The Run from Safety: How a Change to the Deposit Insurance Limit Affects Households' Portfolio Allocation*

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Abstract

We study how an increase to the deposit insurance limit affects household portfolio allocation. We argue that an increase in deposit insurance exogenously increases the share of safe assets in the household portfolio. Using detailed information on the portfolio holdings of Canadian households, we document that households respond by drawing down safe deposits and increasing exposure to risky mutual funds and stocks. This is consistent with households attempting to maintain a constant allocation between safe and risky assets, as suggested by standard asset pricing models. Our results point to an overlooked policy implication of deposit insurance, as a more generous coverage may result in outflows of deposits from the banking sector, a re-allocation of deposits within the banking sector, and to non-trivial changes in household portfolios.

Keywords: Deposit insurance; Banking; Households; Regulation
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1 Introduction

Deposits are an important source of savings for households. For example, Badarinza et al. (2016) document that deposits represent on average 15% of households' wealth in developed economies. At the same time, most countries offer limited deposit insurance (Demirguc-Kunt et al. (2014)), meaning that deposits are guaranteed up to a certain amount. Thus the limited nature of deposit insurance creates safe and risky deposits, and deposit limit changes alter the amount of safe vs. risky deposits for a given deposit balance.

In this paper we interpret an increase in the deposit insurance limit as an exogenous shock to the degree of riskiness in a household's portfolio, and study how the household responds. In order to set the stage for the analysis, consider a household with a partially-insured deposit of $200,000 held in one bank account. If the insurance limit is $60,000, the household effectively risks $140,000. Raising the limit to $100,000 converts some of the uninsured balance into insured one, resulting in the household only risking $100,000. Suppose that the household targets a fixed share of risky assets in its portfolio, as predicted by standard asset pricing theory (see e.g. Merton (1971)). In this case, the household may want to restore the pre limit increase share of risky assets in her portfolio by withdrawing $140,000 from the bank and purchasing some other risky asset outside the banking system, such as a stock or a mutual fund. Restoring the share of risky assets has two consequences: One, an increase in the deposit insurance limit results in an *outflow* of bank deposits out of the banking system. Second, households portfolios contain more non-deposit risky assets. This paper tests both of these implications of an increase in the deposit insurance limit.

To our knowledge, the effect of an increase in deposit insurance limit on aggregate deposits operating through a readjustment of households' portfolios has not been previously studied in the literature. While Pennacchi (2010) and Calomiris and Jaremski (2016) identified deposit flows from uninsured banks towards insured ones upon selective introduction of deposit insurance, they did not explicitly consider implications of deposit insurance on aggregate deposit flows. Conventional wisdom would have it that an increase in the deposit insurance limit *prevents* deposit outflows from the banking system. While this may be true in crises, we show that outside of a crisis the effect may be reversed. And while a higher deposit insurance limit may exacerbate moral hazard, thereby leading to an aggregate outflow, depositors withdrawing funds should be expected to purchase safer assets, as opposed to riskier ones, as implied by our mechanism.

The challenge in identifying the effect of a deposit insurance limit change on the portfolios of households is twofold. First, one needs access to granular data that differentiate various deposits as insurance frameworks are complex and unlikely to cover all types of accounts (Demirguc-Kunt and Huizinga (2004)). For instance, insurance might only apply to a specific group of depository institutions, or depend on account characteristics, such as whether it is held under one person's name or jointly with another depositor. Second, the limit usually changes in response to a crisis, making it empirically challenging to disentangle the effect of the policy form that of the crisis. While some document that in times of stress banks benefit from inflows of deposits thanks to an explicit government guarantee (Gatev and Strahan (2006), Ivashina and Scharfstein (2010), it is unclear whether these inflows are due to the government guarantee on its own, or a "flight-to-safety" by investors.

We address these challenges by studying the consequences of a deposit insurance limit increase outside of a crisis period and by using detailed household survey data to precisely distinguish insured from uninsured deposits. In 2005, the limit on deposits insured by the Canada Deposit Insurance Corporation (CDIC) was raised from $60,000 to $100,000 in order to "enhance protection for consumers, promote competition among deposit-taking institutions, and help Canadians save for retirement".[1] By using detailed household-level

[1] See "Budget 2005: Budget Plan - Chapter 4", `http://www.fin.gc.ca/budget05/bp/bpc4e-eng.asp`, accessed July 2017.

survey data, we can cleanly identify different types of deposits and shed light on the household finance implications of such a policy change. We focus on households with large uninsured deposit balances, those most affected by the policy change, and compare their portfolio allocation behavior from 2003 to 2006 to similarly wealthy households who only hold fully-insured deposit balances (unaffected households).

Using a difference-in-differences specification, we show that in the year following the limit increase (i.e. 2006), affected households rebalanced their portfolios away from bank deposits. Our specifications suggest that the affected group reduced its holdings of deposits by about 11% and reallocated them towards risky assets, mainly mutual funds, increasing holdings in that asset category by 26%. We probe deeper and consider the fully-insured (balance $\leq$ limit) vs. partially-insured (balance $>$ limit) accounts belonging to individual affected households. We confirm that depositors withdraw large amounts from their partially-insured accounts, leaving fully-insured ones relatively intact, presumably as those are used for transactional purposes. Overall, we estimate that \$16.1 billion (or 2.7% of outstanding personal Canadian deposits in 2004) were moved to risky assets in the year following the limit increase.

