

The Impact of Interest Rate Movements on Bank Profitability: A Literature Review

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Abstract

Interest rate changes are one of the most important macro-financial factors affecting bank profitability. As financial intermediaries, banks earn a large share of their income from the difference between interest received on assets and interest paid on liabilities. Therefore, changes in policy rates, market rates and the slope of the yield curve can influence banks' net interest margins, funding costs, loan demand, credit quality and overall profitability. This paper reviews existing literature on the relationship between interest rate changes and bank profitability. The review shows that higher interest rates may improve profitability when loan rates adjust faster than deposit rates and when banks benefit from wider margins. However, higher rates can also increase funding costs, reduce credit demand and raise borrower default risk. In contrast, low interest rates may support economic activity but often compress margins when deposit rates cannot fall further. The paper argues that the impact of interest rates is conditional rather than uniform, depending on bank size, balance sheet structure, market power, maturity transformation, competition, monetary policy conditions and the broader macroeconomic environment.

Keywords

interest rates, bank profitability, net interest margin, monetary policy, credit risk

1. Introduction

Interest rate changes play a central role in the banking industry. Banks operate by collecting deposits, providing loans, investing in securities and managing financial risks. Because both bank assets and bank liabilities are strongly linked to interest rates, changes in monetary policy and market rates can have direct effects on bank income, funding costs and profitability. For this reason, the relationship between interest rates and bank profitability has become an important topic in finance, banking and monetary economics.

Bank profitability is important not only for shareholders but also for the wider economy. Profitable banks are more likely to absorb losses, maintain capital strength, and continue lending to households and firms. Strong bank profitability can support financial stability because banks with stable earnings are less likely to reduce credit supply during economic stress. In contrast, weak profitability may reduce banks' ability to build

capital buffers and encourage excessive risk-taking. Therefore, understanding how interest rate changes affect bank profitability is important for regulators, policymakers and investors.

The issue became especially important after the global financial crisis, when many advanced economies experienced a long period of very low or even negative interest rates. A low-rate environment helped support economic recovery, but it also created pressure on banks' net interest margins. More recently, many central banks increased interest rates to control inflation. This created a different problem: rising rates can widen margins, but they can also increase borrower stress and credit risk. Therefore, both low-rate and high-rate environments create important implications for bank profitability.

The impact of interest rate changes on bank profitability is complex and can be supported by empirical evidence. On one hand, higher interest rates can increase banks' interest income because banks can charge higher rates on loans. A steeper yield curve can also benefit banks because banks often borrow short-term and lend long-term. Borio et al. [1], using data from 109 large international banks in 14 advanced economies over 1995–2012, find a positive relationship between short-term interest rates, the slope of the yield curve and bank profitability. On the other hand, higher rates can raise funding costs, reduce credit demand and increase loan defaults. Claessens et al. [2], using a sample of 3,385 banks from 47 countries between 2005 and 2013, find that a one percentage point decline in interest rates is associated with an 8 basis point fall in net interest margins, and the effect becomes larger, about 20 basis points, when rates are already low. Therefore, the final effect of interest rate changes depends on whether higher interest income is greater than higher funding costs and credit losses.

The main research question of this paper is: how do interest rate changes affect bank profitability according to existing financial literature? This review is significant because bank profitability is closely related to credit supply, financial stability and the effectiveness of monetary policy. By comparing previous studies, this paper provides a clearer understanding of why interest rate changes may have different effects across banks and economic conditions. It also helps explain why higher interest rates are not always beneficial for banks, and why low interest rates are not always harmful. Therefore, this review contributes to the literature by synthesising the main channels through which interest rate movements affect bank profitability, including net interest margins, funding costs, credit risk and bank-specific characteristics.

2. Theoretical Background

The relationship between interest rates and bank profitability can be explained through several key financial concepts. The first concept is net interest margin. Net interest margin refers to the difference between interest income earned from loans and securities and interest expenses paid on deposits and other funding sources. It is usually measured as net interest income divided by earning assets. For traditional banks, net interest margin is one of the most important sources of profit because lending and deposit-taking remain core business activities.

The second concept is interest rate risk. Interest rate risk refers to the possibility that changes in market interest rates will affect a bank's earnings or economic value. Banks face this risk because their assets and liabilities often have different maturities and repricing speeds. For example, a bank may issue long-term fixed-rate loans but fund them with short-term deposits. If short-term interest rates rise quickly, the bank's funding costs may increase faster than its asset income. This can reduce profitability. However, if a bank holds more variable-rate loans or can reprice loans faster than deposits, higher rates may increase profitability.

