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Bank Switching and Interest Rates: Examining Annual Transfers Between Savings Accounts

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Abstract
We study the savings transfers between banks by retail depositors. Our sample comprises annual savings account data from the Netherlands for the period from 2004 to 2014. We control for demographic factors and find that the differences in interest rates across savings accounts help explain the extent to which depositors reallocate their savings to either a newly opened or an existing account. The depositors in our sample transfer between 3 and 6% of their savings for each percentage point difference in the interest rates. This effect is robust across various selected samples and model specifications. In addition, we show that depositors transfer a higher proportion of their deposits during the 2008–2009 financial crisis than during non-crisis years. During that crisis, the difference in interest rates remained a highly important determinant of transfer behavior.

Keywords Banks · Switching behavior · Reallocation of savings · Interest rates · Savings account · Financial crisis · Financial literacy

JEL Classification D14 · G21

1 Introduction

Bank customers generally show a relatively low propensity for switching banks. The UK Competition and Markets Authority (2016), for example, determined that only 3% of bank retail customers switched banks in a given year, despite the sizable monetary gains possible from switching. The survey evidence for the Netherlands reports the same percentage for the number of retail clients that switch their main current account (GfK 2014). The current literature predominantly studies the switch from an individual's main bank (i.e., the most frequently used bank).

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Specifically, Kiser (2002) and Brunetti et al. (2016) consider actual bank switching, while Chakravarty et al. (2004) and Manrai and Manrai (2007) study the propensity to switch banks or accounts. On the whole, these studies consider switching as a binary outcome variable: individuals either switch or keep the original bank as their main bank. In reality, depositors can hold multiple savings accounts at different banks. Our study focuses on the effect of the interest rate on the size of the transfer of savings to another account. Therefore, we consider the transfers of all savings to a newly opened account at another bank, but we also discuss partial switches. Partial switches concern the reallocation (i.e., transfer) of a proportion of their total savings by depositors.

We collect 11 years of self-reported data on interest-paying savings accounts from retail depositors in the Netherlands in order to examine the annual reallocation of savings, both across existing accounts and to newly opened accounts, instead of focusing only on binary switching. We find that the differences in the interest rates play a statistically significant role in depositors' transference of their funds. Our baseline sample remains close to the current literature by examining depositors with one account in year *t-1* who might or might not open a new account in year *t*. Opening a new account comes with relatively high switching costs (e.g., effort), and we therefore expect a relatively large effect of the difference in the interest rates conditional on switching. Indeed, a depositor on average transfers 6.1% of his or her total savings to a new bank that pays a percentage point higher interest rate than the depositor's existing bank. Our extended sample examines all transfers in our dataset. In addition to the transfers in our baseline sample, we also consider depositors with more than one account in year *t-1* who, for example, maintain these accounts in year *t* or open additional accounts in year *t*. On average, reallocation costs are lower for these individuals as in most cases they open no new accounts and transfer their savings between existing accounts. We find that the difference in the interest rates plays an economically smaller role as depositors transfer only 2.9% of total savings to a bank that pays a percentage point higher interest rate than the depositor's existing bank. This coefficient is highly significant statistically. In addition, *changes* in the interest rate during a year across banks are positively related to the degree of reallocation.

Our analysis distinguishes between the years of the financial crisis and non-crisis years. Brown et al. (2017) examine the household deposits of retail customers in Switzerland in 2008 and 2009 and find an increase in withdrawals at two troubled banks. Despite a deposit guarantee scheme being in place and the fact that most depositors used savings accounts covered by the scheme, preliminary tests for our sample show that in the Netherlands, bank switching was also significantly higher in 2008 and 2009 than in the other sample years. Nevertheless, our empirical analysis shows that the transferred savings (as a fraction of total savings) during the financial crisis were also strongly and positively related to the difference in interest rates.

This paper proceeds as follows. Section 2 presents our method and a description of the data, after which our estimation results are presented in Section 3. Section 4 presents the robustness tests, while Section 5 presents our conclusions.

2 Method and data

2.1 Method

We contribute to the literature by answering the questions of whether and to what extent the difference in interest rates among savings accounts plays a role when individuals decide to transfer deposits. To identify transfers, we use the DNB Household Survey (DHS). The DHS is sent out annually to around 2000 households in the Netherlands and includes questions on psychological and economic aspects of financial behavior. We use this information for the period from December 31, 2004, to December 31, 2014. In general, the DHS follows all respondents over time. However, the respondent panel undergoes some changes as respondents are replaced by new ones over time, for example, because they are no longer willing to participate, or they pass away. The survey asks depositors to state the amount of funds they have in their savings account or time deposit[1] at ABN AMRO, Fortis Bank, ING Bank, Postbank, Rabobank, SNS Bank, or at "other" banks.[2] We refer to the six mentioned banks as "main" banks. The main banks had a combined market share of the household savings market of around 92% in 2014 (DNB 2016b).

From 11 consecutive DHS waves (in total: 4658 distinct individuals), we include all depositors with positive savings balances who had participated in the DHS for at least two consecutive years[3] and had provided demographic variables such as age and income and financial variables such as total savings. We construct two different samples of which our baseline sample remains closest to the literature. In this baseline sample, we consider depositors who held a savings account at one bank only in year *t-1* and might or might not open a second account in year *t*. This is a decision that comes with costs and effort. If depositors open a new account in year *t*, we can compute the proportion of transferred savings. The following example illustrates our switching measure. Suppose depositor *i* holds EUR 2000 at Bank A in year *t-1* and opens an additional account at Bank B in year *t*. Assume that depositor *i* increases their total savings by EUR 1000 in year *t*. Assume further that this depositor reduces holdings at Bank A to EUR 1800, and transfers to Bank B an amount of EUR 1200. The proportion of savings for depositor *i* in year *t-1* is 1 for Bank A. In year *t*, the proportions change to 0.6 for Bank A and 0.4 for Bank B. The dependent variable *TransferProportion* then takes the value of 0.4. Similarly, if two new accounts are opened, we consider the proportions flowing to these two new accounts. As a result of using this method, *TransferProportion* ranges from larger than 0 up to and including 1.

We supplement the DHS data with detailed daily interest rate data on savings accounts provided by *Spaarinformatie* (see Bikker and Gerritsen 2018). *Spaarinformatie* is an independent organization that tracks the interest rates on retail savings accounts for all banks active in the Netherlands. Since the banks in our sample offer up to five different savings accounts without constraints at the same time, we average the offered rates for each bank to arrive at a single bank rate. For the "other banks" category, we first compute the average interest rate for each individual bank after which we average those rates across all other banks active in the Netherlands.[4] For our study, the difference in interest rates between the bank account to which the depositor transfers the funds and the bank from which the funds originate is of interest

[1] Respondents were asked for their balances on savings accounts and time deposits at one or more banks but could not indicate whether the account was a savings account or a time deposit. As 85% of household savings are placed in savings accounts and only 15% in time deposits (DNB 2016a), we refer to the savings account throughout this paper.

