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Republicans versus Democrats:

A banking performance review

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Abstract

Is there a difference in attitude towards banking regulation of the two main political parties in the United States? This paper aims to find the answer to this question by using both a descriptive- and empirical approach. The dependent variables, representing banking performance, are the return on assets and the return on equity. Whether certain political variables, like the party of the President and the majority party in Congress, and banking regulation variables significantly influence both the return on assets and the return on equity of banks is tested. Using panel data from 30 of the biggest commercial banks in the United States from 1988 till 2019, the analyses are performed. Both a fixed effects- and a random effects model are used for respectively the return on assets and return on equity as dependent variables. Analyses are performed to account for heteroskedasticity and serial correlation and to test for potential lagged effects. The results indicate that the Democratic Party has a positive attitude towards banking regulation. Because banking regulation negatively affects banking performance in the short run, more political influence for the Democratic Party is negatively related to banking performance. These findings resulted from both the descriptive- and empirical approach.

Contents

1. Introduction

On January 20th, 2021 Joseph R. Biden Jr. was inaugurated as the 46th president of the United States. It was the result of one of the most intense presidential elections ever. Joe Biden touted a record-breaking 74 million votes while his opponent Donald Trump won more than 70 million votes. The Trump campaign spread allegations of fraud in voting and ballot counting (Steinhauser & Singman, 2020). On January 6, the United States Congress convened to certify the win of Joe Biden while thousands of Trump supporters gathered on the Mall which ultimately led to the raid of the capitol (Tan et al., 2021). The events showed the importance of the presidential elections and the influence it has on an extreme amount of people. This is illustrated by multiple studies that found that presidential elections have significant effects on stock prices (Obradovic & Tomic, 2017; Lin, 2021; Huber & Kirchler, 2013). In that regard, not only the presidential elections but also the elections of Congress are important. Without support in both the Senate and the House of Representatives, the ability to enact key policies by the president is limited. However, due to the Democrats flipping 3 Senate votes and the tie-breaking vote of vice-president Kamala Harris, the Democratic party has a majority in both the Senate and the House (Voce et al., 2020). The democratic majority in both chambers leads to expect a productive working relationship permitting Congress wide scope of action (Lee, 2010). The ability to enact key policies by the Democratic party due to their majority in Congress could heavily impact people, companies, and (financial) institutions. This raises the question, to what extent do these key policies affect banking performance? And is there a difference in attitude towards those policies by the different parties in the United States?

ABN AMRO Bank predicts, before the Dutch elections on March 17, that the banking landscape will remain supportive because all election programs reflect openness for elevated budget deficits to increase economic growth. Dutch bank bonds are not pricing-in election worries and this is not expected to change in the period to come (Kinmonth, 2021). However, this does not necessarily mean that banks are not influenced in different ways by different potential coalitions formed after the election. This uncertainty appears to be even higher in the United States, Baker et al. (2020) examined patterns in economic policy uncertainty around national elections. Worldwide, the economic policy uncertainty is on average 13% higher in the month before the election than in other months. In the United States, however, the economic policy uncertainty is 28% higher in the month before the election. A measure for this uncertainty will be incorporated in the model used for this research which emphasizes the differences in attitude towards banking regulation between the Democratic Party and the Republican Party.

The banking sector is one of the most regulated industries in the United States especially due to its role in taking deposits, allocating credit, and operating the payment systems. The dual banking system means that banks in the United States can be chartered by both one of the states and on the federal level (Sahni et al., 2021). After the financial crisis, banking regulators in the United States

implemented more stringent and equivalent rules established by International groups like the Basel Committee. The Trump Administration curtailed the trend towards equivalent rules and generally reduced the regulatory requirements. The Biden Administration with a Democratic majority in Congress is expected to shift the regulatory priorities shortly (Sahni et al., 2021). However, regulation is not always a burden for banks and might even have a positive impact on the business activity of banks (Abildgren, 2019).

This paper aims to build upon research examining the effects of banking regulation on the performance of banks in the United States by adding, to the best of my knowledge, a novel perspective focusing on the differences between the Democratic- and Republican party. Besides measuring the impact on banking performance, this paper aims to find whether the different parties have a different attitude towards banking regulation. Furthermore, this paper aims to examine the impact of a majority in Congress for the party of the sitting president. These goals led to the following research question which can be broken into two separate questions:

How does banking regulation affect the performance of banks?

Is there a different attitude towards banking regulation by different parties in the United States?

The strategy for achieving the goals mentioned above is to use a panel data set consisting of data from banks in the United States over time, the political situation in the United States in the same period, and data on banking regulation like capital requirements. Furthermore, differences attitude towards banking regulation of different parties will be established by checking the policies implemented by the different parties. By performing a Hausman test, the choice between a fixed-effects model and a random-effects model will be made. The models can disregard cross-bank differences with different intercepts and considers time-fixed effects (Studenmund, 2016). The party of the sitting president and whether that party has a majority in Congress will be added into the model with dummy variables. Furthermore, the model will include known indicators of banking performance and variables regarding banking regulation which will be further elaborated on in section 2.

This research adds theoretical relevance to the existing literature by adding a novel perspective to research in the realm of banking performance. The differences in attitude towards banking regulation, and the effect this has on banking performance, between the Democratic- and the Republican party has, to the best of my knowledge, not been implemented in earlier research. The economic relevance can be found in potential preparations ex-ante of Presidential- or Congress elections. Section 2 will elaborate on different research in the realm of banking performance, banking regulation, and political indicators. Section 3 will state the research design and methodology. Section 4 will state the results and test the hypotheses. Finally, the paper will conclude and answer the research question.

2. Literature review

Many papers focus on the determinants of banking performance (Fahlenbrach & Stulz, 2011; Kusmana & Sumilir, 2019; Cull et al., 2017; Berger et al., 2000), banking regulation (Berger et al., 2005; Cornett et al., 2010; Barth et al., 2009; Peretz & Schroedel, 2009), and political indicators (Klein & Luu, 2003; Agarwal & Amromin, 2018; Banks, 2017; Baker et al., 2020).

This section will review existing literature in the realm of banking performance, banking regulation, and political indicators. After the review of the literature, the hypotheses that will be tested are stated and explained

2.1 Banking performance

Two main questions arise when investigating research related to bank performance. The first question is what bank performance is and how to measure it, the second question is what determinants influence banking performance. Both papers solely focussing on measuring banking performance and papers focusing on the determinants of banking performance will be reviewed. Papers focussing on the determinants of banking performance will simultaneously contribute to measuring banking performance because those papers use, like this research, banking performance as a dependent variable.

Davis et al. (1993) developed a measure for banking performance because banks do not publish accounts in the same way as other companies. They created a banking performance measure accounting for capital intensity, inflation, and size. Capital intensity is incorporated by adding the capital base multiplied by the cost of capital. They adjust for inflation via reserve changes which often carry capital appreciations. Finally, multiple measures of size are used like the operating costs which are related to the scale of banks' activities. After incorporating their measure, using a sample of European banks, they found that the results are not always very different from those of the return on equity. The measure is useful but simultaneously confirms the return on equity as a good measure for banking performance.

A report of the European Central Bank (2010) regarding measuring banking performance builds upon the return on equity measure. It states that a measure of banking performance should incorporate more aspects of performance than profitability alone. It should incorporate the quality of assets, the risk associated with producing value, funding capacity, and forward-looking measures. To create this measure, data availability and comparability is necessary. This calls for enhanced disclosure towards the supervisors and the public and improved market discipline.

The performance of banks is influenced by several factors, furthermore, the performance of banks can also be used as an indicator for other relationships. Fahlenbrach and Stulz (2011) investigate whether bank performance during the credit crisis of 2008 was related to CEO incentives before the crisis. With their sample of 95 investment banks and commercial banks in the United States, they did not find evidence that banks with better alignment of the CEO interest and the shareholder interest had

higher stock returns during the crisis. They rather found some evidence that those banks had worse stock returns. They measure bank performance by stock price-related performance and market value-related performance. Furthermore, they included a Tobin's Q measure for robustness checks. Kusmana and Sumilir (2019) measure bank performance by return on assets which is in line with the method of Fahlenbrach and Stulz (2011). They examined the effect of the loan to deposit ratio, the non-performing loans, and operational costs against operating income on banking performance after which they conclude that both the first- and the third measure has a significant influence on the performance of banks.

Cull et al. (2017) aimed to find the effect of bank ownership structure on the performance of banks. They find that, in high-income countries, domestic banks outperform foreign banks. This relationship particularly exists in the United States (DeYoung & Nolle, 1996; Chang et al., 1999; Hasan & Hunter, 1996). They review, among other literature, the literature in the realm of state ownership of banks. They find that government-owned banks underperform comparing with privately-owned banks (Micco et al, 2007; Williams & Nguyen, 2005; Berger et al., 2005). Furthermore, government ownership is negatively associated with banking sector efficiency (Barth et al., 2001; La Porta et al., 2002).

