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* Views expressed are those of the authors and do not necessarily reflect official positions of De Nederlandsche Bank.

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Bank switching and deposit rates: Evidence for crisis and non-crisis years*

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Abstract

Using a sample of annual deposit data in the Netherlands for the 2004 – 2014 period, we study the fraction of deposits transferred per year by 718 individuals. Controlling for demographic factors, we find that deposit rate differences across banks significantly explain the extent to which depositors reallocate their savings. This effect is predominantly present in non-crisis years, while depositors seemingly exhibited flight-to-safety behavior during the financial crisis. As this behavior holds for fully insured household deposits as well, we conclude that the effect of deposit insurance was muted during the past financial crisis.

Keywords: time deposits, savings accounts, interest rate setting, bank risk, liquidity, account characteristics.
JEL classification: G21.

* In this paper, use is made of data of the DNB Household Survey. We thank CentERdata for making this data available and Spaarinformatie for sharing their data on deposit rates.

1. Introduction

Deposits are an important source of funding for banks, as they provide around three-fourth of total bank funding (Demsetz and Strahan, 1997; Demirgüç-Kunt et al., 2013). The recent financial crisis showed that a bank's stability could be threatened by the risk of losing wholesale and retail deposits. Credit rating agencies pointed to these risks during the crisis. For example, when the Icelandic bank Landsbanki increasingly relied on internet-based deposits for the financing of their operations, Moody's had concerns "related to the [lack of] "stickiness" of overseas deposits" (Moody's, 2008). In an attempt to shape a more resilient banking sector, the Basel Committee on Bank Supervision (BCBS) recognized different degrees of deposit solidity by labeling deposits "that can be withdrawn quickly (e.g., internet deposits)" (Basel Committee on Banking Supervision, 2013: 28) as 'less stable'. In order to get a better understanding of the stability of deposits, it is crucial to understand the determinants of deposit switching behavior among retail clients. The current literature in this field predominantly studies a switch of an individual's main bank (i.e., the most frequently used bank). More specifically, Kiser (2002) and Brunetti et al. (2014) consider actual bank switching, while the propensity to switch banks or accounts is studied in Chakravarty et al. (2004), Manrai and Manrai (2007), and Van der Cruijsen and Diepstraaten (2015). In these studies, switching is usually considered as a binary outcome variable: an individual either switches, or he keeps the original bank as main bank. In reality, individuals can have accounts at multiple banks. Hence, different banks or bank accounts can be used for different purposes. Individuals might receive their salary and pay their mortgage at bank A, but might have a deposit account at bank B.[2] Moreover, individuals might have deposits at different types of banks. For example, a small deposit at bank C for funding daily expenditures, but a larger deposit at online savings bank D which pays a higher interest rate. Although online savings banks are not necessarily the individual's main bank, they may attract a sizeable amount of an individual's total deposits. The importance of these online banks is illustrated by Terris (2012) who showed that online banks' deposits grew at quadruple the industry pace. In this paper, we study to what extent the deposit rate determines a (partial) switch of deposits.

Eleven years of self-reported deposits data by retail depositors in the Netherlands enables us to consider partial switches, rather than just a 0/1 switching outcome. In addition, we shed light on switching behavior during the financial crisis. In the presence of a credible deposit

[2] Van der Cruijsen and Diepstraaten (2015) study different switching determinants for different account types, among which a savings account. However, similar to other studies, they only consider a switch in the main (savings) account.

guarantee scheme (DGS), most individuals do not have incentives to switch deposits (i.e., to 'discipline' banks) as their deposits are insured.[3] Recent studies to market discipline (e.g., Beyhaghi et al. (2014) for Canada, and Berger and Turk-Ariss (2015) for the US and EU) consider total deposits and uninsured deposits, and found that depositor discipline decreased during the past financial crisis. They attributed their results to an increased awareness of government actions (such as bailouts) at the beginning of the crisis. Given the focus on total deposits and uninsured deposits, these studies do not evaluate the efficacy of a DGS in times of crisis. Brown et al. (2013) considered household deposits by retail customers in Switzerland for the 2008 – 2009 period, and found an increase in withdrawals at two troubled banks. We focus on the Netherlands where, both in 2008, ING was bailed out, and ABN Amro and Fortis were nationalized. Our study complements and advances Brown et al. (2013) by considering a different regional setting (i.e., the Netherlands), focusing on fractional switches over the [0, 1] domain, and comparing crisis behavior to non-crisis behavior.