After showing that household demand for deposits is elastic, we turn our analysis to deposit rates. If the return on partially-insured deposits does not decrease following the higher limit, then households are less likely to substitute away from deposits and towards other risky assets (since large balance accounts would have lower risk but the same return). Confirming results in Egan et al. (2017) who show that the return on partially-insured deposits is related to the insurance limit and Iyer et al. (2016) who document that uninsured retail depositors are sensitive to the insurance limit, we document that banks decrease rates on partially-insured term deposits (i.e. those with a minimum deposit balance of \$60,000) relative to fully-insured ones (i.e. those with a maximum balance of \$60,000).

Pushing the analysis further reveals substantial heterogeneity in banks' responses to the higher limit. Specifically, banks who cut rates more aggressively on partially-insured deposits also benefit from inflows of *fully-insured* deposits. These inflows are driven by households with multiple insured accounts in the pre-period. Following the limit increase, such depositors end up consolidating fully-insured accounts, moving funds into those banks who cut rates more substantially. Ultimately, the increase in deposit insurance results in a significant redistribution of deposits among banks, with deposit outflows due to the portfolio rebalancing of households at one set of banks in part offset by inflows from another set of banks due to account consolidation. Banks suffering outflows due to account consolidation are unable to react by offering higher rates.

We conduct multiple robustness checks to confirm that the portfolio changes are due to the increase in the insurance limit. Extending the sample to 2000-2004 verifies that there are no significant differences in the portfolio allocations between affected and unaffected households. This rules out the presence of pre-existing trends, and supports our choice of the difference-in-differences framework. We also confirm that housing dynamics are not driving the differences in portfolios, as suggested by (Chetty et al. (2016), by controlling for home values and home equity positions of the households. Using information on the reliance on financial advice, we rule out the possibility that households' were unaware of their portfolio composition (perhaps due to factors such as automatic saving plans). Finally, we alleviate the concern that the documented mutual fund inflows were driven by the introduction of an investor protection fund (also in 2005), since results still hold for a sub-set of households that were less-likely affected by this policy change.

Our contribution is twofold. First, although there is a well-established literature on the financial stability benefits and moral hazard consequences of deposit insurance (see Allen et al. (2015) for a recent review of these issues), we document an overlooked policy implication of a higher deposit insurance limit. While it enhances protection against runs, it also pushes households to change the risk characteristics of their portfolios, as they convert deposits to stocks and mutual funds. This unexplored policy implication suggests that a higher coverage, which exogenously increases the share of safe assets in a household's portfolio, could lead to an aggregate outflow of deposits from banks.

Our paper is also among the first to study the implication of deposit insurance on household portfolios. The household finance literature tends to classify deposits homogeneously, treating them essentially as cash, lumping together insured and uninsured accounts with other forms of current savings (see Guiso and Sodini (2013)). Our results highlight the role that uninsured deposits play in the household investment decision, and the importance of considering them separately when analyzing portfolio allocation choice. Previous studies consider how changes in stock prices affect household rebalancing of their portfolio's risky share (Brunnermeier and Nagel (2008) and Calvet et al. (2009), or more recently, how housing interacts with the household's financial portfolio (Chetty et al. (2016). We provide direct evidence on how households react to a government policy by rebalancing portfolios.

The reminder of this paper is organized as follows: the next section introduces our analytical framework, focusing on the hypothesis development and the identification strategy. Section three reviews the survey data and sample construction, while section four presents our main results. Section five discusses the robustness checks and section six concludes.

2 Analytical Framework

2.1 Hypothesis Development

Merton (1969) and Samuelson (1969) show that that if the household has a constant relative risk aversion utility function, markets are complete and labor income is ignored, the optimal portfolio share of risky assets in financial wealth should be constant throughout the life-cycle. Following Cocco et al. (2005), this is denoted as:

$$\alpha = \frac{\mu}{\gamma \sigma_{\nu}^{2}},$$

where μ is the excess return of risky assets compared to safe assets ($R_{Risky} - R_{Safe}$), σ_ν^2 is the standard deviation (i.e. risk) associated with the risky asset and γ is the household's risk aversion.

The recent literature on household financial portfolio rebalancing mostly concentrated on extending this idea by looking at variations in labor income, return on risky assets and transaction costs, to investigate why investors do not maintain a constant α. In particular, given that labor income is not constant and riskless, the life-cycle pattern of human capital should determine the asset allocation of investors' portfolios. Specifically, early on when human capital is abundant, there are strong incentives to hold risky assets, but as investors get older and human capital diminishes, households tend to rebalance towards safer assets. Cocco et al. (2005), Guiso et al. (2002) and Fagereng et al. (2017) examine how households rebalance their portfolio composition as they age and enter retirement. Meanwhile, another strain in the literature (such as Brunnermeier and Nagel (2008) and Calvet et al. (2009)) analyze portfolio rebalancing after shocks to risky asset returns (changes in stock prices), and Chetty et al. (2016) focus on the impact of housing on households' portfolio choices.

