bank behavior and performance affect economic performance? The second research question is: how does economic factors affect bank behavior and performance? These research questions are unique to banks. We choose to organize our review around these two research questions because we are interested in the economic consequences of banking.

This paper extends the existing literature. It extends the studies that investigate the impact of macroeconomic and microeconomic events on the performance of banks. Our analysis also adds to existing studies that analyse the spill-over effects of bank behavior on the economy. The insights we offer in this study can help regulators and

economists to gain a deeper understanding of the relationship between bank performance and the economy. This study can also reveal the channel through which economic events affect banks and the channel through which bank activities affect the economy.

We structure the rest of the article in the following way. A discussion on the importance of the banking sector in economic research is presented in section 2. Section 3 discusses how economic events affect bank behavior and performance. Section 4 presents the discussion on how bank behavior and performance affect the economy. Section 5 concludes.

## **2. Importance of banks for economic research**

Banks have distinct characteristics that make them an interesting subject for economic research. Firstly, banks are highly leveraged financial institutions compared to non-bank financial institutions due to their large lending to firms, industries, and governments. In some countries, the debt-to-equity ratio of banks exceed 70 percent such as in the U.S (Lobo, 2017). There are still debates about whether banks should have a high debt-to-equity ratio (DeAngelo and Stulz, 2013; Thakor, 2015; Nuno and Thomas, 2017), and there are debates about whether high leverage in banks is a good or bad thing (Ingves, 2014; Yan et al., 2012). An extensive debate about the banking sector's high leverage ratio can be found in DeAngelo and Stulz (2015) and Modigliani and Miller (1958). Banking researchers are interested in knowing whether bank lending to firms, industries, and governments improves bank performance and macroeconomic performance.

The second characteristic that make banks an interesting subject for economic research is that banks are increasingly becoming economically systemic. This means that many economic agents rely on banks directly or indirectly to receive financial claims or to settle financial obligations arising from the economic activities they are engaged in; therefore, the failure of banks can have devastating consequences on many economic agents connected to banks and can have spill-over effects to third-parties that are connected to economic agents that deal with banks.

The third characteristic that make banks an interesting subject for economic research is that the banking sector is one of the most regulated industries. They are tightly regulated to protect depositors' money. Bank regulation restrict banks from engaging in certain activities that put depositors' money at risk while bank supervision ensures that banks comply with existing regulations. A common regulation for all banks in the world is the imposition of a minimum capital requirement which serves as regulatory capital. Other regulations include imposing a single obligor limit on banks to reduce credit exposure to a single obligor, imposing limits on branch expansion and branch closure, restricting banks from holding controlling interests in non-bank financial institutions, requiring banks to pay a deposit insurance premium, and imposing a systemic capital surcharge on systemic banks<sup>1</sup>, among others. This type of regulation in the banking industry makes banks unique and homogenous both in their operations and the size of economic transactions.

Another characteristic that makes banks interesting for economic research is the availability of banking data to conduct empirical banking research. Banking data is often homogenous compared to industrial firms. When using banking data, it is easier to control for bank-specific and cross-country characteristics. This helps to improve the accuracy and reliability of empirical results obtained from banking research. Also, analyzing banks will avoid the heterogeneity problems associated with non-bank companies.

And finally, another characteristic that make banks an interesting subject for economic research is the compensation scheme of banks which drives their risk-taking behavior and risk culture. Banks have a unique compensation scheme that is designed to ensure that the compensation to bank managers will motivate them to pursue the interest of bank shareholders (John, Saunders and Senbet, 2000).

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<sup>1</sup> The systemic capital surcharge is the price that systemic banks must pay for being systemic.