Jaouad and Lahsen (2018) aimed to find determinants of Moroccan bank performance measured with return on equity and return on assets. With their fixed effects model, they find that bank size is positively related to bank performance and the cost-to-income ratio is negatively related. Other determinants positively affecting bank performance, based on a pooled time-series approach, are concentration and liquidity (Bourke, 1989; Molyneux & Thornton, 1992). Using data from 584 commercial banks in the 15 European countries over the period 1995 till 2001, Pasiouras and Kosmidou (2007) focused on bank-specific characteristics, macroeconomic conditions, and financial market structure. With their fixed effects analysis, they found that bank-specific characteristics size, the efficiency of management, and capital adequacy had a significant influence on bank performance. Furthermore, both their macroeconomic factors (inflation and GDP growth) and market structure factor (concentration) had a significant influence on bank performance. Data in these areas will be used in the model for this research as well.

2.2 Banking regulation

This section will elaborate on different types of banking regulation and the regulation implemented within the scope of this research. Barth et al. (2009) provide an overview of banking regulation in the United States. This overview will be used to provide an overview of banking regulation within the scope of this research and determine the potential differences in attitude in banking regulation between the Republican Party and the Democratic Party. Therefore, the section will emphasize the parties that opposed or proposed certain bills. The conclusion of whether there is a difference in attitude

towards banking regulation between the two parties will be displayed in section 4.1. Furthermore, the section reviews the literature on how to incorporate a measure of banking regulation in a model.

2.2.1 Different types of banking regulation

Regulation can focus on different factors within a sector or company. In his paper, Tchana (2014) studied the effects of different types of banking regulation within his Indonesian sample. He distinguished four types of banking regulation: entry restrictions, reserve requirements, deposit insurance, and capital adequacy requirements. Mishkin et al. (2013) had a broader scope focussing on financial regulation. They distinguished eight different types of financial regulation: the government safety net, restrictions on asset holdings, capital requirements, licensing and examination, prompt corrective action, assessment of risk management, disclosure requirements, and consumer protections. The deposit insurance, to protect against bank failure, is an example of the government safety net, implemented to protect customers. The government safety net, however, can lead to too much risk-taking. Therefore, to avoid this moral hazard problem, restrictions on asset holdings or capital requirements can be implemented. With financial supervision, using licensing and examination, the amount of capital can be tested. When the amount of capital falls to lower levels, prompt corrective action can take place. Furthermore, the supervision also performs assessments of risk management which became more important in recent years. Disclosure requirements support stockholders, creditors, and depositors to monitor the financial institutions, this simultaneously acts as a deterrent to excessive risk-taking. The final type of financial regulation is consumer protection. An example of this type of regulation is the Consumer Credit Directive of 1987 which stated that all lenders should provide information about the cost of borrowing, and the total finance charge of loans to the consumers. Other examples are the right of withdrawal within 14 days of a credit contract and the right to early repayment of a debt contract.

2.2.2 Regulation during the Savings and Loans crisis.

For historical context, we broaden our scope to the 1980s and the savings and loans crisis that occurred in that period. Two major revisions of the financial system were implemented in the 1980s. The first is the Depository Institutions Deregulation and Monetary Control Act of 1980, signed by Democratic President Jimmy Carter, which indicated two areas of concern. The act was a reaction to the high level of inflation and purposed tighter control over the money supply. All deposit-accepting institutions had to meet reserve requirements rather than only the commercial banks that were members of the Federal Reserve System. This part of the act could be classified as tightening regulation, however, the second part of the act could be classified as deregulation. The maximum interest rate that banks could pay on deposits was regulated by the federal government. In 1980, the market rate was twice as high as the regulated rate. The act phased out those restrictions on interest rates, this both improved customers to save more and improved the ability of banks to compete for funds. Furthermore, the act

increased powers of savings and loans associations which had unintended consequences (Robinson, 2013).

The Garn-St Germain Depository Institutions Act of 1982, initiated by the Republican Reagan Administration also had unintended consequences leading to the savings and loans crisis. While the act was initiated by a Republican administration, the act had broad support in the House of Representatives which had a Democratic majority. The act authorized banks and thrifts to make commercial loans and removed their interest rate ceilings (Cornett & Tehranian, 1990). The loosening of regulation for savings and loans associations led to them engaging in high-risk activities to cover losses because their deposits were insured by the Federal Savings and Loan Insurance Corporation. This act was part of a broader deregulation agenda of the Reagan administration and ultimately led to the failure of hundreds of financial institutions in the savings and loans crisis (Barth et al., 2009).

The Republican George H.W. Bush administration proposed a package to save the savings and loans industry in 1989 and further regulated the industry. The Congress, with a democratic majority, passed the Financial Institutions Reform, Recovery, and Enforcement Act of 1989. The act was a response to the savings and loans crisis and introduced new regulation for savings and loan institutions and real estate appraisal professionals. It created the Resolutions Trust Corporation to resolve the status of the failed savings and loans associations and the Office of Thrift Supervision to supervise the savings institutions (Kagan, 2020). Furthermore, the Federal Deposit Insurance Corporation Improvement Act of 1991 was passed to put more emphasis on risk-based supervision.

2.2.3 The Riegle-Neil Act and the Gramm-Leach-Bliley Act

In the post-crisis period, in which Democrat Bill Clinton was the president, two major acts were implemented. The time was characterized by economic prosperity and deregulation in the financial industry. The first act was the Riegle Neil Interstate Banking and Branching Efficiency Act of 1994 which contained significant structural changes (DeYoung et al, 2004; Barth et al., 2000). The act allowed bank holding companies to acquire banks nationwide and were later free to create a nationwide branching network, branches were allowed across state lines. The Act dismantled geographic restrictions on banking and resulted in a big increase in bank mergers. With the bank mergers, banks could increase geographic risk diversifications because they could operate in multiple states (Schuermann, 2004). The second act was the Gramm-Leach-Bliley Financial Services Modernization Act of 1999, this widened the range of activities in which banks and bank holding companies could engage. Bank holding companies could offer banking and securities services as was the case before the Great Depression (Barth et al., 2009). Both acts passed Congress with a Republican majority.

2.2.4 The Sarbanes-Oxley Act of 2002

In 2001, Republican George W. Bush was inaugurated as president of the United States. President Bush advocated an Ownership society, this society is characterized by smaller government,

owning of property, and economic liberty (Tucker, 2005). He continued the deregulation policies of his successor, however, the Sarbanes-Oxley act of 2002 was an exception. The act was a response to corporate scandals like the one at Enron and required auditors to be more independent, increased responsibilities of the board of directors, and required the Securities and Exchange Commission to create regulation for public corporations to comply with the law (U.S. Securities and Exchange Commission, 2020).

2.2.5 Regulation for government-sponsored enterprises

In 2003, Bush attempted to create an agency to oversee two government-sponsored enterprises (GSEs): The Federal National Mortgage Association (Fannie Mae) and The Federal Home Loan Mortgage Corporation (Freddie Mac). The bill was opposed by the Democrats and did not pass Congress. The Democrats defended Fannie Mae and Freddie Mac and their efforts for affordable homeownership. However, looking back, Democratic representative Artur Davis stated that he and his Democratic colleagues were too slow in seeing the recklessness of Fannie Mae and Freddie Mac. They should have heeded the concerns raised by their regulators and they should admit they were wrong (Marone, 2008). In 2005, the House was controlled by Republicans which passed the Federal Housing Finance Reform Act. The act was a reform bill for the GSEs and created a supervisory authority for the GSEs. However, the bill was opposed by the Bush administration because it failed to include key elements and was not strong enough (Bush, 2005). In 2008, in times of economic downturn, the Bush administration's policy changed. A bill passed the Senate putting Fannie Mae and Freddie Mac under conservatorship. Overall, deregulation during the Bush administration prevailed and the unregulated shadow banking system consisting of, for example, investment banks and money market mutual funds had grown to compete with the regulated banking system. During the Bush presidency, the leverage ratio of investment banks grew significantly which was later classified as one of the main reasons for the crisis by several economists (Kalemli-Ozcan et al., 2012).

2.2.6 The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 resulted from one of the main priorities of Democratic President Barack Obama to reform Wall Street. The act is described as the most ambitious and far-reaching overhaul of financial regulation since the 1930s. The act altered the structure of the financial sector by assigning new responsibilities to agencies and creating new agencies. Furthermore, the act aimed to end the too-big-to-fail problem and reformed the regulatory regime such that it was more effective in monitoring the shadow banking sector. The act had congressional support from the Democrats, however, three Republicans voted for the bill which prevented the Senate filibuster (Acharya et al., 2011). Obama had a majority in Congress in his first years as president which resulted in a productive Congress in terms of passed legislation, however, the

Democrats lost their super-majority in 2011 and the Republicans managed to prevent further legislation proposed by the Obama administration.

