

The Change in the Impact of Stability Characteristics on the Performance of Banks

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Abstract

In this paper we examine whether and how the global financial crisis changed the impact of stability characteristics on the performance of US banks. We find that the impact of liquid assets became positive after the crisis and the impact of capital ratios remained positive after the crisis, with a substantial increase in its magnitude. Using difference-in-differences (DID) analysis, we find that banks that increased their capital ratios and liquid assets performed better after the crisis. We explain these findings using the “learning hypothesis”. The financial crisis emphasized the importance of stability characteristics and the influence of these parameters also remained significant after the crisis, enabling the banks to achieve higher profit margins and lower cost of debt. We also argue that the regulations that developed after the crisis encouraged banks to adopt these lessons from the crisis and modify their policies.

Key words: Global financial crisis, Liquid assets, Capital ratios, Funding stability, Non-performing loans, Risk-weighted assets.

JEL Classification: G21, G32, G33, G17

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1. Introduction

The global financial crisis in 2007-2009 was the most severe in recent decades since the crisis of 1929. It caused the bankruptcies of financial institutions and forced many governments to fund banks at the expense of taxpayers in order to stabilize and maintain the financial system. The crisis also led to a new wave of regulatory reforms. The Basel III Accord, the Walker Committee (2009) and the Dodd-Frank Committee (2010) imposed new liquidity rules, increased the amount and quality of capital adequacy, fixed some of the limitations of Basel II and put more emphasis on stability characteristics.

A widely held belief is that the crisis changed the importance of stability characteristics. In this paper, our goal is to examine whether and how the crisis changed the impact of stability characteristics on the performance of US banks (stock returns, ROA, ROE, Tobin's Q). To the best of our knowledge, this is the first study to conduct a systematic comparison between the impact of stability characteristics before and after the financial crisis.

Previous literature focuses mainly on the characteristics of banks that performed better during the crisis period. Some studies compare the crisis period with the pre-crisis period or with the beginning of the European debt crisis. According to the literature there are three groups of parameters related to a bank's stability characteristics: 1) *liquidity*, which includes the ratio of liquid assets to total assets and the level of stable funding, 2) *risk*, which includes the ratio of risk-weighted assets to total assets and the non-performing loans ratio (which indicates credit risk management), and 3) *capital ratios*, which include the ratio of capital to assets and Tier 1 capital ratios according to the Basel Accord.

In order to determine how the crisis changed the impact of these factors on the performance of banks, we collected data on a quarterly basis about public US banks with significant retail operations between 2004 and 2013. We divided these years into a pre-crisis period (Q1/2004 - Q4/2006), a crisis period (Q3/2007- Q4/2008) and a post-crisis period (Q1/2009- Q4/2011).

We chose to focus on American banks because the US is the leading financial center in the world and influences the global financial system. Moreover, the crisis began in the US, and the upheaval of American banks that culminated in the bankruptcy of Lehman Brothers intensified the crisis and made it global. In addition, regulations in the US before the crisis were relatively lenient in comparison to Europe, because of the belief that it is better to let the financial sector regulate itself as part of the open market.² Therefore it is interesting to investigate the changes in the impact of stability characteristics in the US banking sector after the crisis.

We analyzed the relationship between the initial levels of the stability characteristics and the performance of banks in each period, indicating their initial policies. Then we also assessed how the quarterly levels in the tested parameters affected the quarterly stock returns in the post-crisis period in comparison to the pre-crisis period.

We found that the relationship between a bank's safer policy with regard to higher initial funding stability or higher initial Tier 1 Basel capital ratios and its performance became positive after the crisis; the effect of initial levels of non- performing loans remained significant and negative after the crisis. We also found that the impact of stability characteristics on performance was positive during the post-crisis period - the

² "Free competitive markets are by far the unrivaled way to organize economies" - Greenspan, Alan (April 6, 2008). "A response to our critics". *Financial Times*.

impact of liquidity became positive after the crisis and the impact of the capital ratios remained positive, but increased substantially after the crisis.

To estimate the causality effects, we performed a difference-in-differences (DID) analysis. Based on Calluzzo and Dong (2015), the control group consists of banks located in Canada and to increase the sample we also added Israeli banks. The treatment group consists of US banks. The assumption of this DID analysis is that the financial crisis had a much stronger impact on US banks than on Canadian and Israeli banks. The banks in these countries were less affected by the financial crisis and remained relatively resilient. To strengthen the results, we also performed another DID analysis using Rampini, Viswanathan and Vuillemeys (2017) methodology. From these analyses we established a significant positive difference in the marginal effect of the capital ratios and liquid assets on the performance of US banks after the crisis. In other words, after the crisis US banks that improved their stability characteristics with regard to these factors performed better.

There are two contradictory hypotheses explaining the impact of past experiences on the behavior of executives and investors. According to the "learning hypothesis," past experiences affect their subsequent behavior and performance because recent experiences have a significant impact on decisions about taking financial risks (Malmendier & Nagel, 2011). If this hypothesis were correct, banks would modify their business models in the wake of the financial crisis. However past experiences (even many years ago) have a substantial impact on decisions. The cultural and political environment in which individuals grow up affects the formation of their preferences and beliefs (Guiso, Sapienza & Zingales, 2008).

We explain the findings using the learning hypothesis. Since the financial crisis emphasized the importance of stability characteristics, safer banks performed better

during the crisis and the influence of these parameters also remained significant after the crisis. The channels through which these factors improved performance after the financial crisis were that they managed to achieve lower cost of debt and higher profit margins. However, before the crisis investors had put less emphasis on the banks' stability characteristics and more on profitability. We also argue that the regulations that developed after the crisis such as the Basel Accords encouraged banks to adopt the lessons from the crisis and modify their policies. As a result, they began to maintain higher amounts and quality of capital and implement new liquidity measures.

Analyzing how the impact of stability characteristics changed over the years as we move away from the crisis, we found an increase in the positive impact of the capital to assets ratio and liquid assets. At the same time, risk appetite also increased over time, which is reflected in the increase in the marginal effect of the RWA to assets ratio and non-performing loans (at the end of the post-crisis period). We argue that the improvement in their other stability characteristics enabled the banks to take more risks to improve their performance without changing their "nature" and their level of risk-taking. The risk parameters and the funding stability were not regulated immediately after the crisis and accordingly we did not find a causal change in their impact on performance.

This paper proceeds as follows. In Section 2, we review the relevant literature and our hypotheses. In Section 3, we introduce the methodology and the data we use. In Section 4, we present the main descriptive statistics and the results. In Section 5, we detail the results of the analysis of what happens to the learning effect as we move

away from the crisis and how the size of the bank influences the learning effect. In Section 6, we discuss the results and provide our main conclusions.