[2] Postbank and ING Bank were both part of ING Group. The Postbank brand ceased to exist in 2009, and all Postbank deposits became ING deposits. Additionally, in 2010, Fortis Bank transferred its deposits to ABN AMRO after its nationalization in 2008. As the bank imposed the transfer on these depositors, we exclude these transfers from all our estimations. Including these transfers and controlling for them in our estimations yielded similar results to the ones presented in this paper. These outcomes are available on request.

[3] We require two consecutive years of DHS data to define a (partial) switch.

[4] We have used an equally-weighted average across all results. Weighting according to total deposits or total bank assets leads to a loss of over one-third of our interest rate observations because a sizeable number of banks are either of non-Dutch origin or are subsidiaries of larger banks. For both bank types, there are no supervisory data available. When using a total-assets-weighted average, the p value of our main variable of interest increases by around 0.03 in our baseline sample and 0.002 in our extended sample.

rather than the interest rate itself. We define *Rate* as the difference in interest rates between the banks involved in a transfer of savings. Specifically, we deduct the interest rate of the bank that experiences a relative decrease in savings from depositor *i* from the rate offered by the bank that experienced a relative increase from that depositor. As the transfer might have happened during year *t*, we use the average interest rate that both banks offer during that year.

To identify the relation between the transfer proportions and the difference in interest rates, we apply Heckman's selection model (cf. Heckman 1979) that consists of a two-step approach. Step 1 is commonly referred to as the selection equation and explains the decision to open a new account. Step 2 (the outcome equation) explains the proportion of total deposits the depositor transfers to the newly opened account. Heckman's model assumes that all depositors can consider transfers but not all are always realized (or observed). This is due to censoring: a transfer is not realized if a depositor has only one account and does not open a second one. The decision to open a second account is likely to be dependent on the proportion transferred to that account. This dependency is likely in a sample where some depositors have one account, and the others have more accounts. But this dependency is more likely in our baseline sample where some depositors have opened a second account in the considered period. Further, the Heckman's model encompasses independency in the two steps (or zero correlation) where the assumption mentioned above and the various proposed considerations need not be fulfilled.

An exclusion restriction is required for models with sample selection to be well-identified. This restriction constitutes at least one variable, which appears with a non-zero coefficient in the selection equation (i.e., the decision equation in our setting) but does not appear in the transfer equation. In other words, an adequate variable is related to the decision to open a new account but not to the proportion of savings being transferred. Brunetti et al. (2016) argue that households with more than one bank mean that they are better aware of what other banks offer, which in turn decreases their switching costs. Brown et al. (2017) add that the level of exclusivity of the bank relationship increases the switching costs, for example, because of fees and the opportunity costs from time. Hence, switching costs should be lower with different banking relationships in place. Brunetti et al. (2016) empirically confirm this argument and find more switching if depositors have multiple bank relationships. We consider switching costs as fixed costs that play a role at the extensive margin. After a depositor has decided to open an additional savings account, these costs lower. Switching costs are therefore less relevant for the decision on how much savings to transfer to the newly opened account (i.e., a decision at the intensive margin).

Based on Brunetti et al. (2016) and Brown et al. (2017), our identification strategy is to use the number of relationships for non-savings accounts products as an exclusion restriction in the first stage of our estimation procedure (i.e., our selection equation). Our reasoning is as follows: Although all depositors—at least in our baseline sample—have only one savings account at year *t-1*, they could use different banks for different types of banking products. In line with Brunetti et al. (2016), we argue that the existence of relations with other banks makes opening savings accounts at these banks more convenient (i.e., it decreases switching costs). DHS respondents indicate which bank's services they use other than savings accounts. We consider all the different relationships included in the DHS: current account, deposit book, savings certificate, mutual fund, other investments, private loans, extended credit lines, and mortgage loans. We count the number of different bank relationships within these product categories for each depositor in our sample. For example, if a depositor has both a current account and a mortgage loan at Bank A, the number of distinct non-savings relationships equals 1. If, instead, the current account is held at Bank A and the mortgage loan at Bank B, then the number equals 2. We label this variable # *Non-savings relationship*.

For the selection equation in our baseline sample, we estimate a Probit model for the decision on whether to open an account: *OpenAccount* equals 1 if account holder *i* opens a new bank account in period *t*, and 0 otherwise. In this equation, we control for depositor characteristics and the crisis period with vector $\boldsymbol{H_{it}}$ and dummy $\boldsymbol{C_t}$ respectively. These variables will be explained in more detail below. Equation 1, capturing selection Eq. 1, is:

$$\boldsymbol{OpenAccount_{it}} = \alpha_1 + \gamma_1 \boldsymbol{H_{it}} + \delta_1 \boldsymbol{C_t} + \varepsilon_1 \# \boldsymbol{Nonsavings\ relationships_{it}} + \nu_{it} \quad (1)$$

For our outcome (i.e., the transfer proportion) equation, we propose a linear regression model to explain the proportion of savings switched to the new account. *TransferProportion* measures the proportion of the deposits transferred if depositor *i* in year *t* changes the distribution of his or her savings across banks. *Rate* is defined as the difference in interest rates between the bank that receives the inflow of new savings in year *t* by depositor *i* and the bank that sees a decrease in deposits from that depositor in that year. The variable $\boldsymbol{\lambda_{it}}$ is the inverse Mills ratio (IMR). The IMR is estimated in the selection equation and is used as an explanatory variable in the outcome equation. A statistically significant IMR indicates that there is selection bias. Hence, our outcome equation becomes:

$$\boldsymbol{TransferProportion_{it}} = \alpha_2 + \beta_2 \boldsymbol{Rate_{it}} + \gamma_2 \boldsymbol{H_{it}} + \delta_2 \boldsymbol{C_t} + \vartheta_2 \boldsymbol{\lambda_{it}} + \mu_{it} \quad (2)$$

Consistent with Wooldridge ("any element that appears as an explanatory variable in [the main equation] should also be an explanatory variable in the selection equation" (Wooldridge 2003: p. 589)), the control variables show up in both equations.[5] Several relevant control variables are identified in the literature on bank switching, and these are included in our model. We represent them with vector $\boldsymbol{H_{it}}$, which is measured in year *t-1*. The literature is broadly divided into papers that study the propensity to switch and its drivers (e.g., Chakravarty et al. 2004; Manrai and Manrai 2007; Van der Cruijsen and Diepstraten 2017), and papers that study the determinants of past switching behavior (e.g., Kiser 2002; and Brunetti et al. 2016). Most papers discuss demographic factors when trying to explain bank switching. These factors are gender, age, marital status, education, income, and risk aversion. These studies find similar evidence for age, which is negatively related to switching behavior (Kiser 2002; Van der Cruijsen and Diepstraten 2017), and for the level of education, which is positively related to the likelihood of switching (Brunetti et al. 2016; Van der Cruijsen and Diepstraten 2017). We draw from this literature to identify our demographic and financial variables as control variables. 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), and risk aversion (scale variable between 1 and 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", whereby 7 means highly risk averse, and 1 means least risk averse). These variables serve as proxies for cognitive ability. Unfortunately, better established measures for cognitive ability are not at our disposal (Agarwal and Mazumder 2013). For financial variables, we use net income (in logarithm) and the increase in savings that we define as the logarithm of total savings in year *t* divided by the total savings in year *t-1*. Both variables are winsorized at the top and bottom 1% of their distribution to minimize the effect of outliers.