2.2.7 The Financial CHOICE Act

The Financial CHOICE Act passed by the Republican majority in the house in 2017 was a rollback of the Dodd-Frank Act. It was an initiative of Republican President Donald Trump whose economic policy was characterised by, among other things, deregulation of the financial sector. A less aggressive variant of the act passed the Senate with a Republican majority as well. The act undid many provisions of the Dodd-Frank act. Republicans stated that the Dodd-Frank Act, and the regulation resulting from it, had a negative influence on the economy. The Democrats on the other hand were opposed to the act because it disregarded protections to prevent another crisis implemented in the Dodd-Frank act.

2.2.8 Measuring the effect of banking regulation

Another important question is how to incorporate a measure of banking regulation into the model. Coglianese (2012) wrote a paper on how to measure regulatory performance. She concluded that to know whether regulation works, governments need reliable indicators to measure the outcomes with sophisticated statistical models. Unfortunately, policies have been recommended often without serious evaluation in support. To measure the effects of banking regulation, it is important to distinguish between regulations. In their paper, Barth et al. (2013) created a database on banking regulation based on four surveys conducted by the World Bank. The questions concerned a wide array of banking regulations. It contained, among other things, questions regarding entry into commercial banking, capital requirements, allowable activities, and deposit protection schemes. Unfortunately, the variables were not quantifiable which is why the database is used as a supporting database rather than the main database. Ramady (2009) aimed to analyse the effectiveness of the Saudi Arabian Monetary Agency's regulatory policies. He used a descriptive and comparative approach for highlighting the agency's policies and approach. He concludes that the regulatory policies of the Saudi Arabian Monetary Agency have withstood several crises. The descriptive approach used to conclude on the approach of the agency will be used in this research as well based on the information presented in this section.

2.3 Political uncertainty and political incentives

This research emphasizes political indicators in the realm of banking performance. This section will discuss several political indicators used in research in the realm of politics related to economics. Baker et al. (2020) aimed to find patterns in economic policy uncertainty around national elections. Performing the analysis, Baker et al. (2020) used economic policy uncertainty. The measure was derived from several academic sources such as newspaper articles. They found that the economic policy uncertainty in the US is 28% higher in the month before the election. Economic policy uncertainty has increased from the 1990s forward. Among other factors due to the increasing political polarization and

the increasing divergence between the two parties. Even though it is unlikely that this has a long-lasting effect on bank performance, it could influence the reserves bank hold. In times of high political and economic uncertainty banks could be inclined to hold more reserves, this could in turn influence the banking performance. Furthermore, the economic policy uncertainty could say something about the difference in attitude towards regulation between parties. When a party wins the election, and economic policy uncertainty is high, the attitude towards the economic policy is either unknown or expected to have major effects on the economic environment. This makes the measure of economic policy uncertainty potentially relevant for answering the research question and testing the hypothesis. Furthermore, Coibion et al. (2020) focus on the economic expectations of the public before an election with their survey-based research. Both expectations about the outcome of the elections and economic expectations differ substantially between party lines. Republicans (Democrats), for example, expect a recession when their Republican (Democratic) candidate loses the elections.

Peretz and Schroedel (2009) take a different approach by focusing on economic- and political history. They find an interaction between the working of the financial sector, how the political system is organized, and the administration of regulation. This makes perfect regulation extremely unlikely. They find that wrong political incentive can have a negative influence on the economic environment. The primary incentive of politicians is to get elected, both voters and politicians know almost nothing about financial regulation (Schroedel, 1986). Politicians will focus more on the public perception of their measures rather than what is economically the best measure. Politicians will take half steps at the beginning of a financial crisis and only take the necessary steps when public panic is sufficient to support the measures. These findings could have an indirect effect on the effect of banking regulation on banking performance. Furthermore, it should be considered when researching the attitude towards regulation of the different parties. In case implemented policies did not reach the intended goal or appeared to be half steps at the beginning of a crisis, the attitude and reasoning towards the regulation could be due to wrong political incentives. Finally, Lee (2010) focuses on the role of the Senate in United States politics. He states that the Senate's internal deliberate processes threaten to create difficulties. He proposes changes in Senate procedures because of the effects on the institution's internal power structure and the current potential implication for the balance of power between legislative and executive government branches. Current trends might result in the Senate becoming a review/reactive body of the government rather than an independent policymaker.

2.4 Hypotheses

This chapter will state the hypotheses which will be tested in the paper. Testing the hypotheses supports answering the earlier formulated research question. The first four hypotheses regard the attitude towards regulation by the different parties and the effect this has on banking performance. The fifth hypothesis regards the effect of bank regulation in general on banking performance. The

hypotheses will therefore be related to the political variables which will be elaborated on in the third section. The information about political standpoints is obtained from the official website of both parties.

The Democratic Party is a liberal, left-leaning party where the Republican Party is a conservative, right-leaning party. The economic ideas of both parties differ substantially, the Democratic Party favours a progressive taxation system and favour more government regulation. The Republican Party, on the other hand, is opposed to raising taxes for anyone and is opposed to government regulation because it hinders the free market. Regulation of the financial services market (except in economic crises) is not necessarily beneficial for banks (Dunaev, 2021; Chaudhury & Mullineux, 2015). In that regard, the Democratic Party's ideas regarding more government regulation and increased taxes could potentially harm the performance of banks. This leads to the following hypothesis:

H1: A higher degree of Democratic influence in the political landscape has a negative effect on the performance of banks.

The limited knowledge about financial regulation for politicians (Schroedel, 1986) and the wrong incentives resulting in moral hazard (Peretz & Schroedel, 2009) have a potential negative influence on the performance of banks. Furthermore, the increasing polarization in politics (Baker et al., 2020) and the distrust in the opposing party (Coibion et al., 2020) show negative tendencies. The increasing differences between the parties mean that 'meeting in the middle' becomes harder, however, combining the best ideas of both parties by compromising should have a positive effect. This leads to the following hypothesis:

H2: A majority in Congress for the party of the sitting president has a negative effect on the performance of banks independent of the party.

Peretz and Schroedel (2009) stated that the primary political incentive is to get elected. This can be for their sake, or as a means of changing policy (Mayhew, 1975). However, the urge to change policies is dependent on personal beliefs that you can do better. The disadvantages of this potential overconfidence outweigh the advantages (Malmendier & Tate, 2015). A change in power can occur in different ways. First, three political bodies are distinguished: The President, the House of Representatives, and the Senate. A change in power occurs when a party controlling all three bodies loses its majority in one of them. Another potential change in power is when a party holding two out of three bodies loses control over at least one of them which shifts the political upper hand to the other party. The final change of power is when a party obtains full control of all three bodies of government. This leads to the following hypothesis:

H3: A change of power has a negative influence on the performance of banks.

The fourth hypothesis relates to the economic policy uncertainty and is linked to the third hypothesis. A change in power could result in uncertainty which explains the expected negative effect for both variables. Baker et al. (2020) used the indicator in their research and the aim here is to measure whether the uncertainty beforehand did affect banking performance. Economic policy uncertainty limits the possibilities to prepare for potentially implemented policies. However, the actual effect on bank performance will not be measurable right away. The effects of the uncertainty, and the inability to properly anticipate, are potentially lagged. This leads to the following hypothesis:

H4: The economic policy uncertainty has a 1-year lagged negative on the performance of banks.

The final hypothesis regards the effect of banking regulation in general on banking performance. Barth et al. (1997) found that banks in the United States, compared to banks in other countries, do not face high regulatory constraints because of the wide array of activities the banks engage in. This may enhance performance but does at least not adversely affect it. Shen and Chang (2006) conclude that restrictions on commercial banks' rights to engage in insurance and securities and restrictions on mixing banking and commerce negatively affect banking performance. This leads to the following, and final, hypothesis:

H5: A higher degree of banking regulation negatively affects banking performance

3. Methodology

This section contains a description of the sample and data sources. Furthermore, both the independent and dependent variables used in the model will be individually discussed. Finally, the methodology used for the research will be reviewed.

3.1 Data sources and sample description

A data sample of the 30 out of the 50 biggest commercial banks in the United States ranked by consolidated assets by the Federal Reserve of America is used. Some of the biggest banks are not included due to the unavailability of data. Data from 1988 till 2019 will be used, during this period, both parties won the presidential elections four times. Furthermore, the period does not include the potential outliers in data due to the savings and loan crisis and the COVID-19 pandemic, only the financial crisis of 2008 is factored in the data. The data set containing data from multiple entities over time is a panel data set. Panel data helps to avoid omitted variable bias which could potentially bias cross-sectional data studies (Studenmund, 2016). The data will undergo a robustness check by analysing the model in the period from 1988 till 2004 in which both parties won the presidential elections at least twice.

Bank-specific data will be obtained from the Eikon database, some missing data was obtained via the financial reports of the respective companies. Macroeconomic indicators are retrieved from the OECD database. Variables on banking regulation are retrieved from Worldbank, the database developed by Barth et al (2013), and the Federal Reserve Bank. Finally, political variables such as the seats in the Senate and the House of Representatives are retrieved from the respective official databases. The economic policy uncertainty index is retrieved from policyuncertainty.com (Baker et al., 2016).