2. Literature review

2.1. Liquidity

Short-term funding such as repurchase agreements (repos) is an inexpensive source of financing that increases a bank's profitability. However, it is also a more risky source of funding, because of the need to maintain available liquidity sources constantly. Customers' deposits are a more reliable and less volatile source of liquidity than short-term loans. Banks that relied on short-term funding before the financial crisis performed more poorly during the crisis (Bertratti & Stulz, 2012; Brealey, Cooper & Kaplanis, 2012 ;Brunnermeier, 2009; Diamond & Rajan, 2009; Gorton, 2010; Kato, Kobayashi & Saita, 2010). Demirgüç-Kunt and Huizinga (2010) show that the crisis exposed the dangers of relying on short-term funding from other institutions, given the increase in the US interbank interest rates during the crisis and the rise of counterparty risk. Therefore, during the financial crisis, the stability of the banks' funding sources and the riskiness of their credit had a negative effect on their investors. Das and Sy (2012) demonstrate that the impact of the level of liquid assets on performance during the crisis was also positive, because such assets allow banks to have available resources even in periods of shortages of liquidity.

Since banks that relied on short-term funding and less on liquid assets performed more poorly during the crisis, we assume that investors bankers their lesson about the importance of liquidity. Therefore, our first hypothesis is:

Hypothesis 1: we expect to find an increase in the importance of the relationship between liquidity and banks' performance after the crisis.

2.2. Risk

A useful measure of a bank's risk is the ratio of its risk-weighted assets (RWA) to its total assets. Risk-weighted assets are calculated by assigning a risk weight to each type of bank asset, depending on the level of its risk according to Basel guidelines, local supervisor guidelines or the independent models developed by the bank (the internal rating based (IRB) approach under Basel II).

We also investigated the relationship between non-performing loans and the banks' performance because this variable indicates how banks manage their main risk, credit risk. Based on Sharpe (1964), we expected to find a positive relationship between a bank's risk and its return. However, in crisis periods, that relationship becomes negative. Das and Sy (2012) demonstrate that during the financial crisis of 2008 and during the worsening of the European debt crisis (June 30 - September 30, 2011) banks with lower initial levels of risk-weighted assets performed better, given the investors' preference for holding safer stocks during tumultuous periods. However, in countries where banks calculate risk-weighted assets based on independent IRB models, this relationship is weaker. In those banks, investors consider other measures of the bank's stability such as non-performing loan rates and the stability of funding.

Given that the post-crisis period saw economic growth and the recovery of the banks, our second hypothesis is:

Hypothesis 2: we expect to find that the relationship between the ratio of a bank's RWA to its total assets and its performance will remain positive after the crisis.

Non-performing loans also play a role. Annaert et al. (2012) show that the banks did not price their pre-crisis credit risk correctly. However, during the crisis, investors preferred banks with fewer non-performing loans. Demirgüç-Kunt and Huizinga (2010) also demonstrate that the performance of the largest banks during the crisis was adversely affected more by the poor quality of their credit portfolio, meaning their high rate of non-performing loans, and less by other factors (apart from liquidity).

Given that after the crisis many banks had high levels of non-performing loans, this parameter continued to correspond negatively with their performance after the crisis. Therefore, our third hypothesis is:

Hypothesis 3: we expect to find a negative relationship between the ratio of non-performing loans and bank performance after the crisis and no relationship before the crisis.

3.3. Capital Ratios

During normal times, higher levels of capital have contradictory effects. On the one hand, capital reduces the risk of bankruptcy, strengthens the ability of banks to absorb losses independently, increases their control over their borrowers and reduces the incentive for uncontrolled risk taking. Admati and Hellwig (2013) argue that banks should raise their capital ratios to much higher levels than their current ones. On the other hand, according to the Merton (1977) model, capital reduces the value of put options and weakens the ability of banks to create liquidity (Berger & Bouwman, 2009). Demirgüç-Kunt et al. (2013) establish that during normal times, differences in capital levels do not affect the performance of banks.

However, Brealey et al. (2012) and Bertratti and Stulz (2012) demonstrate a positive relationship between the initial level of a bank's capital and asset levels and its performance during the financial crisis of 2008. The authors argue that the preference of investors for conservative banks with safer assets explains this finding. Brealey et al. (2012) and Demirgüç-Kunt et al. (2013) document that during the crisis, investors were influenced more by the capital to assets ratio than the Basel capital measures. Nevertheless, there is no evidence that banks with high levels of Basel capital ratios were "punished" by investors. The researchers' explanation for this finding is that investors take into consideration that Basel capital ratios can be manipulated through the calculation of risk-weighted assets. Blum (2008) maintains that the leverage ratio, which regulators began promoting in the wake of the financial crisis to measure the ratio of capital to assets, is the solution to the unfairness in the calculation of the Basel capital ratios. However, Bertratti and Stulz (2012) and Das and Sy (2012) find that banks with higher Tier 1 Basel levels performed better during the crisis.

Berger and Bouwman (2009) investigate the survival of banks during a series of American economic and financial crises. They demonstrate that banks with higher capital to assets ratios coped better with the crises, particularly during the financial ones, and managed to increase their market share. They also maintain that high leverage levels before the crisis produced higher returns, but during the crisis, this strategy increased the risk of potential losses and led to poorer performance.

In our opinion, after the crisis, investors regarded this strategy as dangerous. The Basel III Accord emphasized higher levels of capital and its better quality, the use of more conservative models and the use of stress testing (by regulators and the banks themselves) to examine capital levels.

Therefore, our fourth hypothesis is:

Hypothesis 4: The relationship between capital ratios and the performance of banks is not significant before the crisis but becomes significantly positive after the crisis.

3. Data and Methodology

3.1 Data

We collected quarterly data from *Bloomberg L.P.* software about 463 public retail US banks between 2004 and 2013. Like Bertratti and Stulz (2012), we focused on banks with significant retail operations, meaning those with deposits to assets ratios higher than 20% and ratios of loans to assets higher than 10% (deposit-taking and loan-making banks). In accordance with previous literature, we used stock returns as the dependent variable to measure the performance of banks. We used the following explanatory variables to examine the research hypotheses:

Liquidity: 1) liquid assets, meaning the ratio between liquid assets (cash + marketable securities + short term investments) and total assets (Bertratti & Stulz, 2012); 2) funding stability (Bertratti & Stulz, 2012), namely, the ratio between interest bearing deposits and short-term liabilities.