The third concept is the yield curve. The yield curve shows the relationship between short-term and long-term interest rates. A steep yield curve means long-term interest rates are higher than short-term rates. This can support bank profitability because banks often borrow at short-term rates and lend at longer-term rates. In contrast, a flat or inverted yield curve may reduce profitability because the spread between lending rates and funding costs becomes smaller. Therefore, bank profitability depends not only on the level of interest rates, but also on the shape of the yield curve.

The fourth concept is monetary policy transmission. Central banks change policy rates to influence inflation, economic growth and financial conditions. These policy changes affect market interest rates, bank lending rates, deposit rates, asset prices and credit demand. Banks are important in this process because they transmit monetary policy to households and firms through loan and deposit pricing. However, the pass-through from

policy rates to bank rates may be incomplete or delayed. Deposit rates may be sticky, and banks may adjust lending rates differently depending on competition, customer relationships and market conditions.

The fifth concept is credit risk. Higher interest rates may improve banks' interest income, but they may also increase the debt burden of borrowers. When households and firms face higher repayment costs, default risk may rise. This can increase non-performing loans and loan-loss provisions. Therefore, the impact of interest rate increases on profitability can be positive through wider margins but negative through higher credit losses. Overall, interest rate changes affect bank profitability through multiple channels, including net interest income, funding costs, loan demand, securities valuation, credit risk and non-interest income.

3. Literature Review

3.1 Early Theoretical and Empirical Studies

Early studies on interest rates and bank profitability mainly focused on how rising rates affect the value of bank assets and liabilities. Samuelson [3] argues that an increase in interest rates can reduce the present value of existing fixed-income assets. This is important for banks because many bank assets, such as loans and bonds, have interest-sensitive values. If interest rates increase, the market value of fixed-rate assets may decline. However, the effect on bank profits also depends on how liabilities respond.

Flannery [4] provides an empirical investigation of market interest rates and commercial bank profitability. The study suggests that banks' exposure to interest rate changes depends strongly on the maturity and repricing structure of their balance sheets. If liabilities reprice faster than assets, rising interest rates can reduce profits. If assets reprice faster than liabilities, rising rates can improve profits. This finding remains important because it shows that interest rate effects are not the same for all banks.

Hancock [5] also examines bank profitability, interest rates and monetary policy. The study highlights that interest rate changes influence bank profits through both income and cost channels. Monetary policy can therefore affect bank profitability by changing the level of short-term rates and the structure of market rates. These early studies provide the foundation for later research on net interest margins, asset-liability management and bank risk management.

3.2 Net Interest Margin and Interest Rate Risk

English [6] focuses on interest rate risk and bank net interest margins. The study explains that changes in market interest rates can affect bank margins because banks' assets and liabilities do not always reprice at the same speed. This is important because the net interest margin is a key part of bank profitability. When loan rates and deposit rates adjust at different speeds, banks may experience changes in earnings even if the total volume of lending remains stable.

Demirgüç-Kunt and Huizinga [7] provide broad international evidence on the determinants of commercial bank interest margins and profitability. Using bank-level data from many countries, they find that differences in margins and profitability are explained by bank characteristics, macroeconomic conditions, taxation, regulation and institutional factors. This means that interest rates cannot be studied in isolation. The effect of rate changes depends on the wider financial system and institutional environment.

Albertazzi and Gambacorta [8] examine bank profitability and the business cycle. Their study analyses net interest income, non-interest income, operating costs, provisions and profit before taxes. This is useful because it shows that bank profitability is affected by both financial variables and macroeconomic conditions. Interest rate changes may improve income margins, but economic downturns can raise provisions and reduce overall profit. Therefore, a full analysis of bank profitability should consider both interest income and credit-loss channels.

3.3 Low Interest Rates and Margin Compression

A large part of the recent literature focuses on low interest rates. After the global financial crisis, many advanced economies kept interest rates at historically low levels. This environment raised concerns that bank profitability would be weakened because loan rates declined while deposit rates could not fall much further.

This problem is especially serious when retail deposit rates are close to zero because banks may be unwilling or unable to charge negative deposit rates to ordinary customers.

Claessens et al. [2] provide strong cross-country evidence on the effect of low-for-long interest rates. Their study finds that low interest rates reduce net interest margins and that the effect becomes stronger when rates are already very low. This supports the argument that low rates compress bank margins because of the lower bound on deposit rates. When banks cannot reduce deposit costs further, a decline in loan yields directly reduces the spread between interest income and interest expense.