This study takes a different perspective. We examine household portfolio rebalancing following a policy change that converts some assets from risky to safe. In the absence of any substantial changes to μ, σ_ν^2 and γ, this should result in the weight of risky assets falling below the optimal α, requiring a rebalancing of the portfolio. It is likely that households respond by shifting funds out of the asset that becomes safe towards risky assets.[2] Furthermore, as our study spans a relatively short period of time (four years), life-cycle considerations related to labor income and portfolio composition are less of a concern. This allows us to focus on how an optimal portfolio decision made at a certain point in a household's life-cycle is affected by an exogenous increase in the share of safe assets in its portfolio.

[2] In the robustness section, we consider and rule out alternate explanations related to a change in α itself, which may be due to a change in the financial advice received by the household (a change in γ) or changes in risk appetite due to housing-related factors (again, a change in γ).

Generally speaking, the literature considers risky-assets to be stocks, non-money market mutual funds and corporate bonds, whereas safe assets are broadly defined as bank deposits, money market mutual funds and government bonds. Identifying whether deposit insurance affects portfolio decision requires a finer definition of bank deposits, specifically, insured vs. uninsured deposits.

Depositors with large balances (or "high-value depositors") can alter the riskiness of their deposits by allocating them in different ways. Having a deposit with balances above the insurance limit ("partially insured" accounts) exposes the depositors to risk, since in case of a bank failure, the amount above the limit may be lost. For portfolio purposes then, one can decompose partially-insured deposits into a safe component that is fully-insured, and a risky one (*balance* - *limit*). Nevertheless, while not completely safe, the infrequent nature of bank failures in Canada (only 4 banks failed since 1986) makes partially-insured deposits a less risky investment relative to stocks, corporate bonds and non-money market mutual funds.

High-value depositors can also split funds across multiple accounts, thereby achieving full coverage on each account separately. While this may be attractive to some depositors, there might be various (and unobserved) transaction costs associated with maintaining multiple bank accounts. Furthermore, insured accounts tend to offer lower yields compared to partially-insured deposits. Our household-level data suggests that both strategies (full vs. partial insurance coverage) are commonly used by high-value Canadian depositors and Shy et al. (2014) provide evidence of similar behavior in the US.

Given this framework, we assume that wealthy households choose a portfolio comprising of safe assets (insured bank deposits, government bonds and money market mutual funds) and risky assets (uninsured bank deposits, corporate bonds and non-money market mutual funds). The increase in the deposit insurance limit converts some bank deposits from uninsured to insured, altering the portfolio share of risky assets below the optimal α. This change requires the household to rebalance its portfolio by using bank deposits to buy risky assets. Therefore, our main hypothesis is that a higher deposit insurance limit is associated with households holding fewer bank deposits and more risky assets.

Our framework implies that, all else equal, an increase in the deposit insurance limit results in a decrease in total deposits, as some households substitute non-deposit risky assets for partially-insured deposits. Indeed, Figure 1 suggests that the limit increase in early 2005 was followed with a slowdown in the growth rate of deposits, consistent with our priors.[3] The personal deposits-to-assets ratio also fell during our sample period. The mechanism we discuss above can explain this outcome by tying the deposit insurance limit change to the household portfolio allocation decision.

[INSERT FIGURE 1 HERE]

2.2 Identification: Difference-in-Differences

We analyze the effect of the 2005 deposit insurance limit increase on the household portfolio allocation decision in a difference-in-differences setting. We define the group that is most "affected" by the limit increase as the depositors who had at least one partially-insured account, i.e. with a balance greater than \$60,000, during the pre-change period. For them, any amount above the pre-change limit of \$60,000 but below the new limit of \$100,000 becomes fully insured.

The "unaffected" group includes depositors without any partially-insured accounts during the pre-change period, despite having a total deposit balance above the pre-change limit of \$60,000. These depositors *could* have been partially-insured, if they had concentrated all (or most) of their deposits in a single account. Instead, they achieved full coverage by

[3] This pattern reverses itself in mid-2007, which is also the time when first signs of the upcoming financial crisis appeared in Canada (such as a severe disruption in the non-bank sponsored asset backed commercial paper market.

spreading deposit balances across multiple accounts or institutions. We assert that the limit increase did not alter the portfolio composition of these households. Since none of their accounts were partially-insured to start with, the share of risky assets in their portfolios should remain unchanged with the higher limit.

We limit the unaffected group to households that had the potential to be partially-insured if they chose to do so. In contrast, households without \$60,000 in *total* financial wealth in the pre-change period (even if they held all of their wealth in a single deposit account, this account would have been fully insured) are likely to have much different characteristics compared to the affected group. Similarly, wealthy households with more than \$60,000 in total financial wealth, but with less than \$60,000 in deposits can differ from the affected households, especially regarding risk appetite (γ in the discussion above).