Bank risk: 1) the ratio of risk-weighted assets and total assets (Brealey et al., 2012); 2) the number of non-performing loans as a percentage of total loans (Das & Sy, 2012).

Capital ratios: 1) the capital to assets ratio, defined as the ratio between common equity and assets (Brealey et al., 2012); 2) the Tier 1 Basel capital ratio, defined as the ratio between Tier 1 capital and total risk-weighted assets according to the Basel

Accord (Beltratti & Stulz, 2012; Brealey et al., 2012; Das & Sy, 2012; Demirgüç-Kunt et al., 2013).

3.2 Methodology

In order to determine how stability characteristics affect a bank's performance and the variability in these effects in the post- vs. the pre-crisis period, we divided the time between 2004 and 2013³ into three different periods:

1. Q1/2004 - Q4/2006: In accordance with the methodology of Fahlenbrach, Prilmeier and Stulz (2012), these are the three years before the global financial crisis.
2. Q3/2007- Q4/2008: The period that Aebi, Sabato and Schmid (2012) and Beltratti and Stulz (2012) defined as the crisis period.
3. Q1/2009- Q4/2011: The three years after the global financial crisis.

We analyzed the relationship between the initial levels of the stability characteristics and the performance of banks in each period. Then we also assessed how the quarterly levels of the tested parameters affected the quarterly stock returns in the post-crisis period in comparison to the pre-crisis period. To estimate the causality effects we performed a difference-in-differences (DID) analysis.

3.2.1 Relationship between the initial levels of stability characteristics and performance

³ We also used data from 2003, but only as preliminary data.

In order to examine the relationship between the starting levels of the key explanatory variables at the beginning of each period and the performance of the banks in each period we ran a separate OLS regression for each period. Using White-Huber robust standard error corrections, we can compare the results of the post-crisis period to those of the pre-crisis period. In accordance with the literature presented above, a useful variable for estimating a bank's performance is its share price returns. Therefore, we used the average bank's buy-and-hold dollar stock returns in each period as the dependent variable in each set of regressions.

$$(1) Y_T = X_T\beta + K_T\gamma + \varepsilon_T$$

Y_T : Matrix of banks' average stock returns in each period.

X_T : Matrix of initial levels of key parameters at the beginning of each period.

K_T : Matrix of bank-level control variables at the beginning of each period.

Based on previous studies, we included the following control variables: the beta of the stock, its market to book value; net interest margin (Borio, Gambacorta & Hofmann, 2015) measured as the average difference between the interest rate for borrowers and the interest rate for lenders in the past 12 months; the ratio of the balance of the loans granted by the bank to its total assets (Beltratti & Stulz, 2012); the diversification of income (Beltratti & Stulz, 2012), measured as the ratio of non-interest income to total income; the natural logarithm of z-score, calculated as the natural logarithm of the ratio between returns on assets (ROA) plus the ratio of equity over total assets, divided by the standard deviation of the ROA (Beltratti & Stulz, 2012); and the natural logarithm of assets (Beltratti & Stulz, 2012).

3.2.2 Changes in the impact of stability characteristics on performance

To investigate the impact of the banks' reactions during each period on their performance in the post-crisis period in comparison to the pre-crisis period, we analyzed how the quarterly levels in the tested parameters, not only their initial levels, affected the quarterly stock returns, and compared the effects between the periods. Like Demirgüç-Kunt et al. (2013) and Das and Sy (2012) we also used a LSDV regression⁴ to compare the periods.

$$(2) Y_{it} = X_{it-1}\beta + X_{it-1}\gamma * d_{post} + \theta * d_{fail} + K_{it-1}\gamma + U_{it}\lambda + \varepsilon_{it}$$

Y_{it} : Matrix of the banks' stock returns between the end of quarter $t - 1$ and the end of quarter t .

X_{it-1} : Matrix of lagged key parameters.

d_{post} : Matrix of dummy variables taking the value of 1 for the quarters following the end of the financial crisis.

d_{fail} : Matrix of dummy variables taking the value of 1 for failed banks.

K_{it-1} : Matrix of bank-level control variables at the end of quarter $t - 1$.

U_{it} : Matrix of time and bank fixed effects in each quarter t .

ε_{it} : Error term in each quarter t .

We controlled for the bankruptcy of some of the banks during and after the crisis (d_{fail}) using an instrumental variable (IV) approach to overcome potential endogeneity issues. In the first stage of the IV regression we estimated the probability

⁴ We carried out a Hausmann test to choose between fixed and random effects.

of bankruptcy. We used a logistic regression with the capital to assets ratio, non-performing loans, liquid assets, funding stability, the exposure to real estate (estimated by the ratio between real estate loans to total loans), a dummy variable for whether the banks participated in TARP (Troubled Asset Relief Program) and the beta of the bank as independent variables. In the second stage of the IV regression, we incorporated the expected value of the probability of bankruptcy from the first stage.

Our other control variables were the beta of the stock; the market to book ratio; the steepness of the government yield curve calculated by the difference between the yield on the 10-year and 3-month Treasuries; the loans to assets ratio; income diversification; and the natural log of the banks' assets.

3.2.3 Difference-in-differences analysis

To estimate the causality effects we performed a difference-in-differences (DID) analysis (see Meyer, 1995 and Angrist & Krueger, 1999). To construct a pseudo-natural experiment, we exploited the fact that the major deterioration in the banks' stability characteristics levels was concentrated in the crisis period and affected banks in various countries differently. Based on Calluzzo and Dong (2015), the control group consists of banks located in Canada and to increase the sample we also added Israeli banks. The treatment group consists of US banks. We assumed that the financial crisis had a much stronger impact on US banks than Canadian and Israeli banks. The banks in these countries were less affected by the financial crisis and remained relatively resilient. We collected the relevant data for the 11 largest public banks in Canada and the 5 largest banks in Israel. Since these are commercial banks and we focus mainly on commercial banks in the US, comparing them is appropriate. The list of Canadian and Israeli banks appears in Appendix A.

$$(3) Y_{it} = \beta_1 x_{it-1} + \beta_2 After * Treat + \beta_3 After * x_{it-1} + \beta_4 Treat * x_{it-1} + \beta_5 After * Treat * x_{it-1} + \gamma K_{it-1} + U_{it} \lambda + \varepsilon_{it}$$

We created a difference-in-differences regression based on Duchin and Sosyura (2014). The dependent variable Y_{it} is bank's we stock return between the end of quarter $t - 1$ and the end of quarter t . The independent variable *After* equals 1 for the post-crisis period (2009-2011) and zero otherwise, *Treat* equals 1 for the banks in the treatment group and zero for those in the control group. The main variable of interest is the interaction term *After*Treat*x*, which shows the change in the marginal effect of the parameter of interest on the performance of banks in the treatment group (relative to the control group) after the crisis compared to the pre-crisis period for each of the six main parameters. The control variables K_{it-1} include the beta of the stock, the steepness of the government yield curve, the market to book ratio, the loans to assets ratio, income diversification and the natural logarithm of assets at the bank level for the end of each quarter $t-1$.