We find that for depositors switching (parts of) their deposits, deposit rates play an important role in allocating their funds. More specifically, depending on the econometric specification, the average depositor switches a fraction of 0.023 to 0.076 of their total savings to banks which pay a 1 percentage point higher deposit rate. In addition, deposit rate increases vis-à-vis other banks are positively associated with the degree of switching as well. When we consider sub periods, we find that these relations are statistically significant pre- and post-crisis, but not during the crisis. This might indicate that depositors paid attention to other factors than deposit rates during the financial crisis, such as bank risk. An additional analysis revealed that bank switching was significantly higher in 2008 relative to other sample years, and that switching during that year occurred to banks which had not experienced a bailout or a nationalization. This is an indication that in a period during which major banks received government support, a DGS does not prevent retail clients from transferring their deposits.

This paper proceeds as follows. Section 2 presents our data and methodology, after which our estimation results are presented in Section 3. Finally, Section 4 concludes.

2. Data and methodology

To identify bank switching, we make use of the DNB Household Survey (DHS). The DHS is sent

[3] Note that, in the Netherland, until October 2008, an own risk of 10% existed and an upper bound of 40.000 euro. After October 2008, the upper bound moved up to 100.000 euro while the own risk was abolished. Further, it took three months before insured deposits were compensated after a bank failure, which is a loss of liquidity. Deposits were also netted with debts, which may also cause economic loss. Nowadays, DGS has been improved further: compensation is paid out within 20 working days (in the future: 7 days), while netting is removed. Finally, not all deposit holders are (fully) aware of the DGS.

out annually to around 2000 households in the Netherlands and contains questions on psychological and economic aspects of financial behavior, from which we use information on personal characteristics and financial assets per the 31st of December, for the years 2004 to 2014. In general, in the DHS, all respondents are followed over time. However, for varying reasons (no willingness to participate anymore, death, etc.) respondents were replaced by new households in the panel. In the survey, depositors indicate the amount of funds deposited at ABN Amro, Fortis Bank, ING Bank, Postbank, Rabobank, SNS Bank, or at 'other' banks.[4] We refer to the six mentioned banks as 'main' banks. These banks had a combined market share on the household deposit market of around 92% in 2014 (DNB, 2016). As we needed to identify bank switching, we included all depositors with positive savings balances which (i) were present in DHS for at least two consecutive years,[5] and (ii) experienced a change in the distribution of deposits among banks. 718 individuals qualified for this sample. Some changed the distribution of deposits only 1 year, others switched in all 10 years. On average, each individual switched 2.66 times, leading to a total of 1911 switches to be evaluated in our research.

We supplement DHS data with detailed daily interest rate data on demand deposits (i.e., savings accounts) provided by Spaarinformatie (see Bikker et al., 2016). Spaarinformatie is an independent organization tracking deposit rates for all banks active in the Netherlands. Since banks in our sample offered up to five different demand deposits without constraints at the same time, for each bank, we averaged the offered rates to come to a single bank rate. For the category 'other banks', we first computed the average deposit rate per bank, after which we averaged those rates across all other banks active in the Netherlands.

The bank switching literature identified several relevant variables to include in our model. This literature is broadly divided in papers studying the propensity to switch and its drivers (e.g., Chakravarty et al., 2004; Manrai and Manrai, 2007; Van der Cruijsen and Diepstraaten, 2015) and papers studying the determinants of past switching behavior (e.g., Kiser, 2002; and Brunetti et al., 2014). Most papers discuss demographic factors when trying to explain bank switching, such as gender, age, marital status, education, income, and risk aversion. Consistent evidence was found for age, which is negatively related to switching behavior (Kiser, 2002; Brown et al., 2013; Van der Cruijsen and Diepstraaten, 2015), and for the level of education, which is positively related to switching likelihood (Brunetti et al., 2015; Van der Cruijsen and

[4] Postbank and ING Bank were both part of ING Group. As of 2009, the Postbank brand ceased to exist and all Postbank deposits became ING deposits. Additionally, in 2010, Fortis Bank deposits were transferred to ABN Amro as a result of the nationalization of the combination in 2008.
[5] We need two consecutive years of DHS data to define a (partial) switch.