After establishing the groups of affected and unaffected households, we compare the portfolio allocations of the two groups the periods before vs. after the limit change. We do this by estimating the following depositor-level OLS regression:

$$Y_{i,t} = \alpha_1 + \alpha_2 Affected_i \cdot Post_t + \alpha_3 Post_t + \alpha_4 Affected_i + \alpha_5 X_{i,t} + \epsilon_{i,t}, \tag{1}$$

where $Y_{i,t}$ is the outcome variable measured in year t for depositor i, $Affected$ is a dummy variable that equals one for affected depositors, $X_{i,t}$ is a vector of time-varying depositor characteristics. It includes gross income, total wealth, age (and age squared), a marital status dummy, home ownership dummy, household size, education level dummies (high school, some college and college), a dummy variable for whether the household lives in a large metropolitan area and dummy variables for each of the ten Canadian provinces. We cluster the standard errors at the level of the depositor's local area, captured by the first two digits of the depositor's postal code. The coefficient of interest is α_2, which captures the change in $Y_{i,t}$ following the increase in the deposit insurance limit.

While estimating Equation 1 via OLS, we also recognize that our dependent variables are bounded between zero and one (given that they are portfolio weights). This suggests that the effect of any independent variable cannot be the constant throughout the bounded range of $Y_{i,t}$; otherwise, the model can generate predictions below zero or above one for our "fractional" variable $Y_{i,t}$. We account for this possibility by estimating a "fractional logit" model, as developed by Papke and Wooldridge (1996), using the following general linear model (GLM):

$$E(Y_{i,t}|\mathbf{x}) = G(\alpha_1 + \alpha_2 Affected_i \cdot Post_t + \alpha_3 Post_t + \alpha_4 Affected_i + \alpha_5 X_{i,t}), \tag{2}$$

where $\mathbf{x}$ represents the vector of all our covariates and G(.) is a logistic link function.[4]

Another concern is that the affected and unaffected groups could differ along some dimensions that are correlated with the portfolio allocation decision, which would then bias the estimation. We address this concern with an empirical specification where depositor characteristics are fixed as of the pre-change period, and they are interacted with $Post_t$. This specification, as discussed in Barrot (2016), ensures that the results are not driven by the pre-period differences between affected and unaffected households. It also alleviates the concern that the estimation is biased due to the heterogenous distribution of depositor characteristics such as age, wealth, and education. The equation for this specification is

$$Y_{i,t} = \alpha_1 + \alpha_2 Affected_i \cdot Post_t + \alpha_3 Post + \alpha_4 Post \cdot X_i + \delta_i + \epsilon_{i,t}, \tag{3}$$

where most variables are as defined above, except X_i is now the vector of depositor characteristics measured at the pre-change period and δ_i is a household-level fixed effect. Note

[4]However, the use of a fractional logit model in a DinD setting also raises its own issues related to the complexity of using and interpreting interaction terms in nonlinear models (Ai and Norton (2003)). Accordingly, we opt to use the OLS estimation of Equation 1 and the fractional logit model in Equation 2 together as complements. The two models yield very similar results.

that X_i no longer enters separately in this specification, as it is absorbed by δ_i.

3 Household Survey Data

Our starting point is the Canadian Financial Monitor (CFM) survey conducted annually by the marketing firm Ipsos-Reid. The CFM includes an annual sample of approximately 12,000 households and some complete it more than once, usually in consecutive years.

Our variables of interest come from the CFM section that covers households' banking habits, in particular their checking, savings, and term deposit holdings. The data includes the type of account, amount held, and the institution's identity. The availability of such detail allows us to analyze and categorize deposits at the account level. The survey also contains sections on households' holdings of stocks, bonds and mutual funds, and detailed demographic information, such as household composition, age, income, occupation and employment status.[5] Based on the above information we define a household's total financial assets as:

$$\textit{Financial Assets} \quad = \quad \textit{Deposits} + \textit{Safe Financial Assets} + \textit{Risky Assets}.$$

Safe financial assets include government bonds and money market mutual funds, while risky assets are stocks, non-government bonds and mutual funds. We split our sample into two periods: pre-change covers the years 2003 and 2004, while the post-change period is 2006. We then build a panel sample by identifying households that show up at least once in both the pre-change and post-change periods. For households that show up more than once in the pre-change period (i.e. the household completed the survey in both 2003 and 2004), we drop the 2003 observation. Given our identification strategy, we limit the sample to

[5]This data has been used by Foerster et al. (2017) who study the influence of financial advisors on their Canadian clients' portfolios.

those households with *pre-change* financial assets and deposit balances that are greater than $60,000.

Correctly classifying fully- vs. partially-insured households within that sample requires us to identify and analyze each deposit account for each household. This involves several steps, given the Canadian deposit insurance rules and regulations. For example, the rules allow two savings accounts of the same household in the same institution to be separately insured up to the limit if one account is solely owned by one spouse, while the other is jointly owned. Therefore, we take into consideration whether the account is held by the "male head of household", "female head of household", "other member of household" or "held jointly", while counting the number of accounts each household holds in any given institution. If the household has more than one account with the same owner, then we combine these accounts into one "bundle", since the deposit insurance limit will apply to the combined balance of these accounts. Meanwhile, two savings accounts owned by different members of the household are treated as two separate bundles.[6]

A subsidiary benefits from deposit insurance separately from its parent if the subsidiary is a member of CDIC. Therefore, a household can maintain accounts with both a parent and its subsidiary, and each account will be individually insured up to the limit. In calculating the number of "bundles", we also account for CDIC-member subsidiaries. Similarly, "registered" accounts linked to retirement or educational savings plans are insured on their own, so we need to treat registered and non-registered accounts owned by the same member of the household in the same institution as separate bundles. Once each bundle is identified as such, we compare the balances in each bundle to the applicable limit (based on the insurance scheme covering the bundle) and determine if it exceeds the limit. For expositional ease, we