3.2 Description of the variables

Both the dependent variables and the dependent variables are discussed in this section. All variables are measured from 1988 till 2019 and all variables vary over time and most per entity as well. The dependent variables are related to bank performance and the independent variables are related to macroeconomic factors, bank-specific factors, and politics.

3.2.1 Dependent variables

The dependent variables are chosen to measure banking performance. Two dependent variables will be separately included in the regression analyses. The two dependent variables are the return on assets (RoA) ratio and the return on equity (RoE) ratio. The return on assets is the net income in a year divided by the total assets. The return on assets can be seen as a measure of how efficiently a bank can manage its assets. The return on equity is a performance measure of shareholder value. The measure shows the return on a shareholder's investment. The return on equity is derived by dividing net income by total equity.

3.2.2 Independent variables

The independent variables used in the model can be distinguished between macroeconomic variables, bank-specific variables, and political variables. The macroeconomic variables and the bank-specific variables are included to avoid missing variable bias. The political variables are used to test the hypotheses and answer the research question. The macroeconomic variables are inflation and gross domestic product. The influence of inflation on bank performance depends on whether it was anticipated or unanticipated (Perry, 1992). When banks anticipate inflation, interest rates can be adjusted in time leading to a higher increase in revenues than in costs. However, unanticipated inflation can result in banks changing the interest rates too slow resulting in a higher increase in costs than in revenues. The gross domestic product is used as a measure of total activity. Economic growth is expected to be related to the performance of the financial sector. This results in a positive relationship expectation (Pasiouras & Kosmidou, 2007).

The bank-specific variables are the loan-to-deposit rate and the efficiency ratio. The loan-to-deposit ratio is a measure of the bank's liquidity by dividing the total loans by total deposits. A high loan-to-deposit ratio means that the bank has potentially not enough liquidity to cover unforeseen costs (Kusmana & Sumilir, 2019). The other bank-specific variable is the efficiency ratio which is used to measure efficiency in expenses management. The measure shows the costs of running the bank in relation to the income of the bank and it is expected to have a negative influence on banking performance (Pasiouras & Kosmidou, 2007).

Two indicators are used to measure banking regulation and are related to capital requirements. The first variable is the capital adequacy ratio. This is the required bank capital in relation to the total assets. The final variable related is the minimum required common equity tier 1 in relation to the risk-weighted assets.

The political indicators are related to the political landscape in the United States at a certain moment in time. Three variables are numerical measures, the other variables are measured as dummy variables. The first political independent variable is the economic policy uncertainty. The measure was derived from three components in the United States by Baker et al. (2016). The first component is newspaper coverage of the economic policy. The second component is the amount of tax code provisions that are expiring in future years. The third component uses a proxy of disagreement among economic forecasters. More disagreement between forecasters for situations regarding the to be implemented policies shows more uncertainty. As mentioned earlier, the measure is incorporated into the model because of the potential influence on reserves banks hold and the potential usefulness in determining the attitude towards regulation. Furthermore, the variable can confirm a significant influence of banking regulation on banking performance. Two other numerical components are the

number of seats for a party in the House of Representatives and the number of seats in the Senate. The number of seats can be used as a proxy for the amount of power a certain party holds.

Furthermore, political variables measured as dummy variables are used. The first variable represents the party of the sitting president, then, two variables are used to measure whether a party has a majority in the House of Representatives and the Senate. Also, dummy variables whether the sitting president has a majority in Congress and which party has full control of the political spectrum are added. The final independent variable measured as a dummy variable is the change in power. This measure was elaborated on in the paragraph of the third hypothesis. A change in power can occur after an election, not only after presidential elections but also after elections for the Senate and the House of Representatives.

3.2.2 Data summarization

Table 1 displays a summary of the data used in this paper. Using data of 30 banks from 1988 till 2019 should give 960 data points per variable. However, as displayed in the table, the first four variables have a maximum of 20 missing values due to the unavailability of data. The missing value will be excluded from the analyses. Most missing data occur in the early years of the analysis. Furthermore, the final six variables are dummy variables which values range from 0 to 1. The maximum value of the variable loan-to-deposit ratio appears to be an outlier. After studying the data four data points appear to be outliers. All analyses conducted in section 4 are performed both including and excluding the potential outliers. No significant differences were found which is why the data points are included in the analyses.

Table 1

Descriptive statistics

Variables	(1) Observations	(2) Mean	(3) Standard deviation	(4) Minimum	(5) Maximum
Return on assets	940	0.0123682	0.0371233	-0.0584	0.82
Return on equity	940	0.1247069	0.0970903	-0.7265	1.1604
Loan-to-deposit	940	0.906311	0.906311	0.06	15.99
Efficiency ratio	949	0.6388159	0.1052924	0.344	1.614
Inflation	960	0.0257406	0.0118966	-0.0036	0.054
GDP	960	0.0255938	0.0151093	-0.0254	0.0475
Capital adequacy ratio	960	0.0827344	0.0099535	0.0725	0.105
Required tier 1 capital	960	0.0435156	0.0076742	0.03625	0.06
Economic policy uncertainty	960	107.8509	26.53551	71.32869	172.2467
Seats HoR Dem	960	221.0938	26.88448	188	267
Seats Senate Dem	960	50.78125	4.589972	45	59
President Dem	960	0.5	0.5002606	0	1
Majority Senate Dem	960	0.53125	0.4992826	0	1
Majority HoR Dem	960	0.375	0.4843753	0	1
Pres Majority Congress	960	0.4375	0.4963369	0	1
Majority Congress Dem Pres	960	0.1875	0.3905158	0	1
Change in power	960	0.34375	0.4752064	0	1
Banks	30				

Notes:

The table displays the number of observations, mean, standard deviation, minimum value and maximum value of each variable used in this paper. Only the number of observations of the variable Banks is displayed because this is not a numeric variable.

3.3 Methodology

To answer the two different parts of the research question and test the hypotheses, two methodologies were developed. The first methodology was developed to determine the attitude towards regulation by the different parties. The methodology used by Ramady (2009) is used, a descriptive approach to determine the attitude towards banking regulation between the different parties. Banking policies implemented within the scope of this study are elaborated on in section 2.2 and the intended effect or attitude towards the regulation will be determined by the literature review in section 4.1. This descriptive approach and literature review will determine whether the different parties have different attitudes towards regulation.

The second methodology, inspired by Pasiouras and Kosmidou (2006), was developed to answer the other part of the research questions and to test the hypotheses. The panel data set used contains data that varies both over time and per entity. When using panel data, two models are potentially applicable, the random effects model and the fixed effects model. The fixed effects model uses a different intercept for each cross-sectional unit. The random effects model, on the other hand, uses a mean intercept for all cross-sectional intercepts. Which model best suits the data is tested with the Hausman test, this test tests the hypothesis that the preferred model is the random-effects model. If the value of the Hausman test is lower than the critical value of 5%, the fixed effects model suits the model best (Studenmund, 2016). Table 5 (see Appendix A) displays the value of the Hausman test together with the results of the random effects model for both return on equity and return on assets as dependent variables. The value of the Hausman test for the return on assets model is lower than the critical value of 5%, which means the null hypothesis, which states that the random effects model is the preferred model, can be rejected. For the return on equity model, however, the Hausman test value is higher than the critical value of 5%. This means the random effects model would be the preferred model (Bell et al., 2019).

Therefore, both the fixed effects model and the random effects model, for respectively the return on assets- and return on equity model, will be used in this paper. “The major advantage of the fixed effects model is that it avoids bias due to omitted variables that don’t change over time or that change over time equally for all entities. What we’re in essence doing is allowing each entity’s intercept and each time period’s intercept to vary around the omitted condition baseline (when all the fixed effect dummies equal zero)” (Studenmund, 2016, p. 477). A disadvantage of the fixed effects model is the loss of degrees of freedom for each dummy variable. Therefore, it is important whether, besides entity fixed effects, time fixed effects are necessary. Table 6 (see appendix B) displays the fixed effects model including time fixed effects. The testparm value tests the null hypothesis that time fixed effects are

necessary. The value in table 6 is higher than the critical value of 5% which means the null hypothesis can be rejected, no additional time fixed effects are needed in the model. This leads to the following equation for the fixed effects model with the return on assets as the dependent variable:

$$RoA_{it} = \beta_0 + \beta_1 LD_{it} + \beta_2 EF_{it} + \beta_3 I_{jt} + \beta_4 T1_{jt} + \beta_5 G_{jt} + \beta_6 C_{jt} + \beta_7 PU_{jt} + \beta_8 HR_{jt} + \beta_9 SN_{jt} + \beta_{10} P_{jt} + \beta_{11} MC_{jt} + \beta_{12} MD_{jt} + \beta_{13} CP_{jt} + a_{it} + \varepsilon_{it}$$