To strengthen the results we performed another DID analysis based on Rampini, Viswanathan and Vuillemeys (2017) methodology. We exploited the shock of the crisis to construct treatment and control groups for each of the stability characteristics. In the treatment group, we included those institutions that ranked in the lowest 33% for each variable's distribution at the end of 2008. In the control group, we included those institutions that ranked in the highest 33% for each variable's distribution. For example, the treatment group for the capital to assets ratio was defined as institutions that ranked in the bottom 33% of the capital to assets ratio distribution at the end of 2008 and the control group was defined as institutions in the top 33%. We limited the attention to banks with a high exposure to real estate, defined by the ratio of loans

secured by real estate to total loans above the sample median at the end of 2008. Therefore, both the treatment and control groups have a similar potential of facing losses on real estate loans ex-ante. Since the levels of the stability characteristics may be determined endogenously, we used the instrumental variable (IV) approach to assess the probability of being in the treatment group. In the first stage we ran a conditional logistic regression in which the dependent variable was whether the bank was in the treatment group for each variable (1) or not (0). The independent variables included the parameter in focus, a dummy variable of whether the bank participated in TARP (Troubled Asset Relief Program), its exposure to real estate, whether the bank failed and the steepness of the government yield curve.⁵ we also included the net interest margin, the beta of the stock and a dummy variable of whether the bank failed.

4. Results

4.1 Descriptive statistics

Our sample consists of 463 American banks with assets ranging from \$94 million to \$2.3 trillion (a median of \$1.4 billion) in the post-crisis period. Table 1 provides the descriptive statistics of the buy-and-hold dollar stock returns and of the assets in each period.

Insert Table we here

Our bank performance measure is a bank's buy-and-hold dollar stock returns. The average buy-and-hold quarterly return in our sample is poor at -3.3% during the crisis

⁵ Aside from non-performing loans in the treatment group.

period. These returns contrast with the average quarterly return in the pre-crisis period of almost 2% and 0.4% in the post-crisis period.

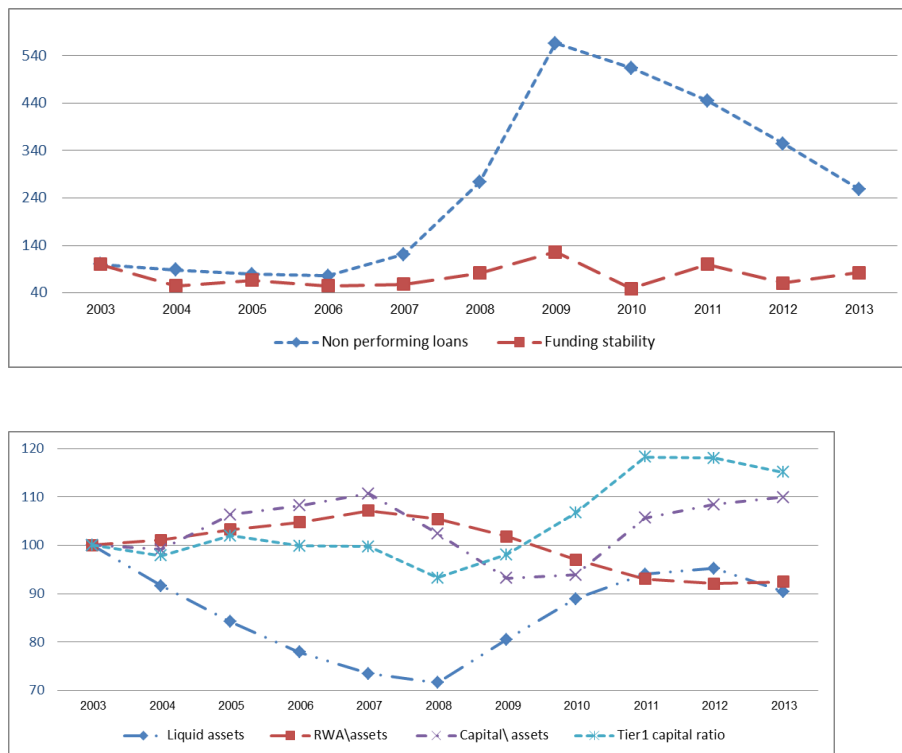


Figure 1: Annual average levels of funding stability, asset liquidity, RWA to assets ratio, non-performing loans, capital to assets ratio and Tier 1 Basel capital ratio (100 = end of 2003).

Funding stability increased over the period from a pre-crisis average of 1% to 2.1% in 2009, because of the severe liquidity difficulties during the crisis period. However, from 2010 to 2013, we began to see a volatile decline in this parameter.

The percentage of non-performing loans rose by almost sevenfold from an average of 0.6% in the pre-crisis period to 4% in 2009, and then declined to an average of 1.8%.

The rate of liquid assets as a percentage of total assets declined from a pre-crisis average of 25% to an average of 20% during the crisis but returned close to the pre-crisis average after the crisis.

RWA to assets ratio levels rose during the crisis to an average of 84% but fell thereafter to 74%, below the pre-crisis average. This parameter has been less volatile over the years than the other parameters.

The ratio of capital to assets remained around 9%-10% on average in all periods, but this figure hides the extreme volatility of this parameter over the years. It increased significantly from the end of 2009 by nearly 20% due to an increase in capital levels as part of updated regulations, after a decline during the crisis of about 15%. Tier 1 Basel capital ratios declined by 7% during the crisis (due to the increase in risk-weighted assets) and increased after the crisis by almost 20%.

4.2 Relationship between the initial levels of stability characteristics and performance

Appendix B presents the results for the crisis period. The results in this section are similar to those in previous literature. Like them, we found evidence of a “flight to quality” during the crisis. Banks that performed better were those that entered the crisis with more deposits, less risk (lower RWA to assets ratio levels and lower non-performing loans ratios) and higher levels of Tier 1 Basel capital ratios.

Table 2 provides the results for the post- and pre-crisis periods of the relationship between the starting levels of the key explanatory variables at the beginning of each period and the performance of the banks in each period.