[6] As a concrete example, if household i has one joint checking account, one joint savings account, one savings account owned by the male head of household and two time deposits owned by the female head of household in bank b, we consider this household to hold three "bundles" for insurance purposes (after combining the joint checking and savings accounts together, and counting two time deposits of the female head of household as a single account).

refer to these bundles as "accounts" from this point on.[7]

Our final sample includes 883 households for each period; 491 of them are partially insured and represent the treatment group, whereas 392 are fully insured and as such serve as the control group. Table 1 compares the groups and establishes a number of stylized facts. During the pre-period, the groups are relatively similar in terms of their portfolio shares held in insurable deposits (66% vs. 69%) and safe assets (4% vs. 5%). While the risky share for the affected households is significantly lower compared to that of the unaffected group (22% vs. 26%), the affected HHs are also slightly older (by about 3 years), providing some evidence in favor of the life-cycle patterns discussed previously. Furthermore, the significant difference in the risky share might also be attributed to the difference in the ratio of home equity to financial wealth between the two groups. As discussed above, we follow Barrot (2016) and ensure that the results are not driven by these pre-event differences via a regression specification that interacts the pre-event characteristics with a post dummy. Finally, we conduct parallel-trends tests analysis on the portfolio shares of insurable deposits, risky, and safe assets, to confirm that any differences in the levels (if significant) remain the same in the years leading to the event.

[INSERT TABLE 1 HERE]

4 Results

4.1 Portfolio Analysis

We begin by reporting the overall effect of the limit change on the portfolio allocations, following the regression specification of equation 1. For brevity, we do not report the full set

[7] The federal deposit insurance scheme does not cover time deposits with maturities greater than 5 years and foreign currency deposits. However, such deposits are extremely rare in our sample and we exclude them from our analysis.

of household controls, which are listed in Table 1. The results in Table 2 indicate that on average, affected households reduce their insurable deposit account balances by about 7.6%, they increase the portfolio share invested in risky assets by about 5.7%, while they keep constant the share held in safe assets. The effect is somewhat bigger, with an 11% drop in insurable deposits and an increase of about 8% in the risky asset share, when we interact the pre-2005 household characteristics with the post dummy (following Equation 2), and similar in size if we estimate the relation using the fractional logit method.

[INSERT TABLE 2 HERE]

Since the evidence suggests rebalancing towards risky assets, we extend the analysis by decomposing the risky portfolio holding into its subcomponents, i.s. stocks, non-government bonds, and non-money market mutual funds (non-MMMF). The results from column (i) in Table 3 indicate that the portfolio share invested in stocks goes up by about 2.6%, whereas the share of non-MMMF rises by 3.2% (or twice as large under column (ii) when we fix the household characteristics at the pre-2005 levels.

[INSERT TABLE 3 HERE]

The data allows for a further decomposition of the non-MMMF share based on the riskiness of the fund. Segregated funds, for instance, offer protection against a certain level of decline in the value of the fund upon maturity (usually either 75% or 100% of the invested amount is protected) and also offer estate planning benefits (Khorana et al. (2009)). Although segregated funds are more costly and therefore have lower returns compared to other mutual funds, their offered protection makes them a potential substitute for partially insured deposit accounts. Index funds, which are not actively managed and are typically cheaper than segregated funds, are another investment option for affected households to switch away from bank deposits. In an unreported set of regressions, we observe that the portfolio share of these two types of funds remains the same in the post period, indicating that households indeed rebalance into riskier types of mutual funds.

These empirical results provide strong evidence of changes in deposit insurance limits having an impact on the allocation of household financial asset portfolios. In our case, with a higher limit, some households substituted away from these high balance deposit accounts towards riskier assets, namely stocks and non-money market mutual funds. A back-of-the-envelope calculation suggests that a 7.6% decrease in the portfolio weight of bank deposits (the smallest significant coefficient of interest from Table 2) implies an 11% reduction in total bank deposits held by affected households. Given that the average affected household had approximately $249,000 in bank deposits during the pre-change period, this translates into $27,390 being shifted into risky assets.

Using the entire CFM sample for 2004 (as opposed to our panel sample) and utilizing the survey weights, we estimate that there were 590,033 affected Canadian households in 2004. Using dollar estimate of the average amount of deposits converted to risky assets ($27,390), this implies a total of $16.1 billion leaving the bank deposit space. This corresponds to 2.7% of all personal deposits outstanding in the Canadian financial system at the end of 2004. Meanwhile, the coefficients in Table 3 suggest that 55% the deposit balance withdrawal was invested in non-money market mutual funds (3.2% out of 5.8%). Relative to the $16.1 billion from above, this corresponds to a 1.9% increase in the net assets of non-MMMF funds between 2004 and 2006. While the impact of the change in the federal deposit insurance limit was sizeable for some households, the aggregate movement in funds represent a small portion of the depository intermediation and mutual fund industries.