Diepstraaten, 2015).[6] In addition, switching might be explained by bank relationships, such as the number of bank accounts in place prior to switching (Brunetti et al., 2014; Van der Cruijsen and Diepstraaten, 2015).

In our model, we explain the increase of the proportion of total deposits on an individual's account by (i) the interest rate differential between the account to which the money is transferred and the account from which it has been withdrawn, and (ii) personal characteristics of the depositors. This leads to the following model:

$$(1)\ \boldsymbol{Switch_{i,t} = \alpha + \beta Rate_{i,t} + \gamma H_{i,t} + \delta D_t + \varepsilon_{i,t}}$$

$Switch_{i,t}$ measures for depositor *i* in year *t* in the case he or she changes the distribution of his or her deposits, the proportion of the deposits transferred to the account with the largest inflow. Suppose depositor *i* holds 1000 euros on bank *k* and 1000 euros on bank *l* in year *t-1*, and increases in year *t* his holdings on bank *k* to 1800 euros and on bank *l* to 1200 euros. The proportions of savings for individual *i* in year *t-1* were 0.5 and 0.5 for banks *k* and *l*, respectively. In year *t*, the proportions changed to 0.6 and 0.4 for banks *k* and *l*, respectively. The dependent variable $Switch_{i,t}$ will then take on the value of 0.1. As a result of this methodology, $Switch_{i,t}$ ranges from larger than 0 up till and including 1. Note that values of 0 are excluded: if all deposit holding proportions of person *i* remain the same over two consecutive years, no switching has occurred.

We use two different variables for 'Rate'. First, $\boldsymbol{Rate^a_{i,t}}$ considers the difference in deposit rate between bank *k*, the bank facing in year *t* a relative increase in deposits from depositor *i*, and bank *l*, the bank confronted in that year with a relative decrease in deposits from that depositor. As the transfer might have happened during year *t*, we compute the average of interest rates offered by both banks during that year. Second, we consider deposit rate changes occurring during the year of the two banks related with a switch. We deduct the rate change of bank *l*, the bank confronted in year *t* with a relative decrease in deposits from depositor *i* from that of bank *k*, the bank facing in that year a relative increase in deposits from that depositor, denoted by $\boldsymbol{Rate^b_{i,t}}$. The rate change is defined as the average interest rate of year *t* minus the interest rate at the beginning of year *t*. Using this procedure, we detect whether bank *k* increased their interest

[6] Distance between depositors and their bank is perceived to be a relevant determinant for depositor switching as well (Kiser, 2002). However, the market in the Netherlands is generally perceived to be one single market. In general, all banks are active in all regions, and deposit rates are the same across the Netherlands. Hence, we exclude locational factors.

rates during the year relative to bank *l*.

Vector $\boldsymbol{H_{i,t}}$ contains control variables measured in year *t*. We use age (in years), gender (male=1, female=0), marital status (married=1, unmarried=0), higher education (1 if depositor completed higher education, 0 if not), risk aversion (scale variable from 1 – 7 based on the question 'I think it is more important to have safe investments and guaranteed returns, than to take a risk to have a chance to get the highest possible returns'; 7 meaning highly risk averse, 1 meaning less risk averse), net income (in natural logarithms), multiple deposits (1 if the depositor already had multiple deposits at *t-1*, 0 if not),[7] and merger (1 if a depositor held a deposit at either Fortis Bank or Postbank, each during the last year of their existence).[8] Vector $\boldsymbol{D_t}$ contains year dummies.

Figure 1 shows the trend in deposit rates during our sample period. The bold line depicts the average deposit rate per year-end for the six main banks in our sample. The shaded area represents the range in deposit rates offered by these banks in each year. The average deposit rate by other banks active in the Netherlands is given by the dashed line. After an initial small decline followed by an equally sized rise, deposit rates decreased as of 2009. Rates decreased to an average of 1.09 percentage points for main banks and 1.28 percentage points for other banks at end-December 2014. Interestingly, the deposit rate difference between other banks and main banks increased to 1 percentage point at the end of 2008. This could be due to an increased awareness of risks of smaller banks among depositors.