[5] Wooldridge (2003: p. 589) acknowledges that "in rare cases it makes sense to exclude elements from the selection equation." In our study, *Rate* qualifies for this exclusion as we do not observe rate differences for individuals that do not open a second account. As we cannot get inside depositors' heads to figure out which potential transfers they consider, we exclude this variable from our selection equation.

Dummy C_t indicates whether the transfer took place during a crisis year (2008 or 2009) or during a non-crisis year (2005–2007, or 2010–2014).[6]

2.1.1 Extended sample

In addition to our baseline sample, we use an extended sample. This sample reflects the full dataset and thus encompasses all transfers between savings accounts for all depositors. Hence, in addition to all observations in our baseline sample, our extended sample includes individuals who already have multiple deposit accounts. These individuals might redistribute savings among existing accounts, keep the savings distribution among their existing accounts unchanged, or open even more accounts. Thus, the switching costs for depositors in this sample are, on average, lower than in our baseline sample. The advantage of this extended sample is that it provides a more general view on the reallocation of savings. In addition, the larger sample size allows us to study subperiods without losing too many degrees of freedom.

We also apply the Heckman model to our extended sample. A straightforward approach would be to use the selection equation to explain the opening of a new account in our extended sample (i.e., Eq. 1). However, the decision to open a new account is less fundamental if the depositor already holds multiple accounts than if it is his or her first additional account. We therefore expect that the selection issue plays a less significant role in this sample. An alternative approach is the selection equation to explain whether a depositor has changed the distribution of savings, irrespective of whether he or she transfers the savings to a newly opened account or to an existing account. Equation 3 describes our second selection equation.

$$\boldsymbol{TransferAction_{it}} = \alpha_3 + \gamma_3 \boldsymbol{H_{it}} + \delta_3 \boldsymbol{C_t} + \varepsilon_3 \# \boldsymbol{Nonsavings\ relationshipss_{it}} + \nu_{it} \quad (3)$$

In addition, for this extended sample, we explore the relationship between transfers and the difference in the interest rates. Hence, we apply the same outcome equation (i.e., Eq. 2) as in the baseline analysis.

2.2 Data description

Figure 1 shows the trend in interest rates during our sample period. The bold line depicts the average interest rate per year-end for the six main banks in our sample. The shaded area represents the range of interest rates offered by these banks in each year. The dashed line depicts the average interest rate of the other banks active in the Netherlands. After an initial slight decline that is followed by an equally slight increase, interest rates show a downward trend in 2009. Interest rates fell to an average of 1.09 percentage points for the major banks and 1.28 percentage points for the other banks in the Netherlands at the end of December 2014. However, the interest rate differential between the other banks and the major banks increased to 1% at the end of 2008. Most likely, the tightened credit conditions in the financial markets caused this increase. The interest rate differential declined again after 2009.

[6] Alternatively, we could have included year dummies for each year to account for time-specific fixed effects. For robustness, we conduct these regressions as well, and the results are available on request. Our findings are comparable in terms of significance, as the *p* value of our main variable of interest (i.e., *Rate*) increases by a maximum of 0.02.

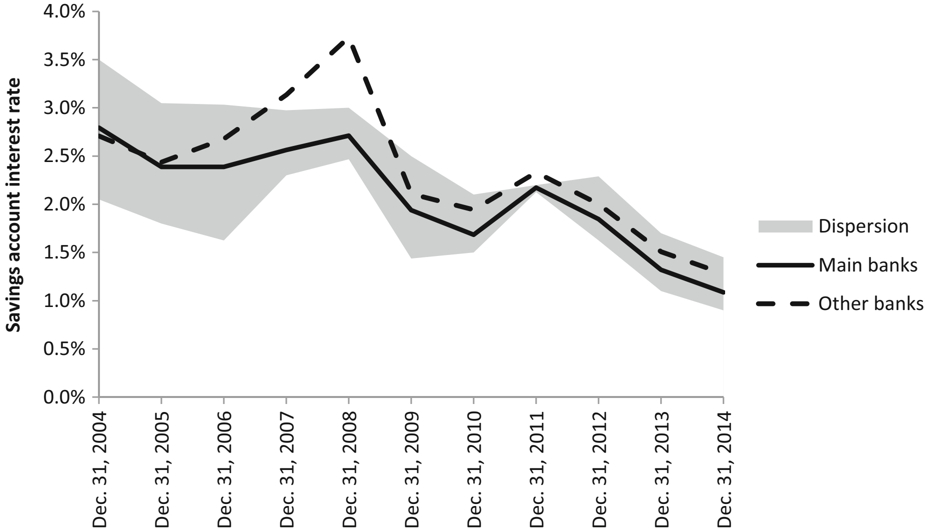

Fig. 1 **Development in savings account interest rates**. This figure depicts the development in interest rates for main banks (solid line, shaded area represents the dispersion) and other banks' (dashed line) savings accounts. The main banks comprise ABN AMRO, Fortis Bank, ING, Postbank, Rabobank, and SNS Bank, while the other banks constitute all other, mostly smaller, banks. Source: *Spaarinformatie*, own calculations

Table 1 shows the composition of our complete dataset. The first row shows our baseline sample that focuses on depositors with one account only in year *t-1*. This sample encompasses 4123 savings account observations (corresponding to 1401 individuals, which are not reported in the table). Out of the 3822 observations related to having one account in year *t-1* as well as in year *t*, 130 constitute a switch from one bank to another bank thus leaving the depositor with one account at the end of year *t*. The opening of one *additional* account occurs 269 times, 29 reflect the opening of two additional accounts, and 3 reflect the opening of three additional accounts. In total, 431 observations (130 + 269 + 29 + 3) involve the opening of at least one new account and hence, a transfer of savings. In 3692 cases (i.e., 3822–130), the depositor maintains the original account and does not open a new account.

Figure 2 displays the annual number of transfers as well as the average proportion of funds that are transferred annually for all years in our baseline sample. The years 2008 and

Table 1 Full sample composition. This table shows a transition matrix where the number of accounts in year *t-1* is connected to the number of accounts in year *t*. The first row shows the composition of our baseline sample. Note: 130 out of 3822 observations where the number of accounts is equal to 1 in both years concern depositors who opened one new account while closing their old one

Number of accounts in year *t-1*	Number of accounts in year *t*					
	1	2	3	4	5	Total
1	3822	269	29	3	0	4123
2	249	1068	92	0	0	1409
3	29	93	328	5	0	455
4	3	1	10	18	3	35
5	0	0	0	7	0	7
Total	4103	1431	459	33	3	6029