The equation, inspired by Pasiouras and Kosmidou (2007), states all 13 independent variables used in the model. The intercept (β_0) is followed by two independent variables, the loan-to-deposit ratio and the efficiency ratio respectively, which represent observations of individual banks (i) in a particular year (t). The independent variables that follow represent external factors of a bank, and are not bank-specific, subscript "j" represents the country. These independent variables respectively represent inflation, GDP, capital adequacy ratio, required tier 1 capital, economic policy uncertainty, seats House of Representatives Democrats, seats Senate Democrats, President Democrats, President majority Congress, majority Congress Democrat President, and change in power. Finally, a_{it} represents the entity fixed effects and ε_{it} represents the error term of the equation. Because the return on equity model is tested using a random effects model, the equation is different from the return on assets model:

$$RoE_{it} = \beta_0 + \beta_1 LD_{it} + \beta_2 EF_{it} + \beta_3 I_{jt} + \beta_4 T1_{jt} + \beta_5 G_{jt} + \beta_6 C_{jt} + \beta_7 PU_{jt} + \beta_8 HR_{jt} + \beta_9 SN_{jt} + \beta_{10} P_{jt} + \beta_{11} MC_{jt} + \beta_{12} MD_{jt} + \beta_{13} CP_{jt} + U_j + W_{ij} + \varepsilon_{it}$$

The return on equity equation, inspired by Chen and Wang (2015), is almost the same as the return on assets equation. The same variables with the same subscripts are used. However, the entity fixed effects are replaced by U_j which represents the country variables random effects and W_{ij} which represents the bank-specific random effects. Both equations will be tested in section 4.

3.4 Correlation of variables

To test the quality of the data, multiple tests are performed. Robustness checks are performed by rerunning the regression with a limited number of years and with averages of the variables, to test whether the results are the same with a smaller part of the data. The quality of data is confirmed when this is the case. The robustness checks are performed in section 4.2.2**.** Other tests are performed to check whether the classical assumptions are not violated, this could result in spurious results. These tests are performed in this section.

3.4.1 Multicollinearity

Multicollinearity occurs when the explanatory variables are related to each other. Whether the relationship between the explanatory variables is significantly influencing the calculations of the coefficients is tested by the variance inflation factor. Table 7 (see appendix C) shows the calculation of the variance inflation factor. In the first column, all variables formulated in section 3.2 are used. A variance inflation factor higher than 5 means the multicollinearity is severe (Studenmund, 2016).

Column 1 shows 9 variables with severe multicollinearity. To resolve this issue, variables could be dropped because their effect is already incorporated in other variables. The effect of variables majority House of Representatives Democrats and majority Senate Democrats is already incorporated by the variables representing their seats in the respective chambers. Furthermore, the variable majority Congress Democratic President is significantly related to the variable majority Congress President and the variable required tier 1 capital is significantly related to required capital adequacy ratio. Therefore, those four variables can be dropped out of the equation. Column 2 shows that, after dropping the variables, there is no severe multicollinearity which could potentially cause spurious results.

3.4.2 Heteroskedasticity

The second potential way the classical assumptions can be violated is heteroskedasticity. Heteroskedasticity can occur when there is a specification error which can result in a specification bias. Heteroskedasticity can also result in biased standard errors, which can lead to unreliable testing of the hypotheses (Studenmund, 2016). Whether heteroskedasticity occurs can be tested with the Breusch-Pagan test. Table 2 displays the results of the Breusch-Pagan test. The Breusch-Pagan test tests the null hypothesis that there is a constant variance among the residuals. Because the p-value for both models is lower than the critical value of 5%, the null hypothesis can be rejected. This means heteroskedasticity is present in the data. To account for heteroskedasticity in the data, robust standard errors can be used. The more accurate robust standard errors account for potential bias in standard errors due to heteroskedasticity. The model including robust (Newey-West) standard errors will be displayed in section 4.2.4.

Table 2

Breusch-Pagan test for return on assets- and return on equity model

	(1)	(2)
Breusch-Pagan test	Return on assets	Return on equity
Chi-Square test	87.17	8446.32
P-value	0.0000	0.0000

Notes:

The table displays the Chi-Square test statistic and the p-value of the Breusch-Pagan test for both the return on assets- and return on equity model.

3.4.3 Stationarity

Stationarity occurs when the mean and variance do not change over time. When a variable is nonstationary, it can result in incorrect specifications of the R-squared and t-scores in turn resulting in incorrect model specifications. The Im-Pesaran-Shin unit root test can be used to test for nonstationarity. A variable with a unit root follows a random walk and is nonstationary. The Im-Pesaran-Shin unit root

test tests the null hypothesis that all panels contain unit roots. When the p-value is higher than the critical value of 5%, the null hypothesis can be rejected. Table 8 (see appendix D) displays the results of the Im-Pesaran-Shin unit root test and shows that only the variable capital adequacy ratio follows a unit root and is nonstationary.

When there is no cointegration between the variables, the nonstationarity could result in a spurious regression. However, when the variables are cointegrated, the original equation can be used because the nonstationarity does not result in spurious results. Both the Kao cointegration test and the Pedroni cointegration test are used to test for cointegration. Both test the null hypothesis of no cointegration. Tables 9 and 10 (see appendix D) display the results of the tests for both the return on assets- and return on equity model. The p-values of all tests are lower than the critical value of 5%, which means the null hypothesis of no cointegration can be rejected. Therefore, the variable capital adequacy ratio following a unit root does not result in a spurious regression and the original equation can be used.

3.4.4 Serial correlation

The final potential violation of the classical assumptions is serial correlation, which occurs when values of the error term are correlated with each other. Serial correlation can, as stationarity, lead to bias of standard errors and t-scores. Whether serial correlation occurs in the data set is tested with the Lagrange Multiplier test formulated as the Wooldridge test (Drukker, 2003). It tests the null hypothesis of no serial correlation. Table 3 shows the value of the Wooldridge test, because the results for both models are lower than the critical value of 5%, the null hypothesis can be rejected concluding that serial correlation is present in the data set. To account for potential bias due to serial correlation, Newey-West standard errors can be used which will be reviewed in section 4.2.4.

Table 3

Wooldridge test for return on assets- and return on equity model

	(1)	(2)
Wooldridge test	Return on assets	Return on equity
F (1,29)	42.806	5.560
Prob > F	0.0000	0.0253

Notes:
The table shows the result of the Wooldridge test for both the return on assets- and return on equity model.
When the result is lower than the critical value of 5%, the null hypothesis of no first-order serial correlation can be rejected.

4. Results

This section contains two parts resulting from the two different methodologies described in the third section. First, the descriptive approach will be used to determine the different attitudes towards banking regulation. The second part will contain reviews of regression analyses to test the hypothesis and answer the other part of the research question.

4.1 Attitude towards banking regulation.

The Democratic Party is a liberal, left-leaning party where the Republican Party is a conservative, right-leaning party. The economic ideas of both parties differ substantially, also in the realm of banking regulation. The overview of banking regulation implemented by the different parties in section 2.2 is used to determine whether there is a difference in attitude towards banking regulation by the different parties in this section by concluding in the same chronological order. The key takeaway from the events occurring in the 1980s is that the interests of the Republicans and Democrats appear to be better aligned in times of crisis. Furthermore, no president had a majority in Congress in this period which makes it harder to distinguish the differences between the parties

4.1.1 Democratic attitude towards banking regulation

The Democrats support a Keynesian economic theory which states that spending is a way out of recession. Their economic policies focus on benefiting low-income and middle-income families (Amadeo, 2021). The Democratic Party is in general an advocate of more stringent regulation and banking reform. During the Bill Clinton administration, however, the deregulation implemented opposed that standpoint. However, especially the Gramm-Leach-Bliley act (named after three Republicans) has the Democratic party torn. The act repealed the Glass-Steagall act of 1933 and some argue that this led to the financial crisis of 2008. Democrats have put effort into restoring Glass-Steagall. Former President Barack Obama stated that the act allowed the creation of a ‘giant financial supermarket’ which owns several types of banks. These events show that the criticism for deregulation occurs more often in the Democratic part of the United States (Carroll, 2015).

The presidency of Barack Obama showed the attitude towards regulation by the Democratic party. The Democratic Party promoted further regulation, Halcoussis et al. (2009) found that the stock market crash of October 2008 was partly driven by the prospect of Obama winning the election. His proposed policies were expected to have a negative impact on the profit of large firms and banks. In their model, an increased probability of a Democratic victory was negatively related to stock prices.

Furthermore, the heavy opposition by the Democrats towards the Financial CHOICE Act which repealed the Dodd-Frank Act further displayed a positive Democratic attitude towards banking regulation. Overall, the events within the scope of this research show a positive view towards banking

regulation from the Democratic party. Whether this has a significant influence on banking performance will be empirically tested in section 4.2.

4.1.2 Republican attitude towards banking regulation

The Republicans, on the other hand, advocate supply-side economics benefiting businesses and investors. Tax cuts for businesses allow them to hire more workers leading to a decrease in unemployment and economic growth. Furthermore, Republicans advocate less government interference and therefore less regulation (Amadeo, 2021).