[INSERT FIGURE 1 ABOUT HERE]

Table 1 shows a description of our model variables. Column (1) presents the variables, and columns (2) to (7) show the mean, median, standard deviation, minimum value, maximum value and the number of observations. If depositors in our sample switched (parts of) their deposit(s), they transferred on average 0.33 (i.e., 33 percent) of their savings to another bank. The minimum value is slightly higher than 0, as we considered only depositors switching funds. Due to rounding, this value equals 0 in Table 1. $Rate^a$ signals that the deposit rate offered by banks experiencing inflows are on average 0.169 percentage point higher than the rates at banks experiencing decreases. $Rate^b$ shows that the deposit rate of the 'receiving' bank increased with

[7] Note that we lagged this variable.

[8] Although the literature considered locational factors to be a determinant for switching behavior, the market in the Netherlands is generally perceived to be one single market. In general, all banks are active in all regions, and deposit rates are the same across the Netherlands. Hence, we exclude locational factors which were suggested by Kiser (2002) and Brown et al. (2013).

0.157 percentage point during the switching year vis-à-vis the rate offered by the source bank. The control variables reveal that two-third of our sample constitutes of males; the average age is 58 years; 70 percent is married; 52 percent finished a form of higher education; the depositors are relatively risk averse with an average score of 5.34 on a scale of 1 to 7; their annual net income equals almost 30 thousand euros; 85 percent already owned multiple deposits prior to switching; and 8.8 percent of our observations concerned individuals with an account at a bank which merged into another bank in that year.

Columns (8) to (10) of Table 1 show the outcome of a univariate test. We test here whether the average values for our explanatory variables differ when the fraction switched is relatively large, that is, larger than the median switching fraction 0.185 (e.g, Column 8) versus relatively small, that is, smaller than its median value (e.g., Column 9). Column 10 shows the difference and indicates statistical significance levels, and Column 11 reveals the t-value of the difference. We found that the switching proportion was significantly positively related to both $Rate^a$ and $Rate^b$. Large switching proportions occurred when deposit rate differences averaged 0.307 percentage point, while little switching occurred when the average differential was just 0.032 percentage point. In addition, switching was larger when the receiving banks increased their deposit rates vis-à-vis the source bank. Both effects are statistically significant at the 1 percent level. In addition, the degree of switching is negatively related to the levels of education and net income. Furthermore, switching fractions are lower at individuals which already held multiple accounts. Lastly, depositors who switch relatively more are more often exposed to a mandatory switch, as their bank merged into another entity. No significant effects were found for the other variables.

Multivariate results are discussed in the next section. As $Switch_{i,t}$ is a variable in the range [0, 1], we use fractional response models with a probit model for the conditional mean for our regressions (Papke and Wooldridge, 1996).[9] We test all econometric specifications for multi-collinearity by using the variance-inflation factor (VIF). The year-dummies exhibit VIF values of up to 2.89, while the variance-inflation factors of other variables never exceeded 5.74 (i.e., for Age). These values are well below the cut-off level of 10 (Belsley et al., 1980; Studenmund, 1992). We therefore conclude that multi-collinearity was not an issue of concern in this study.

3. Multivariate results

Table 2 depicts the marginal effect estimates of our fractional response models. Models 1 – 3

[9] As a robustness test (unreported), we also apply OLS estimation and fixed effects panel analysis (the Hausman test rejects random effects); the results are qualitatively similar. They are available from the authors upon request.

consider $Rate^a$ as main explanatory variable, whereas Models 4 – 6 evaluate $Rate^b$. We start by discussing the relation between switching and $Rate^a$. $Rate^a$ has a marginal effect of 0.076, which implies that if the interest rate differential equals 1 percentage point, depositors on average switch a fraction of 0.076 of their total savings to the higher-rate deposit. This finding is statistically significant at the 1%-level. We add a first set of bank-related control variables in Model 2, namely multiple deposits and bank merger, which are both highly significant. Multiple deposits has a marginal effect of -0.357, indicating that depositors which already held multiple deposits have, on average, switches which are a fraction of 0.357 of their total savings lower. For these depositors, savings were already spread over at least two accounts, and it was therefore to be expected that new switches would involve a relatively lower fraction of total deposits. In addition, this model considers the effect of a bank merger. The fraction of total deposits switched is 0.231 higher when individuals held deposits at a bank which merges into another entity. In this specification, the coefficient of $Rate^a$ decreased to 0.024, statistically significant at the 5%-level. Model 3 incorporates all control variables, including those reflecting personal characteristics – both psychological and financial. $Rate^a$ remains significant at the 5%-level, while its coefficient drops slightly to 0.023. In addition, the model reveals that depositors switch larger fractions when they are married, but smaller fractions if they are higher educated or have a higher income.