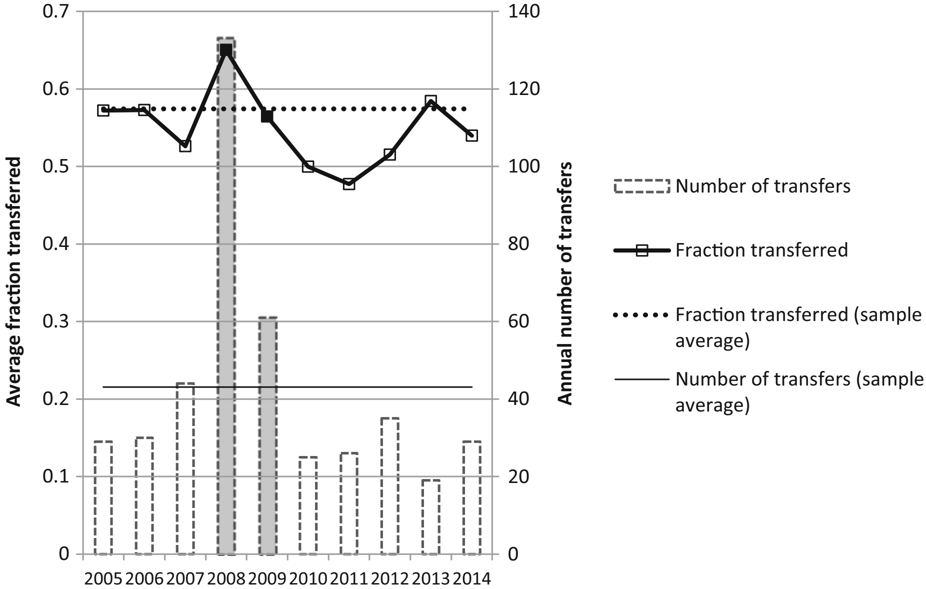

Fig. 2 **Annual numbers of transfers and fractions of transferred savings**. The bars in this chart depict the total number of transfers per year for depositors holding one account in year *t-1* and one or more new accounts in year *t* (our baseline sample). The solid straight line displays the average number of transfers per year. The proportion of depositors' total savings transferred to a new account is reflected by the solid line with markers. The dashed straight line depicts the sample average. The filled markers and shaded bars indicate the peak of the global financial crisis: years 2008 and 2009. Source: DNB Household Survey, own calculations

2009 stand out in terms of both the number of transfers made and the average transfer proportion. In 2008, there were 133 transfers, and the average fraction transferred to a newly opened account equaled 0.65. This is likely to have been a response to the emerging financial crisis. In 2008, Dutch depositors saw government interventions in both the ING Group (bailout) and ABN AMRO/Fortis (nationalization) and experienced the failure of Icesave. Figure 2 shows a considerably higher number of transfers for 2009 as well when the DSB Bank, a medium-sized retail bank, failed. Although imposed transfers are excluded from our sample, the growing press coverage of bank problems might have caused the larger number of transfers at other banks during the financial crisis.

Panel A of Fig. 3 depicts the distribution of the proportions transferred in our baseline sample. We divide all transfers into 10 equally sized bins. The first bin captures the transfers that are larger than 0 that go up to and include transfers of 0.1. The second bin contains transfers larger than 0.1 that go up to and include transfers of 0.2, and so on. The bars depict the number of observations made for each bin. The histogram shows that a majority are relatively small transfers of up to 10% of a depositor's savings. A large proportion of our sample is captured by the last bar that indicates that many depositors transfer (almost) all of their savings from one account to another.

Panel A of Table 2 shows the model variables for our baseline sample. Column (1) presents the variables; and Columns (2) to (5) reflect the mean, standard deviation, median, and the number of observations for our baseline sample. The first two lines present the observations where (a proportion of) savings are transferred to a new account.

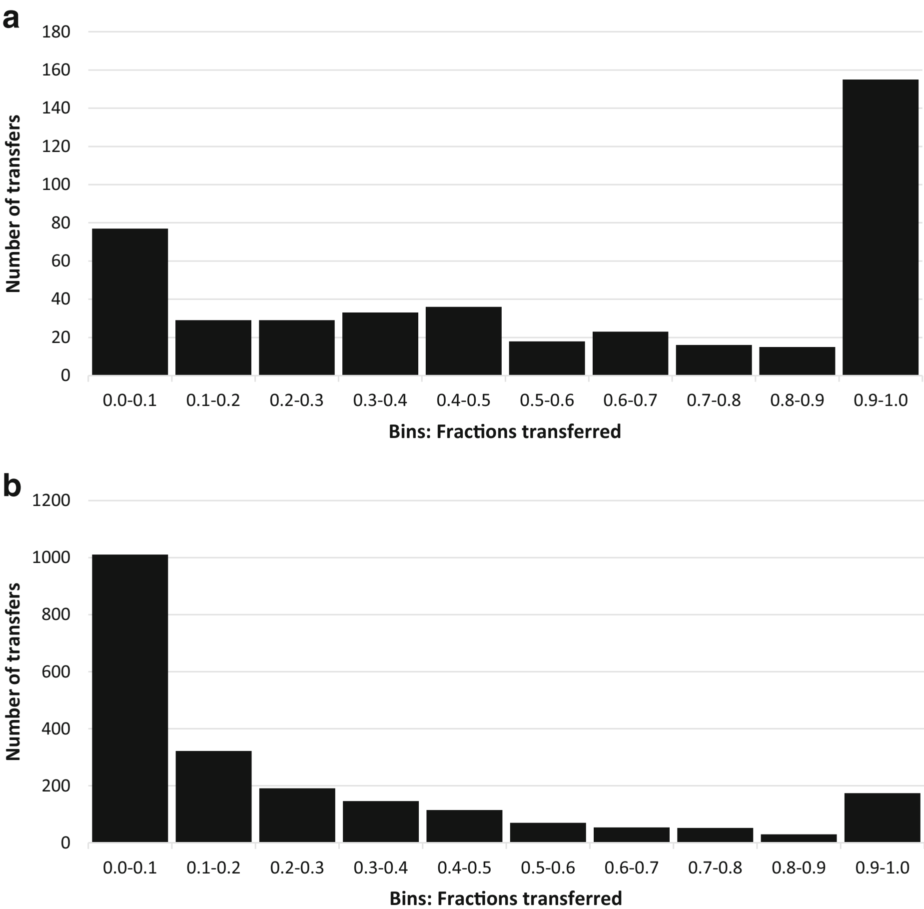

Fig. 3 Histogram of transferred fractions. **a** This chart shows the distribution of transferred proportions for our baseline sample. We created 10 bins, where the first bin represents transfers larger than 0% going up to and including 10% of total savings, the second bin represents transfers larger than 10% of total savings going up to and including 20%, etc. Source: DNB Household Survey, own calculations. **b** This figure shows the distribution of transferred proportions for our extended sample. Source: DNB Household Survey, own calculations

The average proportion equals 57%. The mean interest rate differential between the banks involved (i.e., *Rate*) is negligible at 5.78 basis points. The interest rate at the end of year *t-1* offered by banks experiencing an outflow on average (over banks and over time) equals 2.23% (223 basis points). Financial and demographic variables are observed regardless of whether a depositor transfers savings. The summary statistics for these variables are shown for both switchers and non-switchers. The average change in savings (i.e., *Δ Savings*) from year *t-1* to year *t* amounts to 0.08, which is comparable to an 8% increase in savings. The annual net income (in natural logarithms) equals 9.95, which translates into almost EUR 21,000. The depositors have an average age of 55.3, 64% of them are men, 69% are married, and 44% complete a form of higher education. These depositors are relatively risk averse with an average score of 5.28 on a scale of 1 to 7. On average depositors have almost two different relationships with banks for products other than a savings account. Columns 6 to 8 show the differences between the observations where all savings remain at

Table 2 Statistics

Panel A. This panel provides the statistics for our baseline sample. The construction of our variables is explained in Section 2. Columns 2 to 5 of this panel reflect the main values for the variables in our baseline sample. Column 6 shows the mean for respondents who did not open 1 (or more) new accounts in year *t*, whereas Column 7 shows the mean for individuals who opened a new account and transferred funds. Column 8 depicts the difference; the t-values are given in Column 9.