The events occurring during the Bush presidency can overall be characterized by deregulation. The Republican majority in Congress in his first years showed the agenda of the Republicans. However, the aim to regulate the GSEs does not necessarily fit in that agenda. During the Trump administration, Republicans proposed Fannie Mae and Freddie Mac to be private companies again (Merle, 2019). Especially the unregulated shadow banking industry divides the Republicans and Democrats. Were the latter more often propose tighter regulation for the industry (Zarroli, 2016). The Donald Trump administration and the Republican super-majority showed the Republican emphasis on deregulation on the financial sector. The Dodd-Frank Act and the Financial CHOICE Act were opposed by the Republican Party and the Democratic Party respectively. This showed the different attitudes towards banking regulation between the two parties.

Overall, Republicans are often opposed to regulation. The party urges to repeal Dodd-Frank due to its excessive regulation and burdensome requirements. Republicans find that many regulations enforced by, for example, the Consumer Financial Protection Bureau burden banks rather than protecting customers. Whether the deregulation agenda of the Republican Party has a significant influence on banking performance will be discussed in section 4.2.

4.2 Determinants of banking performance

This section contains a review of the regressions conducted by the presented model. The return on equity and the return on assets are separately used as dependent variables. First, the standard models formulated in section 3.3 will be reviewed. However, because of the potential bias due to heteroskedasticity and serial correlation the Newey-West standard error method will be used as well. Furthermore, whether an independent variable has a lagged effect on a dependent variable will be tested. Finally, robustness checks will be performed to test the quality of data.

4.2.1 Return on asset and return on equity model.

Table 4 displayed the results of the return on assets model in column 1 and the results of the return on equity model in column 2. First, the coefficient is shown after which the standard error is displayed in parentheses. Furthermore, the R-squared and F-value can confirm the goodness of fit of the model. The R-squared shows the percentage of the variation of the dependent variable that can be

explained by the model. The R-squared of the return on assets model and the return on equity model are respectively 50.74% and 36.89%. Because the aim is to measure the effect due to differences in attitude, not a direct physical process, the displayed R-squared confirms the goodness of fit (Frost, 2020). Because the F-value is lower than the critical value of 5%, the null hypothesis, which states that the slope coefficients in the equation are equal to zero, can be rejected.

Table 4

Return on assets- and return on equity model

Variables	(1) Return on assets	(2) Return on equity
Loan-to-deposit	0.00672***	0.000492
	(0.00148)	(0.00270)
Efficiency ratio	-0.0383***	-0.398***
	(0.0135)	(0.0244)
Inflation	-0.0838	0.182
	(0.150)	(0.285)
GDP	0.145*	1.032***
	(0.105)	(0.198)
Capital adequacy ratio	-0.140	-1.015***
	(0.181)	(0.344)
Economic policy uncertainty	2.71e-06	-0.000571***
	(6.74e-05)	(0.000128)
Seats HoR Dem	1.09e-05	0.000122
	(7.44e-05)	(0.000141)
Seats Senate Dem	-0.000161	-0.00166*
	(0.000552)	(0.00105)
President dem	-0.00305	-0.00649
	(0.00306)	(0.00581)
Pres Majority Congress	0.00281	-0.00462
	(0.00251)	(0.00475)
Change in power	-0.00247	0.00414
	(0.00285)	(0.00540)
Constant	0.0474	0.552***
	(0.0303)	(0.0573)
Observations	935	935
Number of Banks	30	30
Prob>F	0.0001	0.0000
R-squared	0.5074	0.3689

Notes:

Standard errors in parentheses

*** significant at 1%, ** significant at 5%, * significant at 10%
The table shows the results of the fixed effects model with the return on assets as dependent variable in the first column, the random effects model with return on equity as dependent variable is displayed in the second column.

The asterisks represent the level of significance for each variable. In the return on asset model, the variable loan-to-deposit has a significant positive effect on the return on assets and the variable efficiency ratio has a significant negative effect on the return on assets. The return on equity model states a significant positive effect of the variable GDP on the return on equity. Furthermore, the model states a significant negative effect of the variables efficiency ratio, capital adequacy ratio, and seats Senate Democrats on the return on equity. These first results indicate a potential negative effect of both banking regulation and Democratic influence on banking regulation. However, due to the existing heteroskedasticity and serial correlation, the results in table 4 might be spurious. Different types of models will be displayed in the sections to follow.

4.2.2 Robustness checks

Two robustness checks are performed in this section to test the quality of the data. The first robustness check is based on a fraction of the data, data from 1988 till 2004. Table 11 (see appendix E) displays the results of the robustness checks for both the return on assets model and the return on equity model. The significant negative influence of the efficiency ratio and the economic policy uncertainty is confirmed by the model. Furthermore, the significant variables in table 11 show the same sign, either positive or negative, in table 4 except for the significant effect of the capital adequacy ratio. This will be further tested in the following analyses. However, the robustness check in table 11 confirms the quality of the data because the results from the analyses are similar.

The other robustness check is based on the averages of data. A time series analysis with the average return on assets, return on equity, loan-to-deposit ratio, and efficiency ratio of the 30 banks is performed. Table 12 (see appendix E) shows the results of the time series analysis for both the return on assets- and return on equity model. The models confirm the significant negative influence of the efficiency ratio for both models. The model also confirms the significant negative influence of the capital adequacy ratio and the seats in the Senate for Democrats for the return on equity model. Furthermore, the significant variables in table 12 show the same sign, either positive or negative, in table 4 except for the effect of the economic policy uncertainty, however, this positive effect in the time series analysis is not significant. The robustness check using averages in table 12 confirms the quality of data due to the similar results of both models.

4.2.3 Lagged independent variables

Independent variables can have a lagged effect on dependent variables. Table 13 (see appendix F) shows the fixed effects model and the random effects model for respectively the return on assets and return on equity as the dependent variables. For each independent variable, three different lagged

variables are used to test whether there is a significant 1-year, 2-year, or 3-year lagged effect on the dependent variable.

The variables president majority Congress and change in power are omitted because of collinearity. Lagged variants of, for example, seats Senate Democrats account for these variables. The return on assets shows a significant lagged effect of the loan-to-deposit ratio. The loan-to-deposit ratio has a significant positive 1-year- and 2-year lagged effect on the return on assets. However, the 3-year lagged effect is negative, the risk-taking appears to pay off in the short run but results in negative effects in the long run. The return on equity model shows more significant lagged effects. The capital adequacy ratio, for example, has a significant negative 1-year- and 2-year lagged effect on the return on equity. The 3-year lagged effect of the capital adequacy ratio is positive. Therefore, more regulation has a negative effect on the performance of banks in the short run due to less investment and less risk-taking. However, in the long run, the regulation has a positive effect. Furthermore, the economic policy uncertainty has a significant negative lagged effect on the return on equity. Uncertainty itself does not appear to directly influence the return on equity, however, when this uncertainty leads to unexpected regulation it has a negative influence on the return on equity.

The 1-year lagged effect of the political variables seats Senate Democrats and President Democrats have a significant negative effect on the return on equity. And seats House of Representatives has a significant positive 1-year lagged effect. Implementing policies and regulation is a complex process, former President Barack Obama said that his slogan 'Yes we can' should be changed to 'Yes we can… But it is not going to happen overnight' when asked about this on The Daily Show (Khan, 2010). This explains the lagged effect of the political variables. Longer lagged effects are disregarded because of the rapidly changing economic environment.

4.2.4 Remedies for heteroskedasticity and serial correlation

Both heteroskedasticity and serial correlation occur in the dataset. Because both heteroskedasticity and serial correlation could result in biased standard errors, this has to be accounted for. The generalized least squares method could get rid of serial correlation, but this potentially leads to biased betas. The Newey-West standard errors, however, do not cause bias to betas but only adjust the standard errors (Newey & West, 1994). The model using Newey-West standard errors is displayed in Table 14 (See appendix G).

The analysis shows that, after accounting for both heteroskedasticity and serial correlation, several variables have a significant influence on both the return on assets and the return on equity. The return on asset model shows a significant negative effect of both the efficiency ratio- and the President Democrat variable on the return on assets. According to the model, when the President of the United States is a Democrat the return on assets decreases by 0.00322 units. The return on equity model displays a significant positive effect of the variable GDP on the return on equity. When the GDP is

higher in the United States, the return on equity for banks in the United States is higher. Furthermore, the variables efficiency ratio, capital adequacy ratio, economic policy uncertainty, and seats Senate Democrats have a significant negative effect on the return on equity. The significant negative effect of the capital adequacy ratio shows a negative effect of banking regulation on the return on equity. Furthermore, the significant negative effect of the variable President Democrat on the return on assets and the significant negative effect of the variable seats Senate Democrats leans towards a negative effect of Democratic influence on banking performance.