4.2 Depositor Heterogeneity

We find that affected households withdraw funds from deposit accounts and purchase risky financial assets. Our next step is to analyze whether the funds are being withdrawn from partially- or fully-insured accounts (if any). In order to see why, consider a household in 2004 with \$200,000 in Bank A, \$50,000 in Bank B and no other financial assets. Since the household is risking \$140,000, its target α is 0.56, but once the limit goes up to \$100,000, α now becomes 0.40 (\$100K/\$250K). In order to restore back its targeted portfolio share by buying mutual funds, the household can withdraw \$40,000 from Bank B or \$140,000 from Bank A. Assuming all else equal, both strategies restore α to its pre-change level of 0.56[8] and the household may have different reasons for pursuing either strategy. As the return on the partially-insured account is likely to be higher, the household can restore α by withdrawing a small amount from the fully-insured account and maximize the return on its deposits by continuing the earn the higher rate on partially-insured deposits. However, it is also possible that the smaller, fully-insured account contains demand deposits held for transactional purposes. In this case, the household could choose to wait until the time deposit in the partially-insured account matures and then withdraw a larger amount from this account to restore α. While this strategy requires the household to wait until maturity (which should not be an issue with our sample period, since most time deposits in our sample have a maturity of one year), it also maintains the availability of liquid demand deposits. Given the difference in the amounts withdrawn, this decision affects the level of deposits outflows from the banking system.

Using the CFM-survey, we create an account-level sample where we identify individual deposit accounts for both affected and unaffected households. For each household, we track deposit accounts over time by matching them on a number of characteristics (institution,

[8] On the other hand, withdrawing \$40,000 from Bank A would not restore α to 0.56, since this would simply imply converting one type of risky asset (partially insured deposits) to another type of risky asset (mutual funds) without changing the amount of safe assets in the portfolio.

the owner of the account, whether the account is a retirement account, etc.). For accounts that appear in one period but not the other, we assume that the account was closed or opened between the pre- and post-periods. These accounts are assigned a balance of zero in the period they did not exist. Furthermore, accounts that were opened in the post-period with a balance exceeding the insurance limit are classified as partially-insured households. Overall, we identify 742 accounts that were partially-insured in at least one period and 1,119 fully-insured accounts belonging to our 491 affected households.[9]

In order to address any issues related to the liquidity of different accounts, we look at the share checking and/or savings account deposits in a bundle. This measure suggests that the fully-insured accounts are more liquid and are kept for transactional purposes. During the pre-period, the average share of checking/savings deposits in a fully-insured bundle was 60.2%, while only 27.1% of deposits in partially-insured bundles were kept as demand deposits (with the rest being in time deposits).[10]

Once we form the sample of partially-insured vs. fully-insured deposit accounts belonging to affected households, we estimate the following simple difference-in-differences regression:

$$Balance_{i_b jt} = \beta_1 \cdot Partial_{i_b t} \cdot Post_t + \beta_2 \cdot Post_t + \beta_3 \cdot Partial_{i_b t} + \gamma_j + \rho_b + \epsilon_{i_b jt}, \tag{4}$$

where $Balance_{i_b jt}$ is the balance of deposit account i being held at financial institution b and belonging to affected household j during time period t. γ_j and ρ_b are household and financial institution-level fixed effects. Our main coefficient of interest is β_1; we expected β_1 to be negative if affected households withdrawing funds from partially-insured accounts. In order to make sure that our results are not being influenced by accounts opened between

[9]We classify 436 accounts as closed and 323 as opened. However, it could be that some of these opened and closed accounts are the same account that we are unable to match due to reporting issues. Of the 323 newly opened accounts, 64 are classified as partially-insured based on the post-period insurance limit.

[10]In addition, 14% of affected households in our sample did not have a fully-insured account during the pre-period (67 out of 491). For these households, withdrawing a large amount from partially-insured accounts was the only available option for restoring α.

the pre- and post-periods, we also classify accounts based on their pre-period balances. In this specification, accounts with a pre-period balance above the limit are considered to be partially-insured, while newly opened accounts with post-period balances exceeding the limit are not classified as partially-insured. The results are given in Table 4. The coefficient of $Partial_{i_b} \cdot Post_t$ suggests that the high value deposit accounts were subject to large and significant withdrawals, once the deposit insurance limit increased. If the account openings and closures are taken into consideration, the partially-insured account's balance dropped on average by $33,500, which is in line with the large outflows documented earlier.

[INSERT TABLE 4 HERE]

4.3 Banks' response

Our previous section shows that an increase to the deposit insurance limit results in households rebalancing their portfolios away from deposits. In equilibrium, we would expect banks to respond by changing the rates offered on large-value time deposits. Banks may want to slow down the outflow by raising rates offered on large value deposits. At the same time, a higher limit raises the insurance premia paid on such accounts, since a larger proportion of them becomes insured, pushing banks to pass-on this cost to depositors by cutting rates.

We investigate this issue using a different data set that provides detailed monthly information on term deposit rates. [11] This allows us to measure the spread between partially- and fully-insured accounts and track it following the increase in the deposit insurance limit. Canadian financial institutions frequently offer different term deposits with minimum and maximum balance requirements. Specifically, any term deposit with a *maximum* balance requirement below $60,000 during the pre-change period will be fully insured. On the other

[11] The interest rate data is obtained from CANNEX, a privately held Canadian company that provides data and information services to the financial services industries in Canada and the United States.

hand, a term deposit with a *minimum* balance requirement above $60,000 implies that a portion will not be insured. Therefore, it is likely that there will be a spread between the rates on partially and fully-insured term deposits.