### **3. Impact of economic factors on banks**

#### **3.1. Financial crises**

Financial crises are significant economic events. The most significant financial crisis in recent memory is the Great recession also known as the global financial crisis of 2008. A banking or financial crisis may be country-specific or region-specific such as the Asian financial crisis. Studies show that financial crises affect bank performance in unique ways due to differences in regulation, bank business model, banking structure, bank management quality, and other factors (see Cornett and Saunders, 2003; Brunnermeier et al., 2009; Dewatripont et al., 2010; Moradi-Motlagh and Babacan, 2015; Bourkhis and Nabi, 2013; Schivardi et al., 2022; Blau et al., 2022; Meier et al., 2021). Some studies show that profitable banks in pre-crisis years report losses during crisis years and such losses extend to post-crisis years (see, Sufian and Habibullah, 2010; Olson and Zoubi, 2017; Bouzgarrou et al., 2018). Also, there is the argument that well-capitalized banks can survive financial crises and remain profitable, and there is empirical evidence to support this claim (see Berger and Bouwman, 2013). Morrison and White (2005) show that regulators may increase capital requirements to improve the ability of banks to survive a financial or banking crisis. Other studies on this subject include are Ghosh (2014), Hart and Zingales (2011), and Acharya et al. (2011).

#### **3.2. Volatility in oil prices**

Oil prices may become volatile for different reasons such as low oil demand or low oil production. Volatile oil prices may adversely impact bank profit. Katırcıoğlu et al. (2018) showed that fluctuating oil prices significantly impacted bank profit in Turkey due to decrease in oil-related business lending. In a related study, Amin (2022) found that higher oil prices significantly increased bank profit in Saudi Arabia.

#### **3.3. Change in monetary policy variables.**

Changes in monetary policy indicators also affect the performance of banks. Borio et al. (2017) found a positive relationship between interest rate and bank profit. Their study suggests that an increase in the policy interest rate will cause banks to increase the lending rate which leads to higher profit for banks. Altavilla et al. (2018) show that an expansionary monetary policy has a positive effect on loan loss provisions

and non-interest income of banks. This finding is interesting because it suggests that banks increase provisions to compensate for increased credit risk after increase in credit supply following the lowering of interest rate by the central bank. In contrast, Tercero-Lucas (2021) found that unconventional monetary policy did not have a significant impact on the return on asset or interest margin of banks. This might be because the use of unconventional monetary policy is not designed to affect bank fundamentals. Fu and Luo (2021) show that uncertain monetary policy will compel banks to reduce their leverage ratio as a risk reduction strategy. This is insightful because it suggests that banks take a cautious approach when monetary policy becomes uncertain.

### **3.4. Change in fiscal policy.**

A change in fiscal policy can affect the profitability of banks. Albertazzi and Gambacorta (2010) use a model to show the direct and indirect channels through which taxation affects bank profitability. They show that the direct channel through which taxation affects bank profitability is through corporate income tax (CIT) because corporate income tax is a tax on equity that is connected to bank capital requirement, and CIT can influence banks to make lending more or less costly. The indirect channel is because CIT is not specific to the banking sector – other industries also pay CIT too; hence, banks may choose to increase their lending business or increase their fee-generating services.

### **3.5. Rising economic policy uncertainty**

There is the argument that uncertainty about what monetary, fiscal, and regulatory policy might be in the near future can influence banks to take precautionary measures by adjusting their loan portfolio to reflect the unpredictability of government policies. Empirical evidence show that unpredictable government policies make banks to: delay investment (Kang et al., 2014), hoard liquidity (Ashraf, 2020), reduce lending (Biswas and Zhai, 2021), increase loan loss provisions (Danisman et al., 2021); increase earnings opacity through earnings management (Jin et al., 2019), and increase dividend payout (Tran, 2020).