We consider $Rate^b$ in Models 4 – 6, and first test $Rate^b$ in the absence of control variables – but with time-dummies. The marginal effect is equal to 0.143, which indicates that if the deposit rate increases by 1 percentage point vis-à-vis another deposit, the former deposit on average experiences inflows equal to 0.143 of the total deposits of depositors. This coefficient is significant at the 1%-level. If we add control variables in Models 5 and 6, the effect of $Rate^b$ decreases somewhat to 0.049 – 0.053. The coefficients are significant at the 5%-level. The marginal effects of the control variables are similar to those of Models 2 and 3.

A closer inspection of the year-dummies in Models 1 to 6 reveals that the year 2008 was significant at the 1%-level in all estimations.[10] This implies that depositors switched relatively large fractions of their total deposits during 2008. In 2008, Dutch depositors experienced government interventions in both ING Group (bailout) and ABN Amro/Fortis (nationalization), and experienced a bank failure of Icesave.[11] It is therefore likely that shifts in deposits reflect a crisis response of depositors.[12]

[10] In addition, the coefficient of 2009 is statistically significant in Models 1 and 4.
[11] Icesave, part of Landsbanki, entered the Dutch deposit market in May 2008 and went bankrupt in October of the same year. Its rise and fall does not show up in deposit information as deposit balances are per the 31st of December of each year.
[12] Even if we exclude all depositors with total deposits above the guarantee scheme (up till € 40.000 until October 2008; up till € 100.000 in the following period), the year dummy 2008 remains significant (unreported).

To shed more light on this issue, we divided our sample in crisis years versus non-crisis years. Table 3 shows regression results for crisis years (switching behavior during 2008 and 2009) and non-crisis years (2005 – 2007 and 2010 – 2014).[13] For expository reasons, we do not report the coefficients of control variables and time-dummies. During non-crisis periods, the effects of $Rate^a$ and $Rate^b$ are both economically and statistically significant at a higher level than in our full sample estimations as reported in Table 2. However, during the financial crisis, deposit rates lost their explanatory power, indicating that depositors started paying less attention to rates during the crisis when switching deposits.

Inspection of detailed supervisory data on total household savings balances in the Netherlands, shows for our main banks that total household deposits fell at the bailed out or nationalized banks in 2008, but increased at the other – seemingly 'safe' – main banks. This empirical evidence is in congruence with anecdotal evidence, such as that "many depositors consider Rabobank, not stock market listed, a safe haven in these turbulent times" (Business Insider, 2009). Our observations are an indication of a 'wake-up call' by depositors in times of crisis. Household depositors exhibited a flight-to-safety even in the presence of a DGS (see also footnote 3). These findings are in line with Brown et al. (2013) who show for Swiss banks that households are more likely to withdraw deposits from a distressed bank than from a non-distressed bank during the 2008 – 2009 period.

4. Conclusion

We studied deposit switching in the Netherlands during the years 2005 – 2014. Contrary to existing literature which focuses on an individual's switch of their most frequently used bank or account, we considered the transfer of fractions of deposits between accounts by individuals. We matched the degree of switching with the deposit rate differential between banks. After controlling for demographic factors, we found that the level of switching is positively associated with (i) the difference in deposit rates between the banks involved with the switch, and (ii) the differences in the change in the deposit rate over time between the involved banks. While the fraction of deposits switched increased during the financial crisis, deposit rates were unrelated to bank switching during that period. We attribute switching behavior during the financial crisis to a flight-to-safety among depositors and consider this as evidence that the efficacy of a deposit guarantee system is muted once a country's largest banks experience several shocks.

[13] While the starting year of the crisis in the Netherlands is relatively clear, the ending date is more ambiguous. Restricting the crisis to 2008 only did not change the statistical significance of our findings. The same holds when we expand our crisis period by using 2010 as crisis year instead of a non-crisis year.