In accordance with Hypotheses 1 and 4, we established a positive relationship between the initial levels of the banks’ funding stability or Tier 1 Basel capital ratios and their performance after the crisis. In contrast, before the crisis these parameters

had no significant impact on performance. We maintain that the learning hypothesis explains these findings. Given that the crisis emphasized the importance of stability characteristics, safer banks performed better during the crisis and the influence of these parameters also remained significant after the crisis. However, before the crisis investors had put less emphasis on the banks' stability characteristics and more on their profitability.

We also documented a significant negative relationship between the level of non-performing loans and the banks' performance after the crisis, supporting Hypothesis 3.

Insert Table II here

4.3 Changes in the impact of stability characteristics on performance

In this section we investigate how changes in the banks' stability characteristics during each period affected their performance in the post-crisis period in comparison to the pre-crisis era. We examine how the quarterly levels in the tested parameters, not only their initial levels, affected the quarterly stock returns, and compare the effects between the periods. To this end, we ran a panel data regression with banks fixed effects. We conducted a Hausmann test to choose between fixed and random effects. Based on the results, we selected the fixed effects. Table 4 illustrates the values of these effects. An important concern is that it was not the financial crisis that prompted the change in the impact of the stability characteristics on the performance of US banks. We addressed this potential endogeneity problem by using an instrumental variable (IV) approach to show that the impact of the stability characteristics was not

affected by the bankruptcy of some of the banks during and after the crisis. In the first stage of the IV regression we estimated the probability of bankruptcy using a logistic regression. In the second stage we incorporated the expected value of the probability of bankruptcy from the first stage. Table 3 presents the results of the changes in the impact of the stability characteristics on performance in the post- crisis period.

Insert Table III here

We found that the impact of the stability characteristics on performance was positive in the post-crisis period. The impact of liquidity became positive after the crisis, the impact of the risk parameters became negative and the impact of the capital ratios remained positive, but increased substantially after the crisis.

We explain these findings using the learning hypothesis. Given that the crisis emphasized the importance of stability characteristics, safer banks performed better during the crisis and the influence of these parameters also remained significant after the crisis. However, before the crisis investors had put less emphasis on the banks' stability characteristics and more on their profitability.

We also believe that the regulations developed after the crisis such as the Basel Accords encouraged banks to adopt the lessons from the crisis and modify their policies. As a result, they increased the amount and quality of their capital and utilized new liquidity measures such as LCR (liquidity coverage ratio).

Appendix C presents similar results for the changes in the impact of the banks' stability characteristics on their ROA, ROE, Tobin's Q in the post-crisis period in comparison to the pre-crisis period.

4.4 Difference-in-differences analysis

To estimate the causality effects we utilized the difference-in-differences (DID) analysis described in section 3.2.3.

Table 4 presents the results of the DID analysis. In panel A, we define the treatment group as the US banks and the control group as the Canadian and Israeli banks. In panel B, we define the treatment group for each parameter as the riskier banks in each parameter and the control group as the safest banks in each parameter.

Insert Table IV here

We found a significant positive difference in the marginal effect of the capital ratios (the capital to assets ratio and the Tier 1 Basel capital ratio) and liquid assets (both liquid assets and the ratio between high quality liquid assets as defined in the LCR regulation⁶) on the performance of banks in the treatment group after the crisis compared to the banks in the control group. In other words, after the crisis, US banks that improved their stability characteristics with regard to these factors performed better. The crisis prompted the more vulnerable banks to increase their capital and liquidity. Appendix D presents similar results for the DID analysis on ROA, ROE and Tobin's Q. However no causal effect was found in the risk parameters, nor in funding stability. Section 5.2 sheds light on the impact behavior of these factors.

4.5. How performance improved after the crisis?

Having described the change in the impact of the stability characteristics on the performance of banks after the financial crisis, we now attempt to identify channels through which the performance improved.

⁶ The estimation of the HQLA measure based on Du (2017).

We focus on two main channels: the cost of debt and profit margins. Table 5 describes the impact of capital to assets ratios and liquid assets on each channel using our basic LSDV fixed effects model.

Insert Table V here

Banks with higher levels of capital to assets ratios and liquid assets managed to achieve lower cost of debt and higher profit margins (net interest margins and operating income relative to total assets).

5. Supplementary tests

5.1. What happens to the effects as we move away from the crisis?

In this section we investigate how the impact of the stability characteristics changed over the years as we move away from the crisis. To do so, we extended the LSDV regression until 2013 and added dummy variables indicating the year of each of the parameters. We chose the base year as 2009 because it was the period closest to the crisis. We present the results in Table 5.

Insert Table VI here

As we move away from the crisis, we find an increase in the positive impact of the capital to assets ratio and liquid assets. At the same time, risk appetite also increased over time, which is reflected in the increase in the marginal effect of the RWA to assets ratio and non-performing loans (at the end of the post-crisis period). We argue that the improvement in their other stability characteristics enabled the banks to take more risks to improve their performance without changing their "nature" and their

level of risk-taking. Interestingly, the funding stability parameter became more important only at the end of the sample period. We argue that the reason for this finding is the regulation by which banks began to gradually implement the NSFR measure.

5.2 The difference between small and big banks

Analyzing the difference between small and big banks, we find that the only difference between them is the impact of liquidity measures. Table 6 presents the results of the LSDV regression of the change in the impact of the stability characteristics on the performance of big vs. small banks.

Insert Table VII here

In the big banks we witness a change in the impact of liquid assets on the performance of banks, which became significantly positive after the crisis. In the small banks we witness a change in the impact of funding stability on the performance of banks, which became significantly positive after the crisis. These findings are similar to those of DeYoung and Jang (2016) who found that NSFR targeting was strongest for small banks and weakest for so-called SIFI banks. As banks increased in size, they set lower liquidity targets—often in violation of the coming Basel III standards—but managed those targets more efficiently. As Table 7 illustrates, we found the same results when we conducted a DID analysis for big vs. small banks.

Insert Table VIII here

6. Discussion and conclusion

The global financial crisis in 2007-2009 was the most severe in recent decades since the crisis of 1929. It caused the bankruptcies of financial institutions and led to a new wave of regulatory reforms that put more emphasis on the stability characteristics of banks.

A widely held belief is that the crisis changed the importance of bank's stability characteristics. In this paper, our goal was to examine whether and how the crisis changed their impact.