Borio et al. [1] also examine the influence of monetary policy on bank profitability. Their findings suggest that the level of short-term interest rates and the slope of the yield curve are positively related to bank profitability. This means banks often benefit from higher interest rates and steeper yield curves, especially through net interest income. More recent evidence is provided by Windsor [9], who examines the impact of interest rates on bank profitability using cross-country bank-level data. This study further supports the view that interest rate levels are closely connected to bank earnings, but it also shows that the effect can vary across banks depending on their funding structure, balance sheet composition and ability to reprice assets and liabilities. Therefore, while higher rates may improve profitability through wider margins, the final impact still depends on bank-specific characteristics and broader economic conditions.

Altavilla et al. [10] study monetary policy and bank profitability in a low interest rate environment in the euro area. They argue that monetary policy easing is not necessarily associated with lower bank profits once macroeconomic conditions are considered. Their study is important because it shows that low rates may reduce margins but can also support economic activity, reduce defaults and improve some parts of bank performance. Therefore, the overall effect of low rates depends on the balance between margin compression and macroeconomic support.

3.4 Rising Interest Rates and Credit Risk

While low rates can compress margins, rising rates also create risks. Higher interest rates may increase interest income, but they also raise debt servicing costs for borrowers. This is especially important for variable-rate loans. When households and firms face higher repayment burdens, credit risk may rise. Banks may then need to increase loan-loss provisions, which reduces profit.

This point is closely connected to the findings of Albertazzi and Gambacorta [8], who show that bank profitability is affected by macroeconomic and financial shocks. If interest rate increases slow economic growth or weaken borrower balance sheets, the positive effect of higher margins may be partly offset by higher credit losses. Therefore, the effect of higher rates may be positive in the early stage but weaker over time if credit quality deteriorates.

Bolt et al. [11] also show that bank profitability is weaker during recessions. This is relevant because aggressive interest rate increases may increase the probability of slower growth or recession. In such an environment, banks may earn higher margins but also face weaker loan demand and higher defaults. The final result depends on the strength of the economy and the financial condition of borrowers.

3.5 Bank Characteristics and Heterogeneity

Although the literature generally agrees that interest rates affect bank profitability, the effect is not identical across all banks. One important reason is that banks differ in their balance sheet structure, funding model and market position. Banks with a higher share of variable-rate loans may benefit more quickly from rising interest rates because their asset returns adjust faster. By contrast, banks with more long-term fixed-rate assets may face pressure when funding costs increase before asset income can be repriced. This suggests that the same interest rate increase may improve profitability for some banks but reduce profitability for others.

Another important difference is the structure of bank funding. Banks with a strong retail deposit base may be less sensitive to rising market rates because deposit rates often adjust slowly. This provides such banks more room to widen their net interest margins when loan rates increase. In contrast, banks that rely heavily on wholesale funding may experience faster increases in funding costs. Therefore, the benefit of higher lending rates may be partly or fully offset by higher liability costs.

Market power also helps explain the different effects across banks. Banks with stronger customer relationships or stronger deposit market power may have a greater ability to keep deposit costs relatively low. This can make rising interest rates more profitable for them. However, banks operating in highly competitive markets may be forced to increase deposit rates more quickly to retain customers. As a result, competition can reduce the positive effect of rising rates on profitability.

Bank capital and income diversification are also relevant. Better-capitalised banks may be more resilient because they can continue lending during monetary tightening and absorb potential losses more easily. Banks with more non-interest income, such as fees, trading income or wealth management income, may also be less dependent on net interest margins. This means that interest rate sensitivity is likely to be stronger for traditional lending-focused banks than for more diversified banks.

Overall, the literature suggests that bank heterogeneity is central to understanding the interest rate-profitability relationship. Interest rate changes should not be viewed as a single external shock with the same impact on all banks. Instead, the effect depends on how each bank manages maturity mismatch, deposit pricing, credit risk and income diversification. This also explains why empirical studies sometimes reach different conclusions: they may examine banks with different business models, market structures and macroeconomic environments.

3.6 Summary of Literature Gaps

Although existing studies provide strong evidence that interest rates affect bank profitability, several gaps remain. First, many influential studies focus on advanced economies, while less attention is given to emerging markets. Emerging market banks may face different funding structures, inflation pressures, regulatory systems and borrower risks. Second, the effect of interest rate changes may have changed after financial innovation, digital banking and stricter regulation. Banks now have more tools to manage interest rate risk, but they also face stronger competition from non-bank financial institutions and fintech firms.