(1) Variable	(2) Mean	(3) Standard deviation	(4) Median	(5) N	(6) Mean if no new account opened (Transfer = 0, $n = 3692$)	(7) Mean if new account opened (Transfer ≠ 0, $n = 431$)	(8) Difference [(7)–(6)]	(9) t-value
Transfer proportion	0.57	0.38	0.57	431	–	–	–	–
Rate (basis points)	5.78	60.8	12.1	431	–	–	–	–
Interest rate end *t-1*, bp	223	66	230	431	–	–	–	–
Δ Savings	0.08	1.01	0	4123	0.01	0.62	0.61***	8.37
Net income (ln)	9.95	0.80	10.12	4123	9.94	10.04	0.10***	2.63
Age	55.3	15.4	57	4123	55.2	56.7	1.54**	1.99
Gender	0.64	0.48	1	4123	0.63	0.68	0.05**	2.16
Marital status	0.69	0.46	1	4123	0.69	0.70	0.01	0.57
Higher education	0.44	0.50	0	4123	0.43	0.46	0.03	1.11
Risk aversion	5.28	1.68	6	4123	5.27	5.35	0.08	0.92
# Non-savings relationships	1.76	0.80	2	4123	1.74	1.93	0.19***	4.25

Panel B. This panel provides the statistics for our extended sample.

(1) Variable	(2) Mean	(3) Standard deviation	(4) Median	(5) N	(6) Mean if no transfer of savings ($n = 3864$)	(7) Mean if proportion of savings is transferred ($n = 2165$)	(8) Difference [(7)–(6)]	(9) t-value
Transfer proportion	0.25	0.30	0.12	2165	–	–	–	–
Rate (basis points)	1.58	56.3	3.46	2165	–	–	–	–
Interest rate end *t-1*, bp	210	64	216	2165	–	–	–	–
Δ Savings	0.03	0.94	0	6029	0.02	0.05	0.03	1.22
Net income (ln)	10.01	0.76	10.15	6029	10.02	10.00	−0.02	−0.98
Age	56.5	15.1	59	6029	55.3	58.6	3.30***	8.33
Gender	0.65	0.48	1	6029	0.63	0.68	0.04***	3.47
Marital status	0.69	0.46	1	6029	0.69	0.71	0.02	1.37
Higher education	0.48	0.50	0	6029	0.44	0.54	0.10***	7.58
Risk aversion	5.30	1.66	6	6029	5.27	5.36	0.09**	1.96
# of accounts in *t-1*	1.41	0.66	1	6029	1.05	2.04	0.99***	63.7
# Non-savings relationships	1.94	0.89	2	6029	1.76	2.25	0.50	20.6

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

the one existing account (transfer = 0) versus observations where the total (or a proportion of) savings are transferred to one or more new accounts (transfer ≠ 0). Column 9 presents the t-value that corresponds to the difference. The depositors who transfer savings vary in several ways from those that remain with their bank. Financially speaking, depositors opening a new account witness a larger increase in savings as the *Δ Savings* is 0.61 higher. In addition, *net income* (defined in ln) is higher for depositors who decide to transfer deposits. In terms of demographics, these depositors are somewhat older and are more often men. Further, they on average have 0.19 more distinct non-savings bank relationships that supports the finding of Brunetti et al. (2016) that switching occurs more often for bank customers with relationships with more banks.

2.2.1 Extended sample

For our extended sample, we drop the restriction for depositors of holding only one account in year *t-1*. As illustrated in Table 1, this sample yields 6029 savings account observations (1652 distinct depositors that are not depicted in the table). Out of 6029 observations, 2165 constitute a change in the distribution of savings. Similar to our baseline sample (Fig. 2), the average proportion that is transferred and the total number of transfers are higher during the crisis period for the extended sample. The transferred proportion is generally lower than in our baseline sample. This is due to the inclusion of depositors already holding more than one account in year *t-1* for whom the transferred proportion is usually relatively small (e.g., if there are three accounts all with a proportion of 0.33 of total savings, the transferred proportion can never exceed this value). Panel B of Fig. 3 shows the distribution of transferred proportions. The number of transfers is a clearly decreasing function of the proportion of transfers. Similar to the baseline sample, the exception is the bin that represents the largest transferred proportion. Lastly, Panel B of Table 2 shows the summary statistics for the extended sample. The number of observations where no transfer occurs increases slightly from 3692 in our baseline sample to 3864 in our extended sample. This increase reflects the fact that some individuals with multiple accounts do not change the distribution of their savings from year *t-1* to year *t*. However, for our financial variables, there are no differences that are statistically significant. Thus, the decision to open a new account is highly related to an increase in savings (and the level of net income), but an increase in savings (or higher net income) is not needed to revise the distribution of savings in the extended sample. For our demographic variables, the differences between depositors who transfer savings and those who do not mostly show the same sign as in our baseline sample. Due to the increased sample size, the statistical significance in Panel B is higher than that in Panel A.

3 Empirical results

3.1 Baseline sample

Columns 1 to 3 of Table 3 depict the findings for our baseline sample. This sample contains 4123 account-year observations of which 431 concern the opening of a new account. This number means that for 3692 observations, depositors keep their savings in their existing bank account.

3.1.1 First selection equation

Column 1 shows the marginal effects of the selection equation where we explain the likelihood of the decision to transfer savings to a newly opened account. Extending Table 2, we now control for all other explanatory variables in this setting. The independent variable in this selection model is a dummy variable that equals 1 if savings are transferred to a newly opened account, and 0 if no new account is opened. A 10% increase in savings is associated with a 0.4% higher probability of opening a new account. This finding is statistically significant at the 1% level. Age is positively related to the opening of a new account, which is contrary to the findings in the literature. For every 10 additional years of age of the depositor, the likelihood of opening a new account increases by 1%. The indicator of higher education is in accordance with the literature (i.e., higher likelihood of opening a new account for higher educated

Table 3 Regression results of the Heckman model for our baseline sample. The results of the Heckman regressions are given in Columns 1 and 2, and Column 3 reflects the OLS results for robustness. The coefficients for the selection equations represent marginal effects; robust standard errors (clustered at the individual) are given in parentheses