Assessing how the quarterly levels in the tested parameters affected the quarterly stock returns in the post-crisis period in comparison to the pre-crisis period and using a difference-in-differences (DID) analysis, we found a significant positive difference in the marginal effect of the capital ratios and liquid assets on the performance of US banks after the crisis. In other words, after the crisis US banks that improved their stability characteristics with regard to these factors performed better. However no causal effect was found in the risk parameters, nor in funding stability.

We explain the findings using the learning hypothesis. Since the financial crisis emphasized the importance of stability characteristics, safer banks performed better during the crisis and the influence of these parameters also remained significant after the crisis. The channels through which these factors improved performance after the financial crisis were that they managed to achieve lower cost of debt and higher profit margins. However, before the crisis investors had put less emphasis on the banks' stability characteristics and more on profitability. We also argue that the regulations that developed after the crisis such as the Basel Accords encouraged banks to adopt the lessons from the crisis and modify their policies. As a result, they began to

maintain higher amounts and quality of capital and implement new liquidity measures.

Analyzing how the impact of stability characteristics changed over the years as we move away from the crisis, we found an increase in the positive impact of the capital to assets ratio and liquid assets. At the same time, risk appetite also increased over time, which is reflected in the increase in the marginal effect of the RWA to assets ratio and non-performing loans (at the end of the post-crisis period). We argue that the improvement in their other stability characteristics enabled the banks to take more risks to improve their performance without changing their "nature" and their level of risk-taking. The risk parameters and the funding stability were not regulated immediately after the crisis and accordingly we did not find a causal change in their impact on performance.

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Tables

Table I: Descriptive statistics

The table presents the descriptive statistics of the buy-and-hold dollar stock returns and of the assets in each period.

	Mean	Median	Std	Max	Min
<i>Price change</i>					
Pre-crisis period	1.97	1.38	3.44	25.05	-5.6
Crisis period	-3.26	-3.42	2.62	5.97	-8.33
Post-crisis period	0.38	-0.02	5.91	31.65	-8.23
<i>Assets (m)</i>					
Pre-crisis period	16,107	973	108,202	1,540,220	34
Crisis period	22,794	1,216	156,980	2,139,097	57
Post-crisis period	26,895	1,388	180,624	2,270,775	94

Table II: The relationship between the initial levels of stability characteristics and the banks' performance in the post- and the pre-crisis periods

The table presents the relationship between the initial levels of the banks' stability characteristics and their average buy-and-hold dollar stock returns in the post- and the pre-crisis periods. We use ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variable category	Variable name	(1)	(2)	(3)	(4)
		Post-crisis period		Pre-crisis period	
Liquidity	Funding stability	0.001*	-0.000	-0.005	-0.004
	Liquid assets	0.01	-0.001	0.000	0.000
Bank's risk	RWA to assets ratio		0.06		-0.04
	Non-performing loans	-0.05***	-0.06***	-0.04	-0.03
Capital ratios	Capital/ assets ratio	0.000		-0.02***	
	Tier 1 Basel capital ratio		0.03***		-0.008
	Price change past year	-0.19	-0.25	0.09	0.12
	Beta	-0.09	-0.1	0.1	0.08
	Market/book	-0.17**	-0.05	-0.06	-0.05
	Z-score	0.09*	0.01	0.03	0.04
	Net interest margin	0.09*	-0.006	0.07**	0.06*
	Income diversification	0.03	0.04	0.004	0.02
	Assets	0.13***		-0.02	
	Loans/ assets	0.003	-0.01	0.006**	0.006*
	Constant	-1.83	0.46	-0.25	-0.42
	Observations	400	400	326	326
	R-squared	0.1590	0.1098	0.1246	0.1024

Table III: Changes in the impact of stability characteristics on performance in the post-crisis period

The table presents the changes in the impact of the banks' stability characteristics on their performance in the post-crisis period in comparison to the pre-crisis period. We investigate how the quarterly stock returns were affected by the initial the levels in the tested parameters at the beginning of each quarter, and compare the effects between the periods. We use ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variable category	Variable name	(1)	(2)
	Funding stability	0.0007	-0.000
	Funding stability*post	-0.0004	0.000
Liquidity	Liquid assets	-0.006***	-0.02***
	Liquid assets* post	0.007***	0.006***
	RWA to assets ratio		0.43***
Bank's risk	RWA to assets ratio* post		-0.58***
	Non- performing loans	0.05***	0.07***
	Non- performing loans* post	-0.06***	-0.2***
	Capital/ assets ratio	0.1***	
Capital ratios	Capital/ assets ratio* post	0.05***	
	Tier 1 Basel capital ratio		-0.004
	Tier 1 Basel capital ratio* post		0.04***
	Bankruptcy Probability	-5.29***	-5.54***
	Beta	-0.01*	-0.009
Controls	Assets	0.7***	
	Market/book ratio	0.56***	0.32**

Steepness	-0.1**	-0.05***
Loans/ assets ratio	0.0004	-0.01***
Income diversification	0.001	-0.000
Constant	0.32***	0.89***
Bank Effect	V	V
Year Effect	V	V
Observations	417	417
R-squared	0.3113	0.2714

Table IV: DID analysis

The table presents the results of the DID analysis. In panel A, we define the treatment group as the US banks and the control group as the Canadian and Israeli banks. In panel B, we define the treatment group for each parameter as the riskier banks in this parameter and the control group as the safest banks in this parameter. The independent variable *After* equals 1 for the post-crisis period (2009-2011) and zero otherwise, *Treat* equals 1 for the banks in the treatment group and zero for those in the control group. The main variable of interest is the interaction term *After*Treat*x*, which shows the change in the marginal effect of the parameter of interest on the performance of banks in the treatment group (relative to the control group) after the crisis compared to the pre-crisis period for each of the six main parameters. We use ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A – US banks (treatment group) vs. Canadian and Israeli banks (control group)				
Treatment	Capital to assets ratio	Liquid assets	Tier1 Basel	Funding stability
Variable name				
X	0.06***	0.006	-0.002	0.02***
After*Treat	-1.6***	-1.44***	-1.7***	-0.27***
After*X	-0.02*	-0.000	-0.002	-0.000
Treat*X	-0.04	-0.02***	-0.01	-0.01***
After*Treat*X	0.07***	0.01***	0.04***	-0.01***

Panel B – Riskier (treatment group) vs. safer banks (control group)							
Variable name	Capital to assets ratio	Liquid assets	High quality liquid assets	Tier1 Basel	Funding stability	Non-performing loans	RWA/ assets
X	0.22***	0.02***	0.000	0.08***	0.001	-0.08***	2.00***
After*Treat	-1.92**	-0.48	-0.87***	0.04	0.22	-1.28***	-1.00**
After*X	-0.02***	-0.01***	-0.000	-0.008*	-0.001	0.08***	-0.22**
Treat*X	0.03	-0.04**	0.000	-0.01	0.003	0.02	-0.86***
After*Treat*X	0.26***	0.05*	0.001**	-0.01	-0.03	-0.01	2.02*

Table V: How performance improved after the crisis?