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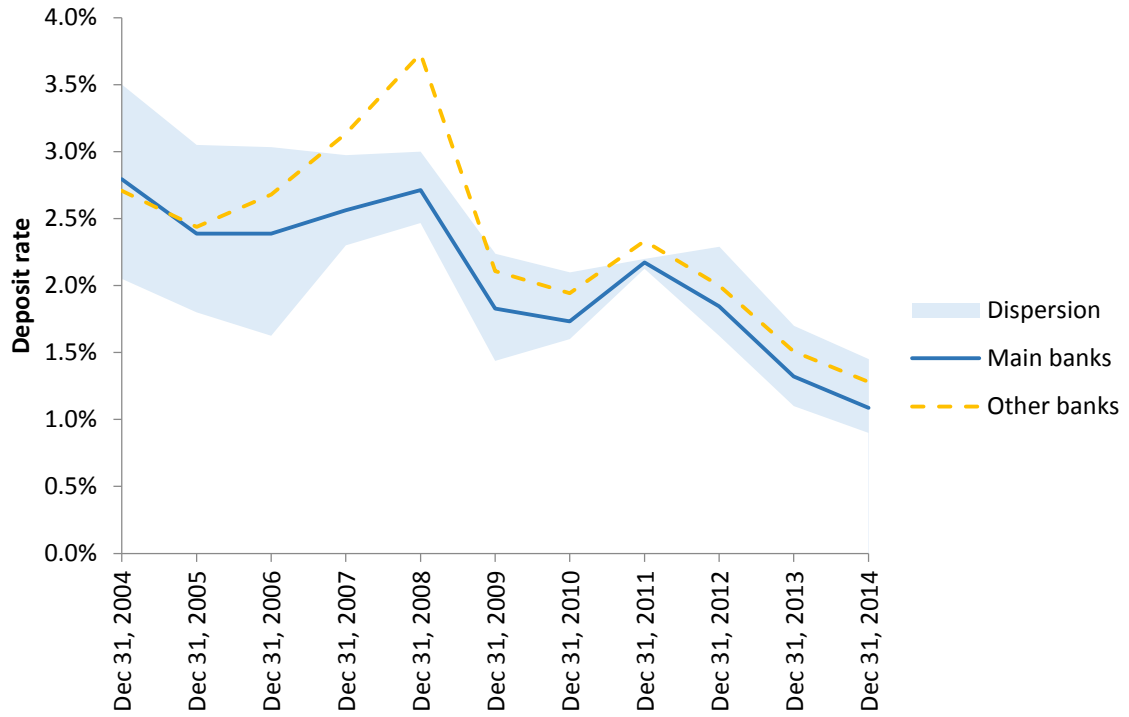
FIGURES

Figure 1. Development of deposit rates from December 2004 to December 2014

This figure depicts the development in deposit rates for main banks (solid line, shaded area represents the dispersion) and other banks (dashed line). The main banks comprise ABN Amro, Fortis Bank, ING, Postbank, Rabobank, and SNS Bank, while the other banks constitute all other, mostly smaller, banks.



Source: Spaarinformatie, own calculations

Tables

Table 1. Descriptive statistics for the period 2005 – 2014

The construction of our variable is explained in Section 2. This table gives their main descriptive values in Columns 2 to 7. Columns 8 to 11 present a univariate test; t-values are given in Column 11: * p<0.10, ** p<0.05, *** p<0.01.

(1) Variable	(2) Mean	(3) Median	(4) Standard deviation	(5) Min	(6) Max	(7) N	(8) Mean if Switch > median	(9) Mean if Switch < median	(10) Difference [(8) – (9)]	(11) t-value
Switch	0.330	0.185	0.342	0	1	1911				
Rate[a]	0.169	0.114	0.760	-1.44	2.84	1911	0.307	0.032	0.275***	8.04
Rate[b]	0.157	0.017	0.545	-0.67	2.28	1911	0.268	0.046	0.222***	9.12
Age	58.237	61.000	14.470	17	87	1911	57.851	58.621	-0.770	-1.16
Gender	0.663	1	0.473	0	1	1911	0.657	0.669	-0.013	-0.60
Marital status	0.700	1	0.459	0	1	1911	0.713	0.686	0.027	1.28
Higher education	0.523	1	0.500	0	1	1911	0.480	0.566	-0.086***	-3.79
Risk aversion	5.340	6	1.623	0	1	1911	5.335	5.344	-0.009	-0.12
Net income	29394	27209	22022	119	689704	1911	28401	30385	-1984**	-1.97
Multiple deposits	0.850	1	0.357	0	1	1911	0.734	0.967	-0.232***	-15.06
Bank merger	0.088	0	0.284	0	1	1911	0.150	0.027	0.123***	9.66