	Baseline sample		
Independent variables	(1) Selection equation Dependent variable OpenAccount	(2) Transfer equation TransferProportion	(3) OLS TransferProportion
Rate		6.094**	6.340**
		(3.003)	(3.021)
Δ Savings	0.041***	0.052**	0.016
	(0.005)	(0.022)	(0.014)
Net income (ln)	0.006	−0.055*	−0.061**
	(0.007)	(0.030)	(0.029)
Age	0.001*	0.001	0.001
	(0.000)	(0.001)	(0.001)
Gender	0.003	−0.038	−0.043
	(0.011)	(0.043)	(0.043)
Marital status	−0.004	0.017	0.016
	(0.011)	(0.042)	(0.041)
Higher education	0.005	−0.089**	−0.093**
	(0.010)	(0.039)	(0.040)
Risk aversion	0.002	−0.015	−0.015
	(0.003)	(0.011)	(0.011)
Crisis	0.185***	0.217***	0.098***
	(0.018)	(0.068)	(0.037)
# Non-savings relationships	0.019***		
	(0.006)		
Lambda		0.173**	
		(0.082)	
Constant		0.790**	1.227***
		(0.338)	(0.277)
Rho	0.441**		
	(0.176)		
Adjusted R^2			0.059
n (uncensored)	431		
n (total)	4123	431	431

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

depositors), but the coefficient is not statistically significant. Other demographic variables do not play a statistically significant role either. Our selection equation shows that the financial crisis played an important role as depositors opened new accounts more often during the crisis period. The financial crisis (*Crisis*) is highly significant with a coefficient of 0.19, which confirms Fig. 2 that shows that the years 2008 and 2009 have a considerably higher number of transfers. The exclusion restriction (*# Non-savings relationships*) is also highly significant: the number of bank relationships in addition to savings accounts is positively associated with the likelihood of opening a new account.

3.1.2 Outcome equation

Column 2, the transfer equation, explains the proportion of savings that is allocated to the newly opened account. Our main independent variable is *Rate*, and it has a strong effect on the size of the transfer. A percentage point higher difference in the interest rate between savings accounts leads to a transfer of 6.1% of a depositor's total savings to the new bank. In addition, the increase in savings is positively associated with the transfer. High-income depositors transfer a lower proportion of wealth when they decide to transfer savings, and highly educated depositors transfer lower proportions of savings to other banks. Age, gender, and marital status do not have statistically significant effects on the proportion of transferred wealth. However, the crisis period does have an effect that confirms our findings in Fig. 2. The transferred proportion is 0.22 higher during the crisis period. The coefficient for lambda (i.e., the inverse Mills ratio) equals 0.17 and is significant, which confirms the need for the Heckman procedure. Similarly, the correlation between the errors of the two Heckman equations (i.e., rho) is positive at 0.44 and highly statistically significant. To illustrate the effect of using a Heckman model on our findings, Column 3 presents an OLS test of the transfer equation. Although probably biased, both the coefficients and their statistical significance are fairly similar to our second Heckman equation. With an adjusted R-squared of 0.06, the model explains a limited proportion of the total variance, which is typical of behavioral models.

3.2 Extended sample

In the above test, we follow the literature and explicitly select depositors with one bank affiliation in year *t-1* only. Opening a new account takes a relatively big effort. In this subsection, we extend our sample by including depositors with multiple accounts in year *t-1*. Transfers in these cases require less effort but are also interesting as most savings transfers in our sample occur without opening additional accounts. As the number of observations now considerably increases, this extension is particularly useful when discussing smaller subsamples.

3.2.1 First selection equation

Columns 1 and 2 of Table 4 illustrate our findings based on the same selection equation as applied in our baseline sample. The sample size increases to 6029 observations with 711 depositors deciding to open a new account. We should note that the average proportion transferred to other accounts is negatively related to the number of accounts a depositor holds in year *t-1* as the transferred proportion cannot exceed the proportion of savings in the account at that time. We therefore explicitly control for the number of accounts in year *t-1* in these regressions. Further, the

Table 4 Regression results of the Heckman model for the extended sample. Columns 1 and 2 provide the Heckman results based on the first selection equation (i.e., did the depositor open a new account?). Columns 3 and 4 provide Heckman results for the second selection equation (i.e., did the depositor change the distribution of savings?). Column 5 provides OLS results for robustness. Columns 6 and 7 apply a transfer threshold based on the second selection equation. The coefficients for the selection equations represent marginal effects; robust standard errors (clustered at the individual) are given in parentheses

	First selection equation		Second selection equation		OLS	Second selection equation; Transfer >1.5 percent	
Independent variables	(1) Selection equation Dependent variable OpenAccount	(2) Transfer equation TransferProportion	(3) Selection equation TransferAction	(4) Transfer equation TransferProportion	(5) TransferProportion	(6) Selection equation TransferAction	(7) Transfer equation TransferProportion
Rate		5.691***		2.910***	3.084***		3.331**
		(2.098)		(0.941)	(0.962)		(1.034)
Δ Savings	0.039***	0.028	0.066***	0.007	0.003	0.039***	0.009
	(0.005)	(0.027)	(0.009)	(0.008)	(0.008)	(0.007)	(0.009)
Net income (ln)	0.002	−0.018	0.013	−0.020*	−0.021*	−0.005	−0.017
	(0.008)	(0.023)	(0.014)	(0.011)	(0.012)	(0.013)	(0.013)
Age	0.000	−0.001	0.001*	−0.000	−0.001	0.001**	−0.001
	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)	(0.000)	(0.001)
Gender	0.001	−0.024	0.006	0.011	0.017	−0.010	0.014
	(0.011)	(0.028)	(0.024)	(0.015)	(0.016)	(0.022)	(0.017)
Marital status	0.005	0.015	−0.012	0.019	0.017	0.004	0.019
	(0.010)	(0.031)	(0.022)	(0.015)	(0.016)	(0.020)	(0.017)
Higher education	−0.001	−0.058**	−0.001	−0.023	−0.021	0.007	−0.026
	(0.009)	(0.029)	(0.021)	(0.015)	(0.016)	(0.019)	(0.016)
Risk aversion	−0.000	−0.013*	0.004	−0.003	−0.002	−0.003	−0.002
	(0.003)	(0.007)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)
Crisis	0.238***	0.121	0.307***	0.102***	0.075***	0.225***	0.108***
	(0.016)	(0.114)	(0.022)	(0.015)	(0.015)	(0.020)	(0.019)
# of accounts in *t-1*	0.015*	−0.211***	0.838***	−0.113***	−0.184***	0.391***	−0.116***
	(0.009)	(0.028)	(0.041)	(0.014)	(0.015)	(0.027)	(0.019)
# Non-savings relationships	0.013**		0.051***			0.391***	
	(0.006)		(0.013)			(0.027)	
Lambda		0.087		0.107***			0.119***
		(0.141)		(0.011)			(0.021)
Constant		0.861**		0.640***	0.859***		0.614**
		(0.387)		(0.116)	(0.121)		(0.134)

Table 4 (continued)

	First selection equation		Second selection equation		OLS	Second selection equation; Transfer >1.5 percent	
Independent variables	(1) Selection equation	(2) Transfer equation	(3) Selection equation	(4) Transfer equation	(5)	(6) Selection equation	(7) Transfer equation
	Dependent variable						
	OpenAccount	TransferProportion	TransferAction	TransferProportion	TransferProportion	TransferAction	TransferProportion
Rho	0.259		0.403***			0.427***	
	(0.400)		(0.037)			(0.066)	
Adjusted R^2					0.237		
n (uncensored)	711		2165			1785	
n (total)	6029	711	6029	2165	6029	6029	1785

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

rho and lambda are not statistically significant. This finding confirms our idea specified in subsection 2.1 that there is less selection bias (if any) when including individuals in the sample that already hold two or more accounts in year *t-1*. In this specification, *Rate* is significant at the 1% level. The coefficient for *Rate* (5.7%) is similar to the coefficient reported in Table 3 (i.e., 6.1%).