5. Conclusion and discussion

This paper aimed to find whether there is a difference in attitude towards banking regulation between the Republican Party and the Democratic Party. Using a fixed effects model for a return on assets model and a random effect model for a return on equity model the influence of political variables and banking regulation variables is tested. This section will state the conclusion by answering the research question and concluding the test of the hypotheses. Furthermore, this section contains a discussion in which the weaknesses of the paper and recommendations for further research are stated.

The descriptive approach to find potential differences in attitude towards banking regulation between the two parties concluded that there is a difference in attitude. Overall, the events studied within the scope of this research show a positive view towards banking regulation from the Democratic Party, best illustrated by the Dodd-Frank Act. Furthermore, the heavy opposition towards the Financial CHOICE Act showed a positive attitude towards banking regulation. The findings of Halcoussis et al. (2009) which stated that an increased probability of a Democratic victory was negatively related to stock prices confirmed these findings. The Republicans are often opposed to regulation, they find that regulation burdens banks rather than protecting customers. The negative attitude towards banking regulation is best illustrated by their urge to repeal the Dodd-Frank Act and the deregulation agendas of the latest Republican Presidents.

The findings were empirically tested and showed some significant influences on banking performance. The seats in the Senate for the Democratic Party showed a significant negative influence on the return on equity and a Democratic President showed a significant negative influence on both the return on assets and return on equity of banks. While not every variable showed a significant effect, the results indicate a positive attitude towards banking regulation by the Democratic Party and a negative influence of Democratic influence on banking performance. Therefore, the first hypothesis as formulated in section 2.4 is accepted and the null hypothesis rejected. The variables which indicated a majority in Congress for the party of the sitting president and a change in power did not show any significant results, therefore not enough evidence is found to reject the second and third null-hypothesis hypothesis. The economic policy uncertainty index showed both a direct and a lagged negative effect on the return on equity. This indicates both that the fourth hypothesis can be accepted, and that banking regulation has a significant influence on the performance of banks. If banking regulation would not influence banking performance, uncertainty regarding this regulation would not influence the performance. The significant negative influence of the required capital adequacy ratio confirms a negative influence of banking regulation on banking performance. Therefore, the fifth hypothesis can be accepted.

The results indicate that banking regulation has a negative effect on banking performance, however, the significant positive 3-year lagged effect indicates a potentially positive effect in the long

run. More regulation which simultaneously leads to less risk-taking and more reserves has negative effects on banking performance in the short run and positive effects on banking performance in the long run. This answers the first research question. Furthermore, we conclude that there is a different attitude towards banking regulation between the different parties in the United States. The Democratic Party shows a positive attitude towards banking regulation and the Republican Party shows a negative attitude towards banking regulation. This conclusion answers the second research question.

One of the shortcomings of this paper is the lack of financial regulation data. It was too hard to classify a variable for policies implemented by different parties and simultaneously classifying whether these policies would have a positive- or negative effect on banking performance, and to what extent. on. For future research, mainly focussing on creating a variable like this could add to the existing literature. Furthermore, the descriptive approach used to indicate differences in attitude towards banking regulation could be more thorough but is outside the scope of this research. To improve the research regarding attitude, a behavioural finance approach could give different insights on differences in attitude. This could be a recommendation for further research regarding this topic.

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Appendices

Appendix A

Hausman test

Table 5

Random effects model including Hausman test

Variables	(1) Return on equity	(2) Return on assets
Loan-to-deposit	0.000940	0.00924***
	(0.00266)	(0.00132)
Efficiency ratio	-0.392***	-0.0287**
	(0.0241)	(0.0117)
Inflation	0.766**	-0.0775
	(0.302)	(0.162)
GDP	0.887***	0.164
	(0.210)	(0.113)
Capital adequacy ratio	2.568**	-0.331
	(1.135)	(0.610)
Required tier 1 capital	-2.974***	0.141
	(1.089)	(0.586)
Economic policy uncertainty	-0.000745***	4.08e-06
	(0.000134)	(7.19e-05)
Seats HoR Dem	0.00121***	-0.000115
	(0.000419)	(0.000225)
Seats Senate Dem	0.00248	0.000524
	(0.00213)	(0.00115)
President Dem	-0.0116	-0.008954
	(0.0152)	(0.00819)
Majority Senate Dem	0.00555	-0.00448
	(0.0133)	(0.00714)
Majority HoR Dem	-0.0806***	0.00128
	(0.0187)	(0.0100)
Pres Majority Congress	-0.0225	-0.00353
	(0.0161)	(0.00867)
Majority Congress Dem Pres	0.0260	0.0138
	(0.0353)	(0.0190)
Change in power	0.00765	-0.00304
	(0.00547)	(0.00294)
Constant	0.0959	0.0726
	(0.136)	(0.0730)
Hausman	0.0625	0.0073
Observations	935	935

Number of Bank	30	30

Notes:
Standard errors in parentheses
*** significant at 1%, ** significant at 5%, * significant at 10%
The table displays the results of a random effects model with respectively the return on equity and the return on assets as dependent variables. Furthermore, the table displays the value of the Hausman test for both models.

Appendix B

Test for time fixed effects

Table 6

Fixed effects model return on assets including time fixed effects

Variables	(1) Return on assets
Loan-to-deposit	0.00670***
	(0.00149)
Efficiency ratio	-0.0356***
	(0.0136)
Inflation	-0.318
	(1.002)
GDP	0.116
	(0.926)
Capital adequacy ratio	0.234
	(0.884)
Economic policy uncertainty	3.54e-05
	(0.000290)
Seats HoR Dem	0.000315
	(0.00189)
Seats Senate Dem	0.00116
	(0.00553)
President Dem	0.00987
	(0.0946)
Pres Majority Congress	0.0144
	(0.0909)
Change in power	0.00218
	(0.0154)
FE 1989	0.00502
	(0.0168)
FE 1990	0.00449
	(0.0316)
FE 1991	-0.00169
	(0.0445)
FE 1992	-0.0350
	(0.210)
FE 1993	-0.0306
	(0.192)
FE 1994	-0.0308
	(0.187)
FE 1995	0.0113
	(0.0421)
FE 1996	0.0141
	(0.0478)
FE 1997	0.0112
	(0.0505)
FE 1998	0.00805
	(0.0442)
FE 1999	0.0101
	(0.0505)
FE 2000	0.00761
	(0.0363)
FE 2001	0.0158
	(0.0633)

FE 2002	0.0139
	(0.0678)
FE 2003	0.00199
	(0.0225)
FE 2004	0.00494
	(0.0193)
FE 2005	0.0137
	(0.0458)
FE 2006	0.0404
	(0.0491)
FE 2007	0.00641
	(0.0360)
FE 2008	-0.0208
	(0.168)
FE 2009	-0.0483
	(0.215)
FE 2010	-0.0208
	(0.202)
Constant	-0.129
	(0.548)
Testparm value	0.4581
Observations	935
R-squared	0.066
Number of Banks	30

Notes:
Standard errors in parentheses
*** significant at 1%, ** significant at 5%, * significant at 10%
FE indicates time fixed effects.
2011-2019 not included due to perfect multicollinearity
The table shows the fixed effects model including time fixed effects for the
return on assets model. The Testparm value measures whether time fixed effects are needed in the model.

Appendix C

Multicollinearity test

Table 7

Multicollinearity test, variance inflation factor

Variables	(1) VIF	(2) VIF after removing variables
Loan-to-deposit	1.03	1.03
Efficiency ratio	1.04	1.04
Inflation	2.82	2.19
GDP	2.10	1.81
Capital adequacy ratio	26.50	2.35
Economic policy uncertainty	3.11	2.35
President Dem	17.67	1.69
Seats HoR Dem	40.47	2.79
Seats Senate Dem	19.78	4.62
Pres Majority Congress	22.27	1.12
Change in Power	1.51	1.33
Required Tier 1 capital	15.53	-
Majority Senate Dem	22.03	-
Majority HoR Dem	16.91	-
Majority Congress Dem Pres	54.60	-
Mean VIF	16.49	2.03

Notes:
The table shows the result of the multicollinearity test by stating the variance inflation factor.
In the first column, the VIF is shown using all variables. The second column displays the VIF after the removal of four variables.

Appendix D

Stationarity tests

Table 8

Im-Pesaran-Shin unit root tests

	(1)
Variables	Im-Pesaran-Shin
Return on assets	0.000
Return on equity	0.000
Loan-to-deposit	0.0001
Efficiency ratio	0.000
Inflation	0.000
GDP	0.000
Capital adequacy ratio	1.000
Economic policy uncertainty	0.0124
Seats HoR Dem	0.000
Seats Senate Dem	0.000
President Dem	0.0001
Pres Majority Congress	0.000
Change in power	0.000

Notes:
The table shows the result of the Im-Pesaran-Shin unit root test.
When the value is lower than the critical value of 5%, the null hypothesis that all panels contain unit roots can be rejected.