The table presents the impact of the banks' initial stability characteristics at the beginning of each quarter on the quarterly cost of debt and on the quarterly profit margins in post-crisis period in comparison to the pre-crisis period. We use ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variable name	Cost of debt	Net interest margin	Operating income to assets
Liquid assets	-0.000	-0.002	0.000
Liquid assets* post	-0.005**	0.003***	0.004***
Capital/ assets ratio	-0.08***	0.1***	0.05***
Capital/ assets ratio* post	-0.009	-0.03***	-0.006***
Bank Effect	V	V	V
Year Effect	V	V	V
Observations	402	439	442
R-squared	0.1736	0.075	0.1951

Table VI: The change in the impacts over time

The table presents the results of the LSDV regression of the change in the impact of the stability characteristics on the performance of banks over the years for each of the six parameters. We extend the regression until 2013. The basis year is 2009. We use ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variable name	Capital to assets ratio	Liquid assets	Tier1 Basel	RWA to assets ratio	Non-performing loans	Funding stability
X*Before	-0.03***	0.007***	-0.000	0.87***	0.08***	-0.003***
X	0.1***	-0.01***	0.003	-0.04	-0.01***	-0.000
X*2010	0.02***	0.005***	0.000	0.08***	-0.08***	-0.003
X*2011	0.03***	0.008***	-0.006***	0.12***	-0.11***	0.000
X*2012	0.05***	0.02***	-0.003	0.45***	-0.08***	0.005
X*2013	0.1***	0.03***	0.02***	0.92***	0.03***	0.01***

Table VII: Impact of banks' size

The table presents the results of the LSDV regression of the change in the impact of the stability characteristics on the performance of big vs. small banks. Big banks are defined as those with total assets above the median. We use ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variable category	Variable name	(1)	(2)	(3)	(4)
		Big banks		Small banks	
	Funding stability	0.003	0.000	-0.001*	-0.003***
Liquidity	Funding stability*post	-0.000	0.003	0.002**	0.004***
	Liquid assets	-0.006***	-0.02***	0.003	-0.01***
	Liquid assets* post	0.009***	0.008***	0.000	-0.003**
Bank's risk	RWA to assets ratio		0.41***		1.23***
	RWA to assets ratio* post		-0.21***		-0.28***
	Non- performing loans	-0.02	0.05**	0.05***	0.05***
	Non- performing loans* post	-0.13***	-0.23***	-0.06***	-0.06***
Capital ratios	Capital/ assets ratio	0.08***		0.1***	
	Capital/ assets ratio* post	0.04***		0.07***	
	Tier 1 Basel capital ratio		-0.01***		0.04***
	Tier 1 Basel capital ratio* post		0.05***		0.06***
	Beta	-0.02**	-0.006	0.003	0.01
	Assets	0.55***		0.84***	
	Market/book ratio	0.39***	0.31**	0.57***	0.46***
	Steepness	-0.07***	-0.07***	-0.11***	-0.11***
	Loans/ assets ratio	0.005***	-0.009***	0.005	-0.01***
	Income diversification	0.006*	0.006	0.000	-0.000
Constant	0.26***	0.19***	0.35***	0.26***	
Bank Effect	V	V	V	V	

Year Effect	V	V	V	V
Observations	229	229	235	235
R-squared	0.2411	0.2565	0.2793	0.3268

Table VIII: DID analysis of big vs. small banks

The table presents the results of the difference-in-difference analysis for big vs. small banks. Big banks are defined as those with total assets above the median. We use ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Treatment Variable name	Liquid assets for big banks	Liquid assets for small banks	Funding stability for big banks	Funding stability for small banks
X	0.04***	0.000	-0.002	0.002
After*Treat	-0.55	0.778	-1.7***	0.13
After*X	-0.02***	-0.002	-0.002	-0.008***
Treat*X	-0.03	0.007	-0.13	0.35*
After*Treat*X	0.07*	-0.06	-2.6	0.36*

Appendix A – List of Canadian and Israeli banks

Bank name	Stock ticker
Bank of Montreal	BMO
Bank of Nova Scotia	BNS
Canadian Imperial Bank of Commerce	CM
Canadian Western Bank	CWB
Equitable Bank	EQB
First Nations Bank of Canada	FN
Laurentian Bank of Canada	LB
Manulife Bank of Canada	MFC
National Bank of Canada	NA
Royal Bank of Canada	RY
Toronto-Dominion Bank	TD
Israel Discount Bank	DSCT
First International Bank of Israel	FTIN
Bank Leumi Le-Israel	LUMI
Mizrahi Tefahot Bank	MZTF
Bank Hapoalim	POLI

Appendix B – The crisis period

The relationship between the initial levels of liquidity, the banks' risk and capital ratios and the banks' performance during the crisis period

The table presents the relationship between the initial levels of liquidity, the banks' risk and capital ratios and the banks' average buy-and-hold dollar stock returns. We use ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variable category	Variable name	(1)	(2)	(3)	(4)
Liquidity	Funding stability			-0.001	0.000
	Deposits/ assets	0.005***	0.004**		
	Liquid assets	0.000	-0.006	0.001	0.000
Bank's risk	RWA to assets ratio		-0.12		-0.17*
	Non-performing loans	-0.08***	-0.09***	-0.09***	-0.09***
Capital ratios	Capital/ assets ratio	0.008		0.002	
	Tier 1 Basel capital ratio		0.01**		0.009***
	Price change last period	-0.06	-0.013	-0.12	-0.07
	Beta	0.01	0.01	0.02	0.02
	Market/book	0.08**	0.07***	0.08**	0.08***
	Z-score	0.05***	0.06***	0.06***	-0.05**
	Net interest margin	-0.05**	-0.06***	-0.03	0.06***
	Income diversification	-0.002	-0.002	-0.002	-0.003
	Assets	0.002		-0.008	
	Loans/ assets	-0.007	-0.006***	-0.006***	-0.004**
Constant	-0.57**	-0.47**	-0.25	-0.27	
Observations	399	399	399	399	
R-squared	0.1929	0.2098	0.1694	0.1937	

Appendix C – Changes in the impact of stability characteristics on ROA, ROE, Tobin's Q in the post-crisis period