Table 2. Regression results of the Switch models (2005 – 2014)

The variable Switch is the dependent variable in all models. See Section 2 for an explanation of all variables. Regressions are estimated using the fractional response technique; coefficients represent the marginal effects on the dependent variable. Fractional response models use robust standard errors by default. z-statistics in parentheses: * p<0.10, ** p<0.05, *** p<0.01.

	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Rate[a]	0.076***	0.024**	0.023**			
	(7.31)	(2.17)	(2.14)			
Rate[b]				0.143***	0.053**	0.049**
				(9.00)	(2.25)	(2.09)
Multiple deposits		-0.357***	-0.351***		-0.357***	-0.352***
		(-20.07)	(-19.62)		(-20.05)	(-19.63)
Bank merger		0.231***	0.228***		0.183***	0.187***
		(6.66)	(6.65)		(3.74)	(3.86)
Age			-0.000			-0.000
			(-0.61)			(-0.66)
Gender			-0.015			-0.016
			(-0.94)			(-1.00)
Marital status			0.036**			0.036**
			(2.36)			(2.38)
Higher education			-0.027*			-0.025*
			(-1.95)			(-1.83)
Net income (ln)			-0.021**			-0.021*
			(-2.08)			(-2.04)
Risk aversion			-0.001			-0.001
			(-0.33)			(-0.32)
2006	0.032	0.025	0.022	0.028	0.024	0.021
	(0.95)	(0.80)	(0.69)	(0.83)	(0.77)	(0.66)
2007	-0.016	-0.021	-0.019	-0.009	-0.019	-0.017
	(-0.52)	(-0.70)	(-0.66)	(-0.28)	(-0.64)	(-0.59)
2008	0.191***	0.113***	0.112***	0.196***	0.115***	0.114***
	(5.82)	(3.74)	(3.74)	(5.99)	(3.80)	(3.79)
2009	0.200***	0.042	0.043	0.134***	0.042	0.043
	(5.84)	(1.28)	(1.33)	(3.77)	(1.29)	(1.34)
2010	0.047	-0.010	-0.008	0.013	-0.013	-0.011
	(1.39)	(-0.31)	(-0.25)	(0.40)	(-0.43)	(-0.37)
2011	-0.045	-0.038	-0.031	-0.047	-0.038	-0.032
	(-1.42)	(-1.28)	(-1.07)	(-1.47)	(-1.29)	(-1.08)
2012	-0.008	-0.026	-0.023	-0.010	-0.027	-0.024
	(-0.23)	(-0.85)	(-0.76)	(-0.30)	(-0.88)	(-0.78)
2013	-0.022	-0.016	-0.016	-0.024	-0.016	-0.016
	(-0.65)	(-0.51)	(-0.53)	(-0.69)	(-0.52)	(-0.53)
2014	-0.032	-0.032	-0.028	-0.028	-0.031	-0.026
	(-1.01)	(-1.08)	(-0.94)	(-0.86)	(-1.02)	(-0.88)
n	1911	1911	1911	1911	1911	1911
Pseudo R^2	0.06	0.14	0.14	0.06	0.14	0.14

Table 3. Regression results of the Switch models: non-crisis effects versus crisis effects

Regression results are estimated for Models 3 and 6, both for a period of financial crisis (2008 – 2009) and for non-crisis years (2005 – 2007 and 2010 – 2014). See explanatory text above Table 2 for information on the test procedure.

	(1) Non-Crisis	**(2) Crisis**	**(3) Non-crisis**	**(4) Crisis**
Rate[a]	0.043***	-0.003		
	(3.13)	(-0.17)		
Rate[b]			0.122***	0.005
			(2.80)	(0.15)
Control variables	Incl.	Incl.	Incl.	Incl.
Year-dummies	Incl.	Incl.	Incl.	Incl.
n	1362	549	1362	549
Pseudo R^2	0.08	0.16	0.08	0.16

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