Table 9

Kao test for cointegration for real house price model

Tests	(1) Return on assets	(2) Return on equity
Modified Dickey-Fuller	0.000	0.000
Dickey-Fuller	0.000	0.000
Augmented Dickey-Fuller	0.000	0.000
Unadjusted modified Dickey-Fuller	0.000	0.000
Unadjusted Dickey-Fuller	0.000	0.000

Notes:
The table shows the result of the Kao test for cointegration for the real house price model.
When the value is lower than the critical value of 5%, the null hypothesis of no cointegration can be rejected.

Table 10

Pedroni test for cointegration for real house price model

Tests	(1) Return on assets	(2) Return on equity
Modified Phillips-Perron	0.0002	0.0000
Phillips-Perron	0.0000	0.0020
Augmented Dickey-Fuller	0.0000	0.0000

Notes:
The table shows the result of the Pedroni test for cointegration for the real house price model.
When the value is lower than the critical value of 5%, the null hypothesis of no cointegration can be rejected.

Appendix E

Robustness checks

Table 11

Return on assets- and return on equity model 1988-2004

Variables	(1) Return on assets	(2) Return on equity
Loan-to-deposit	0.000523	-0.00231
	(0.000835)	(0.00800)
Efficiency ratio	-0.0268***	-0.319***
	(0.00299)	(0.0318)
Inflation	-0.0137	0.218
	(0.0416)	(0.472)
GDP	0.0470	0.289
	(0.0298)	(0.339)
Capital adequacy ratio	0.380**	5.068***
	(0.168)	(1.908)
Economic policy uncertainty	-6.43e-05*	-0.000401
	(3.35e-05)	(0.000380)
Seats HoR Dem	-4.64e-06	0.000364
	(3.58e-05)	(0.000407)
Seats Senate Dem	0.000212	-0.000163
	(0.000167)	(0.00190)
President dem	-0.00155**	0.00517
	(0.000757)	(0.00860)
Pres Majority Congress	-0.000833	-0.00378
	(0.000745)	(0.00846)
Change in power	-0.00115*	0.00775
	(0.000652)	(0.00741)
Constant	-0.00499	-0.0936
	(0.0176)	(0.200)
Observations	486	486
R-squared	0.263	0.2903
Number of Bank	30	30

Notes:
Standard errors in parentheses
*** significant at 1%, ** significant at 5%, * significant at 10%
The table shows the result of the robustness checks using data from 1988 till 2004. Column 1 displays the results of the fixed effects model with the return on assets as dependent variable. Column 2 displays the results of the random effects model with the return on equity as dependent variables.

Table 12

Return on assets- and return on equity model using averages

Variables	(1) Return on assets	(2) Return on equity
Loan-to-deposit	0.00816	-0.156***
	(0.0145)	(0.0457)
Efficiency ratio	-0.173*	-1.012***
	(0.0883)	(0.279)
Inflation	-0.102	0.417
	(0.154)	(0.487)
GDP	0.0541	0.164
	(0.127)	(0.400)
Capital adequacy ratio	-0.168	-2.546***
	(0.233)	(0.735)
Economic policy uncertainty	3.64e-06	0.000217
	(9.73e-05)	(0.000307)
Seats HoR Dem	-2.24e-05	-9.97e-05
	(8.22e-05)	(0.000259)
Seats Senate Dem	0.000230	-0.00376*
	(0.000699)	(0.00221)
President dem	-0.00296	0.0140
	(0.00351)	(0.0111)
Pres Majority Congress	0.00284	0.00599
	(0.00272)	(0.00858)
Change in power	-0.00172	0.00507
	(0.00296)	(0.00935)
Constant	0.124*	1.285***
	(0.0730)	(0.230)
Observations	32	32
R-squared	0.391	0.862

Notes:
Standard errors in parentheses
*** significant at 1%, ** significant at 5%, * significant at 10%
The table displays the results of a time series regression using average data from all banks in the sample.
Column 1 represents the return on assets model and column 2 represents the return on equity model.

Appendix F

Lagged effect analysis

Table 13

Return on assets- and return on equity model including lagged variables

Variables	(1) Return on assets	(2) Return on equity
Loan-to-deposit	0.0112***	0.00530
	(0.00206)	(0.00387)
L.Loan-to-deposit	0.0147***	-0.00421
	(0.00260)	(0.00493)
L2.Loan-to-deposit	0.0304***	-0.000923
	(0.00260)	(0.00492)
L3.Loan-to-deposit	-0.0238***	-0.00119
	(0.00202)	(0.00380)
Efficiency ratio	-0.0318**	-0.422***
	(0.0151)	(0.0280)
L.Efficiency ratio	-0.0146	-0.0276
	(0.0157)	(0.0296)
L2.Efficiency ratio	0.00602	0.0455
	(0.0156)	(0.0294)
L3.Efficiency ratio	0.00264	0.103***
	(0.0145)	(0.0269)
Inflation	0.587	-10.63**
	(2.540)	(4.822)
L.Inflation	1.467	-10.88**
	(2.609)	(4.952)
L2.Inflation	1.447	-5.618*
	(1.540)	(2.922)
L3.Inflation	0.568	4.396*
	(1.172)	(2.224)
GDP	-0.299	-1.306
	(0.546)	(1.036)
L.GDP	-1.403	7.135**
	(1.517)	(2.879)
L2.GDP	-0.488	9.484**
	(2.530)	(4.803)
L3.GDP	-0.299	-1.542
	(0.537)	(1.020)

Capital adequacy ratio	1.649	-1.268
	(1.175)	(2.230)
L.Capital adequacy ratio	0.360	-14.96**
	(3.522)	(6.685)
L2.Capital adequacy ratio	0.0567	-8.163**
	(1.901)	(3.609)
L3.Capital adequacy ratio	-0.303	25.66**
	(6.465)	(12.27)
Economic policy uncertainty	-0.000407	0.00270
	(0.00105)	(0.00199)
L.Economic policy uncertainty	0.000597	-0.00376**
	(0.000963)	(0.00183)
L2.Economic policy uncertainty	6.70e-07	0.00457**
	(0.00100)	(0.00191)
L3.Economic policy uncertainty	0.000921	-0.00602**
	(0.00137)	(0.00261)
Seats HoR Dem	-0.00106	-0.00174
	(0.00103)	(0.00195)
L.Seats HoR Dem	0.000690	0.00595*
	(0.00176)	(0.00335)
L2.Seats HoR Dem	0.000796	-0.00170
	(0.000741)	(0.00141)
L3.Seats HoR Dem	8.18e-05	-0.00100
	(0.000766)	(0.00145)
Seats Senate Dem	-0.00343	0.0131
	(0.00422)	(0.00801)
L.Seats Senate Dem	-0.00422	-0.0110*
	(0.00352)	(0.00668)
L2.Seats Senate Dem	-0.00741*	0.0102
	(0.00408)	(0.00775)
L3.Seats Senate Dem	-0.00297	0.0484*
	(0.0142)	(0.0270)
President Dem	-0.00811	-0.0750**
	(0.0197)	(0.0374)
L.President Dem	0.0286	-0.170***
	(0.0302)	(0.0573)
L2.President Dem	0.0415	-0.197*
	(0.0548)	(0.104)
L3.President Dem	-0.0371*	0.0797*
	(0.0221)	(0.0420)

Constant	0.515	-2.486*
	(0.758)	(1.438)
Observations	849	849
R-squared	0.230	0.4847
Number of Bank	30	30

Notes:
Standard errors in parentheses
*** significant at 1%, ** significant at 5%, * significant at 10%
L. represents a 1-year lagged effect, L.2 represents a 2-year lagged effect, and L.3 represents a 2-year lagged effect. The return on assets model is displayed in column 1, the return on equity model is displayed in column 2.

Appendix G

Newey-West standard errors

Table 14

Return on assets- and return on equity model using Newey-West standard errors

Variables	(1) Return on assets	(2) Return on equity
Loan-to-deposit	0.00928	-0.000788
	(0.00883)	(0.00238)
Efficiency ratio	-0.0290***	-0.361***
	(0.00640)	(0.0480)
Inflation	-0.0984	0.165
	(0.128)	(0.325)
GDP	0.151	1.037***
	(0.146)	(0.248)
Capital adequacy ratio	-0.120	-1.037***
	(0.101)	(0.270)
Economic policy uncertainty	-1.06e-05	-0.000567***
	(4.50e-05)	(0.000126)
Seats HoR Dem	1.33e-05	0.000125
	(5.75e-05)	(0.000133)
Seats Senate Dem	-0.000148	-0.00185*
	(0.000423)	(0.000957)
President dem	-0.00322**	-0.00640
	(0.00143)	(0.00554)
Pres Majority Congress	0.00284	-0.00427
	(0.00276)	(0.00531)
Change in power	-0.00238	0.00409
	(0.00238)	(0.00528)
Constant	0.0380	0.540***
	(0.0457)	(0.0628)
Observations	935	935

Notes:
Standard errors in parentheses
*** significant at 1%, ** significant at 5%, * significant at 10%
The table displays the results of the return on assets model (column 1) and the return on equity model (column 2) using Newey-West standard errors to account for heteroskedasticity and serial correlation.