3.2.2 Second selection equation

Columns 3 and 4 show the Heckman model based on our second selection equation. This equation shows whether depositors transfer any proportion of their savings. In 2165 cases, individuals transfer funds across accounts. The increase in savings, the depositor's age, and the crisis period all have a positive effect on the decision to transfer savings. We include the number of accounts in year *t-1*, and this control variable is highly significant, both statistically and economically, in our selection equation. Its coefficient equals 0.84 that confirms the higher likelihood of transferring savings once there are more accounts in place. Our exclusion restriction for the Heckman procedure (i.e., # *Non-savings relationships*) is positive and statistically significant. In our transfer equation, *Rate* is positive and highly significant. A percentage point difference in interest rates on savings accounts is associated with a redistribution of 2.9% of savings among the individuals who transfer (a proportion of) of their savings. The smaller magnitude of this coefficient relative to that in our baseline tests is congruent with the construction of *TransferProportion*, which is negatively related to the number of accounts in place given that it sums to one for each depositor *i* in year *t*. *Crisis* (positive) and # *of accounts in year t-1* are highly significant in this specification. The latter's sign shows that the transferred proportion declines when the number of accounts increases. The lambda (0.11) is positive and significant in this model (as is rho), which illustrates the need to control for selection bias. The OLS results in Column 5 are rather similar to the transfer equation estimates in the Heckman model but—as already mentioned—probably biased. Given the significance of rho and lambda when using our second selection equation (i.e., Eq. 3), we apply this alternative in all our follow-up tests on the extended sample.

3.2.3 Robustness check

Our estimations treat all reallocations of savings as deliberate transfers. In reality, an increase in the proportion of savings might arise not as a result of a redistribution but merely as a result of a higher rate of interest earned on one account than on another. This possibility means that we can implement a threshold in our analyses to exclude the effect of the interest rate. To incorporate this concern, we slightly modify our *TransferAction* variable. Since the interest rate differential equals less than 1.5%age points in all our observations, we set the dependent variable in our decision (i.e., selection) equation to 1 if more than 1.5% of a depositor's savings is transferred, and 0 otherwise.[7] Of the 2165 transfers in our extended sample, 380 do not surpass this threshold. Columns 6 and 7 of Table 4 show our findings. The results of our transfer equation are similar to those presented in Columns 1 and 2, both in terms of economic and statistical significance. Hence, our main results are not exclusively driven by the difference in interest rates.

[7] To account for rounding errors or small input errors, we tested this variable for larger thresholds as well (i.e., 0.02, 0.03, and 0.10). Both the economic and statistical significance of *Rate* remain unchanged. Results are available from the authors on request.

3.3 Crisis versus non-crisis periods

Our graphic exploration (i.e., Fig. 2) as well as our model outcomes (Tables 3 and 4) show that depositors transferred relatively large proportions of their total deposits during the 2008–2009 financial crisis. Anecdotal evidence points to a flight-to-safety behavior, as "many depositors consider Rabobank, not stock market listed, a safe haven in these turbulent times" (Business Insider 2009), despite the deposit guarantee scheme active in the Netherlands. Since we are most concerned with the difference in the interest rates, we split our sample into crisis years versus non-crisis years. We make this split both for the baseline sample and the extended sample. The results for our baseline sample are presented in Panel A of Table 5. Columns 1 and 2 present our estimation results for non-crisis years (transfer behavior during 2005–2007 and 2010–2014), and Columns 3 and 4 for crisis years (2008–2009). As in our previous findings, the coefficient for *Rate* during the non-crisis period is positive. However, the coefficient is not statistically significant at conventional significance levels. This is possibly due to the limited size of the sample. During the crisis period, the coefficient for *Rate* equals 8.460 and is statistically significant at the 5% level. For both periods, the increase in savings is a highly significant control variable.

For our extended sample (Panel B), we find that—during both the non-crisis periods and the crisis period—the effect of *Rate* is both economically and statistically significant at levels equal to those presented in the full-period sample. All our statistically significant control variables have the same sign as in Table 4, except for the change in savings that turns negative in Model 4.

4 Robustness tests

4.1 Various model specifications

The closure of an account might significantly affect the transfer decision. The closure of accounts can occur, for example, because of distrust, concerns about ethical or green bank policies, and costs. Alternatively, if they only partly transfer their savings, depositors hold on to the account they had in year *t-1*, and the above considerations are not expected to play a dominant role. Hence, the difference in interest rates could play a relatively larger role. If we exclude transfers that concern the closing of an existing account from our sample, we indeed find an increase in the effect of *Rate* (not reported).[8] In our baseline sample, the coefficient for *Rate* increases from 6.09 to 7.63. In our extended sample, the coefficient increases from 2.91 to 3.68. This increase could also fully or in part be attributed to the fact that transfers related to the closure of an account are generally larger.

Our second test in this subsection considers potential differences between depositors with increasing savings versus depositors with decreasing savings from year *t-1* to year *t*. We test for this distinction by including an interaction variable between *Rate* and Δ *Savings*. This interaction effect is insignificant for both the baseline sample and the extended sample (not reported).

For our third and final test, we add a dummy variable to control for past transfer behavior (not reported in a table). This dummy variable is one if a transfer occurred in the previous year,

[8] All unreported results are available from the authors on request.

Table 5 Regression results of the Heckman model: crisis vs non-crisis period

Panel A. Baseline sample. Columns 1 and 2 reflect non-crisis years, and Columns 3 and 4 reflect crisis years (the 2008–2009 period). Equation 1 is used for the selection equation. The coefficients for selection equations represent marginal effects; robust standard errors (clustered at the individual) are given in parentheses.

	Non-crisis		Crisis	
Independent variables	(1) Selection equation Dependent variable OpenAccount	(2) Transfer equation TransferProportion	(3) Selection equation OpenAccount	(4) Transfer equation TransferProportion
Rate		3.377		8.460**
		(3.839)		(3.912)
Δ Savings	0.039***	0.118**	0.064***	−0.017
	(0.005)	(0.027)	(0.016)	(0.021)
Net income (ln)	0.002	−0.044	0.030	−0.033
	(0.006)	(0.032)	(0.027)	(0.046)
Age	0.000	0.001	0.002	0.002
	(0.000)	(0.002)	(0.001)	(0.002)
Gender	0.002	−0.099*	−0.001	−0.017
	(0.010)	(0.518)	(0.043)	(0.068)
Marital status	−0.010	−0.025	0.037	0.044
	(0.011)	(0.055)	(0.038)	(0.064)
Higher education	0.006	−0.080	−0.011	−0.100
	(0.010)	(0.049)	(0.039)	(0.061)
Risk aversion	−0.000	−0.028*	−0.004	0.002
	(0.002)	(0.014)	(0.038)	(0.017)
# Non-savings relationships	0.012**		0.063***	
	(0.006)		(0.021)	
Lambda		0.092		0.304***
		(0.094)		(0.066)
Constant		0.881**		0.480***
		(0.366)		(0.481)
Rho	0.264		0.698***	
	(0.255)		(0.097)	
n (uncensored)	237		194	
n (total)	3400	237	723	194

Panel B. Extended sample. Columns 1 and 2 reflect non-crisis years, and columns 3 and 4 reflect crisis years (the 2008–2009 period). Equation 3 is used for the selection equation. The coefficients for the selection equations represent marginal effects; robust standard errors (clustered at the individual) are given in parentheses.