### **3.6. Bank regulation**

Significant changes in bank regulation can affect banks and affect economic agents that rely on banks. One notable regulation in banking is capital regulation. Rime (2001) shows that excess capital regulation can force banks to seek more capital. Ediz et al. (1998) show that, in times of strict capital regulation, banks respond by seeking more capital instead of shedding off their risky assets. Francis and Osborne (2009) observe that UK banks with surplus capital relative to the regulatory minimum engage in aggressive lending while banks with capital deficit compared to the regulatory minimum have lower loan growth. The implication of their findings is that the tightening of capital requirement can induce banks to reduce loan supply to an abnormally low level. Degryse et al. (2021) show that banks who are faced with high capital requirements prefer to shield their relationship-borrowers and give them additional loans instead of offering new loans to borrowers that banks do not have a relationship with.

### **3.7. Bank behavior in response to unfavorable economic events**

Loukis et al. (2020) examine how systemic banks reacted to the Greek economic crisis from 2010 to 2014. They show that Greek systemic banks reduced their ICT-related expenses, rationalized their ICT processes/practices and improved their ICT capabilities. Dadoukis et al. (2021) show that banks that responded to the COVID pandemic by adopting information technology (IT) much earlier had better performance during the early phase of the COVID-19 pandemic. Li et al. (2021) found that the non-interest income of banks improved during the COVID pandemic due to greater diversification by banks during the COVID-19 pandemic. Hakura et al. (2010) examine the behavior of US banks and found that US banks reduced lending and increased interest rate during the Great Recession. Other studies show that banks with large loan exposures use their discretion by overstating loan loss provisions in response to a crisis (see Peterson and Arun, 2018; El Sood, 2012).



## **4. Effect of bank behavior and activity on the economy**

### **4.1. Effect of bank behavior on credit cycles and crises**

Rajan (1994) has shown that banks will cut credit supply when borrowers' conditions deteriorate, and this would lead to economic contraction and low GDP growth. Fungáčová et al. (2013) also observe that banks reduce credit supply when there is a crisis in the economy, but State-owned-banks will be forced to continue lending during a crisis. Bernanke (2018) shows that panic in liquidity markets disrupted the flow of credit which contributed to the 2008 global financial crisis. Levine et al. (2021) found that bank deposits were higher during the COVID-19 pandemic. This was due to the lockdown and households' greater anxiety about future job and income losses during the pandemic. It caused households to reduce spending and increase deposits with banks. Ritz and Walther (2015) show that uncertainty about market funding led banks to reduce lending which affected their profits, and it also led to competition for retail deposits.

### **4.2. Bank managerial discretion**

Several studies show that managers can use their discretion to improve their performance. For instance, Bushman (2016) emphasizes that managerial discretion over financial reporting decisions can influence bank stability through bank transparency. Peterson and Arun (2020) show that European systemic banks engage in income smoothing to give the impression that the bank is stable in bad years thereby making systemic banks appear stable even when they have risky fundamentals. Danisman et al. (2021) found that US banks use their discretion to increase provisions when they are facing rising policy uncertainty, and they are more likely to use their discretion to smooth their income. Tomy (2019) shows that banks can use their discretion to prevent entry by competitors. Ozili and Outa (2018) show that South African banks use bank provisions to manage their capital, and to smooth high earnings during periods of economic prosperity.

## 5. Conclusion

This paper explored the economic research in banking. The findings showed that economic research in banking can be grouped into two main research streams: research on the impact of bank behavior on economic outcomes, and research on how changes in the economy affect banks. The implication of the literature review is that banks are an interesting subject for economic research inquiry, and there are multiple dimensions of economic research in banking that can be explored. This paper is useful to academics seeking to understand the role and importance of banks in economic research. Policy makers may find the discussions in this paper useful for economic modelling purposes. The findings from the literature survey show that banks cannot be left out of modern macroeconomic models. One limitation of this paper is that there are areas of economic research in banking that we did not explore. We recommend the literature review of Berger and Demirgüç-Kunt (2021) and Ozili and Outa (2017) for a more extensive analysis of the effect of banks on the economy. Future research should explore the link between bank performance and the quality of institutions that support economic growth. Future research is also needed to assess the inclusion of bank variables into macroeconomic models.

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