We calculate this spread by identifying financial institutions that offer two otherwise identical term deposits where one is partially-insured while the other is fully-insured. We control for a number of deposit features: taxability, redeemability, compounding frequency and timing of interest payments. By taking the difference between two otherwise identical accounts offered by the same financial institution in the same month, we are able to precisely measure the difference in rates that is solely due to the variation in minimum and maximum balance requirements. This is the spread offered to depositors willing to take on some risk by maintaining an account balance above the insurance limit. Since many financial institutions offer more than one such pair of accounts, we often observe multiple spreads for a given financial institution in a given month.

We obtain monthly spreads offered by 13 Canadian financial institutions, including those offered by the six largest banks (which account for 75% of the deposit market) and after collapsing multiple small financial institutions into larger categories, to mimic the manner they are categorized in the CFM-household survey.[12] We observe that during the period leading up to the deposit insurance limit (2003-2004), the average spread across all financial institutions was 12.5 basis points but the average spread fell to 7.48 basis points during the post-change period (2005-2006). We then estimate the following regression:

$$Spread_{ijt} = \alpha \cdot Post_t + \beta_i + \gamma_j + \epsilon_{ijt}, \tag{5}$$

[12]Some institutions offer accounts that cannot be categorized as fully- or partially-insured. For example, many offer term deposits with a low minimum balance requirement and no maximum balance limit. In such cases it is not immediately obvious whether this account is fully- or partially-insured. This may depend on the type of clients towards whom the financial institution markets the account. We leave such observations out of our calculations, thus dropping some institutions from our sample.

where our monthly sample period is between January 2003 and December 2006, and $Post_t$ is a dummy variable capturing the period after the limit increase (January 2005 and onwards). β_i and γ_j represent bank and account type fixed effects, respectively.[13] The results of this estimation (with the standard errors clustered by account type) are given in Column (i) of Table 5, suggest that on average, banks responded to the limit increase by cutting the spread between partially- and fully-insured deposit accounts by approximately 5 basis points.

[INSERT TABLE 5 HERE]

We extend this analysis to ensure that there was no existing downward trend in the spread prior to the limit change, and to confirm that the decrease in the spread was permanent. We perform this test in two ways. First, we run a placebo regression similar to the one discussed above, where the placebo pre-change period is defined as January 2003-December 2003, while the placebo post-change period is defined as January 2004-December 2004. Results of this placebo regression are given in Column (ii) of Table 5 and they suggest that there was no downward trend in the spread prior to the change in the deposit insurance limit. To further confirm the validity of parallel trends and also to show that the impact of the deposit insurance limit change on the spread was permanent, we estimate the following equation:

$$Spread_{ijt} = \alpha_1 \cdot Q_1 + \alpha_2 \cdot Q_2 + ... + \alpha_{16} \cdot Q_{16} + \beta_i + \gamma_j + \epsilon_{ijt}, \tag{6}$$

where Q_t is a quarter dummy for each period (2003q1, 2003q2, etc.). These quarter-specific αs, along with a 95% confidence interval are presented in Figure 2. The figure reveals a sharp and sustained drop in the spread, starting in late-2004 (one quarter prior to the announcement). Late-2004 also corresponds to the start of a media campaign arguing that

[13] Recall from above that we create unique account types based on the different characteristics of deposit accounts offered by each bank. Therefore, we can frequently observe multiple spreads for a given bank in a given month.

the \$60,000 limit had become outdated and calling on the CDIC to increase the deposit insurance limit.[14] It is likely that at least some Canadian banks were confident enough in a higher deposit insurance limit to adjust their spreads in late-2004.

[INSERT FIGURE 2 HERE]

4.4 Heterogeneity Across Banks

Why do banks cut yields on partially-insured accounts, relative to fully-insured ones, knowing that depositor demand is elastic? In this sub-section, we show that there is substantial heterogeneity across banks' responses driven by their ability to attract deposits. We start by looking at heterogeneity in the reduction in the spread between partially- and fully-insured accounts. In order to obtain bank-specific reductions in the spread, we re-estimate Equation 5, where $Post_t$ is interacted with bank dummies. Looking at these individual bank-specific rate cuts, we observe that four (out of 13) institutions in our sample have reduced their spreads by an amount greater than the average reduction of 4.9 basis points given in Table 5, while the change in the spread is much smaller (and sometimes even positive) for the remaining nine institutions.

The average spread reductions for these "top four banks" that aggressively cut the spread vs. the rest of the banks in our sample are given in the first panel of Table 6. Although there is a difference in the spreads offered by these two groups of banks during the pre-period (13.9 vs. 11.6 bps), this is unlikely to explain the significant difference in the spread reductions (-11.8 vs. -0.2 basis points). This is also in line with the documented withdrawal pattern by affected households from Table 4: funds are taken out of partially-insured deposits since in

[14] For example, see "It's about time the CDIC raised its paltry coverage on bank deposits", *Globe and Mail*, October 28, 2004. Available at `http://www.theglobeandmail.com/globe-investor/investment-ideas/its-about-time-the-cdic-raised-its-paltry-coverage-on-bank-deposits/article746680/`, accessed February 2017.

the post period their relative spread is almost wiped out.