	Non-crisis		Crisis	
Independent variables	(1) Selection equation Dependent variable TransferAction	(2) Transfer equation TransferProportion	(3) Selection equation TransferAction	(4) Transfer equation TransferProportion
Rate		2.644**		4.113**
		(1.129)		(1.700)
Δ Savings	0.058***	0.027**	0.066***	−0.028**
	(0.011)	(0.010)	(0.016)	(0.013)
Net income (ln)	0.005	−0.023*	0.039	−0.009
	(0.014)	(0.012)	(0.028)	(0.022)
Age	0.001	−0.000	0.002	−0.000
	(0.001)	(0.001)	(0.001)	(0.001)
Gender	0.006	0.010	0.002	0.005
	(0.025)	(0.017)	(0.045)	(0.030)
Marital status	−0.024	0.018	0.035	0.024
	(0.023)	(0.017)	(0.040)	(0.029)
Higher education	0.002	−0.023	−0.011	−0.027
	(0.021)	(0.016)	(0.039)	(0.029)
Risk aversion	0.002	−0.005	0.006	−0.003
	(0.005)	(0.005)	(0.011)	(0.007)
# of accounts in *t-1*	0.767***	−0.085***	0.849***	−0.175***
	(0.039)	(0.014)	(0.082)	(0.022)
# Non-savings relationships	0.040***		0.072***	
	(0.014)		(0.027)	
Lambda		0.101***		0.131***
		(0.012)		(0.018)
Constant		0.621***		0.736***
		(0.125)		(0.225)
Rho	0.403***		0.444***	
	(0.045)		(0.054)	
n (uncensored)	1575		590	
n (total)	4907	1575	1122	590

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

zero if there was no transfer in the previous year, and missing if we do not know if there was a transfer during the previous year (i.e., if the depositor appeared in our sample for the first time). Its coefficient is positive and very significant in the selection equation (as most people with more than one account transfer savings regularly) and significantly negative in the transfer model. Thus, the depositors who regularly transfer savings reallocate lower proportions. This reallocation could be because these depositors are the ones holding multiple accounts and consequently transfer relatively low proportions of their total wealth in each transfer. In both our baseline and extended samples, we lose a considerable number of observations when including this variable. The significance level of our interest rate variable drops somewhat in both samples but remains significant at the 10% level in the baseline sample and at the 5% level in the extended sample. Alternatively, we can set the dummy to zero if we do not know if there was a transfer during the previous year instead of dropping the observation. This dummy allows us to use the full sample, but it has no qualitative effect on our findings.

4.2 Alternative definition of *Rate*

In all our model specifications, our independent variable of key interest is *Rate* that we define as the differences in the average interest rates between the banks involved in a transfer. In this robustness test, we use a new definition of *Rate*. For $Rate2_{it}$, we consider *changes* in the difference in the interest rates that occur during the year of the transfer. For example, for a depositor who has savings accounts at Banks A and B in year *t-1* and transfers savings from Bank A to Bank B in year *t*, we deduct the change in the interest rate of Bank A from that of Bank B. Each 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 B increases its interest rates during the year relative to Bank A. To test the role of changes in the difference in the interest rates, we run a Heckman procedure for both our baseline sample and our extended sample in which we replace *Rate* in Eq. 2 with *Rate2*. Table 6 presents our estimation results for both samples. In our baseline sample, the coefficient for *Rate2* equals 12.93 in the transfer model, which means that a percentage point higher increase in the interest rate of the receiving bank relative to the increase at the original bank is associated with a transfer of 12.93% of a depositor's total savings. The *Rate2* effect is twice as large as the *Rate* effect due to the almost 50% smaller variation in the underlying variable *Rate2* versus *Rate*. This finding shows that the difference during the past year plays a role in this decision, in addition to the difference in interest rates considered in the majority of this paper. In our extended sample, the *Rate2* effect is 4.13. The effect in this sample is no longer significant ($p = 0.11$) at generally accepted significance levels. These findings indicate that the *change* in the difference in the interest rates is not as important as the difference in the interest rates when explaining the proportion of savings transferred.

5 Conclusion

We examine 10 years of savings transfers by depositors in the Netherlands. Unlike the literature, which focuses on a depositor's switch from their most frequently used bank or bank account, we consider the transfer of proportions of savings between all depositor's savings accounts. We match the degree of switching between banks with the interest rate differential. After controlling for demographic factors, we find that the transfer of deposits is positively

Table 6 Estimation results of the Heckman model using an interest rate change differential. The results of the Heckman model are given in Columns 1 and 2 for our baseline sample, and in Columns 3 and 4 for our extended sample. Equation 3 is used for the selection equation; the coefficients for the selection (i.e., decision) equations represent marginal effects; robust standard errors (clustered at the individual) are given in parentheses

	Baseline sample		Extended sample	
Independent variables	(1) Selection equation Dependent variable OpenAccount	(2) Transfer equation TransferProportion	(3) Selection equation TransferAction	(4) Transfer equation TransferProportion
Rate2		12.927*		4.130
		(7.837)		(2.598)
Δ Savings	0.041***	0.057**	0.066***	0.008
	(0.005)	(0.022)	(0.009)	(0.008)
Net income (ln)	0.006	−0.054*	0.013	−0.021*
	(0.007)	(0.030)	(0.014)	(0.011)
Age	0.001*	0.001	0.001*	−0.000
	(0.000)	(0.001)	(0.001)	(0.000)
Gender	0.003	−0.044	0.006	0.010
	(0.011)	(0.044)	(0.024)	(0.015)
Marital status	−0.004	0.016	−0.012	0.019
	(0.011)	(0.042)	(0.022)	(0.016)
Higher education	0.005	−0.084**	−0.001	−0.021
	(0.010)	(0.040)	(0.021)	(0.015)
Risk aversion	0.002	−0.014	0.004	−0.003
	(0.003)	(0.011)	(0.005)	(0.004)
Crisis	0.185***	0.218***	0.308***	0.102***
	(0.018)	(0.068)	(0.022)	(0.015)
# of accounts in *t-1*			0.839***	−0.113***
			(0.040)	(0.014)
# Non-savings relationships	0.019***		0.051***	
	(0.006)		(0.013)	
Lambda		0.174**		0.108***
		(0.082)		(0.011)
Constant		0.788**		0.644***
		(0.335)		(0.116)
Rho	0.442**		0.405***	
	(0.176)		(0.037)	
n (uncensored)	431		2165	
n (total)	4123	431	6029	2165

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

related to the difference in interest rates between the banks involved in the transfer. This finding is robust to different sample selections and different model specifications. We also observe that the proportion of deposits transferred increases during the financial crisis, but the interest rate does not lose its explanatory power during that period.

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