The table presents the changes in the impact of the banks' stability characteristics on their performance in the post-crisis period in comparison to the pre-crisis period. We investigate how the ROA, ROE, Tobin's Q were affected by the initial the levels in the tested parameters at the beginning of each quarter, and compare the effects between the periods. We use ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variable category	Variable name	(1)	(2)	(3)	(4)	(5)	(6)
		ROA		ROE		Tobin's Q	
Liquidity	Funding stability	-0.005**	-0.004	-0.13**	-0.11**	0.003***	0.003***
	Funding stability*post	0.005**	0.004	0.14**	0.12**	-0.002**	-0.002**
	Liquid assets	-0.003	-0.03***	0.18***	-0.36***	-0.0003	-0.0001
	Liquid assets* post	0.005**	0.02***	0.03	0.07*	0.0004***	0.0003**
Bank's risk	RWA to assets ratio		1.34***		26.54***		0.004
	RWA to assets ratio* post		-0.88***		-14.15***		-0.03***
	Non- performing loans	0.07**	0.14***	-0.09	0.35	0.02	0.001
Capital ratios	Non- performing loans* post	-0.08***	-0.16***	0.18***	-0.77	-0.02	-0.002
	Capital/ assets ratio	0.21***		3.02***		-0.001***	
	Capital/ assets ratio* post	0.06***		1.9***		-0.002***	
	Tier 1 Basel capital ratio		0.07***		1.19***		-0.0006*
	Tier 1 Basel capital ratio* post		0.05***		1.39***		-0.0003
Market/book ratio	Beta	-0.03**	-0.02	0.15	0.25	0.004***	0.005***
	Assets	0.38***		2.61**		*0.008*	
	Market/book ratio	0.69***	0.56***	12.05***	10.68***	0.05***	0.56***

Steepness	-0.15***	-0.12***	-2.98***	-2.16***	-0.003***	-0.02**
Loans/ assets ratio	-0.001	-0.02***	0.03	-0.31***	-0.002	-0.0002
Income diversification	-0.002	-0.003	0.02	-0.009	0.000	0.000
Constant	0.34	0.18***	5.93***	3.48***	7.41	5.87***
Bank Effect	V	V	V	V	V	V
Year Effect	V	V	V	V	V	V
Observations	440	440	440	440	440	440
R-squared	0.2927	0.3168	0.2621	0.2831	0.4489	0.5596

Appendix D – DID analysis on ROA, ROE, Tobin's Q

The table presents the results of the DID analysis. In panel A, we define the treatment group as the US banks and the control group as the Canadian and Israeli banks. In panel B, we define the treatment group for each parameter as the riskier banks in this parameter and the control group as the safest banks in this parameter. The independent variable *After* equals 1 for the post-crisis period (2009-2011) and zero otherwise, *Treat* equals 1 for the banks in the treatment group and zero for those in the control group. The main variable of interest is the interaction term *After*Treat*x*, which shows the change in the marginal effect of the parameter of interest on the performance of banks in the treatment group (relative to the control group) after the crisis compared to the pre-crisis period for each of the six main parameters. We use ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A – US banks (treatment group) vs. Canadian and Israeli banks (control group)				
ROA				
Treatment	Capital to assets ratio	Liquid assets	Tier1 Basel	Funding stability
Variable name				
X	0.09*	-0.007	0.03	0.01
After*Treat	-1.78***	-1.74***	-2.24***	-0.76***
After*X	-0.06*	-0.009**	-0.03**	-0.005***
Treat*X	-0.004	-0.1	-0.03	-0.009
After*Treat*X	0.11***	0.03***	0.1***	-0.001
ROE				
Treatment	Capital to assets ratio	Liquid assets	Tier1 Basel	Funding stability
Variable name				
X	0.06	-0.09	0.78	-0.009
After*Treat	-0.34***	-0.23***	-0.38***	-8.13***
After*X	-0.77**	-0.15**	-0.5***	-0.08***
Treat*X	0.61	-0.02	-0.95	0.07
After*Treat*X	2.61***	0.42***	2.16***	0.02
Tobin's Q				
Treatment	Capital to assets ratio	Liquid assets	Tier1 Basel	Funding stability
Variable name				
X	0.001	0.006	0.002	0.006
After*Treat	-0.07***	-0.1***	-0.07***	-0.09***

After*X	-0.001	-0.000	-0.003	-0.000*
Treat*X	-0.001	-0.000	-0.002	-0.009*
After*Treat*X	-0.005	0.005***	-0.000	0.000

Panel B – Riskier (treatment group) vs. safer banks (control group)

Variable name	ROA						
	Capital to assets ratio	Liquid assets	High quality liquid assets	Tier1 Basel	Funding stability	Non-performing loans	RWA/ assets
X	0.39***	0.005	0.000	0.08***	0.007	-0.16***	4.87***
After*Treat	-1.18**	-4.77	-2.27***	-5.82***	-2.64***	-5.86***	-7.28***
After*X	-0.11***	-0.02***	-0.000	0.02	-0.008	0.15***	-2.03***
Treat*X	0.007	-0.12**	0.000	0.03	0.75	0.08	-2.23***
After*Treat*X	1.4***	0.41***	0.001	0.38**	-0.74	-0.06	6.7***

Variable name	ROE						
	Capital to assets ratio	Liquid assets	High quality liquid assets	Tier1 Basel	Funding stability	Non-performing loans	RWA/ assets
X	0.66***	0.15	0.002	1.56***	-0.17	-2.2***	3.94***
After*Treat	-3.48**	-2.82*	-1.76***	-1.02***	-3.93***	-0.92***	-0.99***
After*X	-1.6***	-0.1	-0.000	0.93***	0.17	1.79***	-2.87**
Treat*X	0.06	-1.32*	0.004	-1.99***	2.82***	-1.1***	-5.95
After*Treat*X	4.15***	1.05	0.002	6.86***	-2.82***	1.14***	0.92

Variable name	Tobin's Q						
	Capital to assets ratio	Liquid assets	High quality liquid assets	Tier1 Basel	Funding stability	Non-performing loans	RWA/ assets
X	0.005***	0.002***	0.000***	0.002***	0.003***	-0.007***	-0.05**
After*Treat	-0.16**	-0.12***	-0.12***	0.007	-0.18***	-0.23***	-0.1***
After*X	-0.01***	-0.003***	-0.000***	-0.002***	-0.003***	0.006***	-0.12***
Treat*X	-0.004	-0.003	-0.000	0.002	0.09***	0.01	0.06***
After*Treat*X	0.02**	0.008***	0.001***	-0.003	-0.09***	-0.01	0.11***