Third, more research is needed on how banks respond to long periods of very low rates. Some banks may increase fee income, reduce costs or expand wealth management, while others may take more credit risk to protect profitability. Fourth, recent rapid rate increases after the COVID-19 period provide a new environment for research. Future studies should examine whether higher rates improve bank profitability in the short run but increase credit losses in the medium run.

4. Discussion and Synthesis

The literature shows that interest rate changes affect bank profitability through several channels. The most direct channel is the net interest margin channel. When interest rates rise, banks may earn more interest income from loans and securities. If deposit rates adjust slowly, net interest margins can widen and profitability can improve. This finding is consistent with Borio et al. [1], who show that higher short-term rates and steeper yield curves support bank profitability.

However, the relationship is not always positive. Rising interest rates can also increase funding costs. If banks depend heavily on short-term wholesale funding, their funding costs may rise quickly. If loan rates do not adjust at the same speed, profitability may fall. This is why the repricing structure of assets and liabilities is so important. Flannery [4] and English [6] both show that the maturity and repricing mismatch between assets and liabilities can shape the final effect of interest rate changes.

Low interest rates create a different problem. They may reduce funding costs and support loan demand, but they often compress net interest margins. Claessens et al. [2] show that low interest rates have a stronger negative effect when rates are already close to zero. This is because banks cannot easily reduce deposit rates further, especially for retail customers. As a result, loan yields fall while deposit costs become sticky. This reduces the spread between interest income and interest expense.

At the same time, low rates are not always negative for bank profitability. Altavilla et al. [10] argue that monetary easing may support bank profitability through better macroeconomic conditions. Lower rates can support economic growth, reduce borrower stress and lower loan-loss provisions. This implies that improved credit quality and increased lending volume may partially counteract the negative margin effect. Therefore,

the effect of low rates depends on whether the margin compression effect is stronger than the macroeconomic support effect.

Credit risk is another important channel. Higher rates can increase the debt servicing burden of households and firms, especially when borrowers use variable-rate loans. If borrowers face higher repayment pressure, default risk and loan-loss provisions may increase. Albertazzi and Gambacorta [19] show that bank profitability is closely linked to macroeconomic and financial conditions, including provisions and business-cycle effects. Bolt et al. [11] also find that bank profitability weakens during recessions. These studies suggest that the benefit of higher margins may be reduced if monetary tightening leads to weaker economic conditions or higher credit losses.

Bank characteristics further explain why the literature does not produce one simple conclusion. Banks with strong deposit market power may benefit more from rising rates because their deposit costs are relatively sticky. Drechsler et al. [14] suggest that deposit market power can change banks' exposure to interest rate risk. In contrast, banks that depend heavily on wholesale funding may face faster increases in funding costs. Similarly, better-capitalised banks may respond differently to monetary policy changes because they have stronger balance sheets and greater lending capacity, as suggested by Gambacorta and Shin [15].

The time horizon also matters. In the short run, interest rate changes may create temporary gains or losses because assets and liabilities do not reprice immediately. In the longer run, banks can adjust loan pricing, funding structure, hedging strategies and business models. This helps explain why some studies identify positive effects from higher interest rates, while others highlight risks from funding costs and credit losses. Overall, the literature suggests that interest rate changes have a conditional effect on bank profitability. Moderate increases in rates may improve profitability by widening margins, while very low rates may reduce profitability through margin compression. However, sharp increases in rates may weaken profitability if they reduce loan demand and increase credit risk.

5. Conclusion

This paper reviewed existing literature on the impact of interest rate changes on bank profitability. The review shows that interest rates influence bank profitability mainly through net interest margins, funding costs, loan demand, credit risk and the yield curve. Higher interest rates can improve bank profitability when banks are able to reprice assets faster than liabilities and when deposit rates adjust slowly. A steeper yield curve can also support profitability because banks often engage in maturity transformation.

However, the relationship is not simple. Higher interest rates may also reduce loan demand and increase borrower default risk. If higher credit losses are larger than the increase in net interest income, bank profitability may decline. Low interest rates can support economic activity and reduce borrower stress, but they can also compress net interest margins, especially when deposit rates cannot fall further.

The main contribution of this review is to show that the impact of interest rate changes on bank profitability is conditional. It depends on bank size, balance sheet structure, funding model, deposit market power, competition, risk management and macroeconomic conditions. Therefore, interest rate changes do not affect all banks in the same way. Future research should focus more on recent periods of rapid interest rate increases after long periods of low rates. More evidence is also needed from emerging markets, digital banks and banks with different business models. Understanding these issues is important because bank profitability is closely connected to credit supply, financial stability and economic growth.

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Conflicts of Interest

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