[INSERT TABLE 6 HERE]

Next, we consider whether the amounts that affected households withdrew from their partially-insured accounts are correlated with the changes in the spread. It is reasonable to assume that affected households withdrew more funds from the four banks that aggressively cut the spread, as opposed to those that did not. We investigate this possibility by re-estimating equation 4, but with a triple-interaction term that allows us to look at withdrawals from the top four spread cutting banks ($Partial_{i_b t} \cdot Post_t \cdot LowerSpread_b$). The results given in the second panel of Table 6 suggest that affected households withdrew, on average, $51,100 from partially-insured accounts at the top four spread cutting banks, while withdrawals from partially-insured accounts at other banks was $19,200 (both statistically significant). This establishes a clear correlation between aggressive reductions in the spread and larger withdrawals from partially-insured accounts.

These findings raise an additional question. Why would some banks cut the spread between partially- and fully-insured accounts so aggressively, knowing that they will face more substantial withdrawals as a consequence? Looking at total personal deposits patterns at these banks can be helpful in answering this question. As indicated in Figure 3, total personal deposits at these four banks were relatively stable during our sample period, while the remaining banks saw a decline. Therefore, it appears that these four institutions were benefiting from another source of personal deposit inflows, compensating for the high withdrawals from partially-insured accounts.

[INSERT FIGURE 3 HERE]

One possible source of deposit inflows is related to changes in the behavior of unaffected households following the limit increase. Recall that these are households that have distributed (or "stacked") substantial deposits across multiple banks/accounts in order to achieve maximum insurance coverage. Following the increase in the limit, some of these households may have an incentive to consolidate some of these accounts in order to continue having full coverage while maintaining fewer accounts. The advantage of reducing the number of accounts in the portfolio would be the reduction in transaction costs (monetary or otherwise) of having multiple bank accounts. For example, an unaffected household with two accounts containing $50,000 each can combine these into a single account with a $100,000 balance after the limit increase and still be fully insured. The unaffected households in our sample appear to engage in such account consolidation, since the average number of accounts kept by these households declines from 4.132 to 3.525.

If the same four banks that significantly reduced their spreads on partially-insured deposits were also the beneficiaries of such deposit inflows coming from unaffected households' actions, this can potentially explain why they may have been willing to face large withdrawals by their partially-insured depositors. In order to pursue this possibility, we return to our sample of household accounts and limit it to 1,661 accounts belonging to unaffected households (all of which have balances below the limit during the pre-period). Similar to our analysis of partially-insured accounts, the accounts we observe in one period but not the other are considered to be new or closed accounts with zero balances in the periods they did not exist. We then estimate the following regression:

$$Balance_{i_b jt} = \beta_1 LowerSpread_b \cdot Post_t + \beta_2 \cdot Post_t + \gamma_j + \rho_b + \epsilon_{i_b jt}, \tag{7}$$

where $LowerSpread_b$ captures the four banks that significantly cut their rates on partially-insured deposits. If these four banks were beneficiaries of inflows coming from unaffected households, then we expect β_1 to be positive. The results of the estimation are summarized in the third panel of Table 6 (full results available upon request). We find that the four banks that aggressively cut their spreads were more likely to receive deposits from unaffected households. While the change in unaffected households' account balances at these banks ($\beta_1 + \beta_2$) was positive and significant, there was no statistically significant change (β_2) at the remaining institutions. While this gain in such deposits is smaller than the loss of partially-insured deposits, at least some of the aggregate deposit inflows into these four banks seem to be explained by the behavior of unaffected households.

5 Robustness

5.1 Parallel Trends Test

Our empirical specification is based on the assumption that the portfolio allocations of affected and unaffected households followed parallel trends prior to the increase in the deposit insurance limit. In order to validate this assumption, we estimate placebo regressions for Equations 1-3 where the pre-change period is 2000-2002 and the post-change period is 2003-2004, where affected vs. unaffected households are defined as of 2003-2004. Given that the CFM is a repeated cross-section and not a panel, we do not observe all of households throughout time. In total, 445 households (out of 883) have also completed the CFM survey between 2000 and 2002, with 238 affected and 207 unaffected (compared to 491 and 391 in the baseline sample). The placebo results in Table 7 rule out the presence of any pre-existing trends in the portfolio weights during the pre-change period. This validates the parallel trends assumption and our choice of the difference-in-differences framework.

[INSERT TABLE 7 HERE]

5.2 Housing and the Financial Portfolio

Housing can play an important role on the portfolio allocation of households. Specifically, Chetty et al. (2016) find that higher home equity can lead to a lower risk aversion (a smaller γ) and to a higher share of risky assets in the household's portfolio (a higher α). Meanwhile, for a given level of home equity, an increase in the home value translates into higher mortgage debt, which is associated with higher risk aversion and a lower share or risky assets. Therefore, if the affected households in our portfolio had disproportionately faster increases in their home equity or if the unaffected households saw an increase in their mortgage debt, these can also explain the portfolio rebalancing effects we observe in our empirical analysis.

In order to make sure that our results are not being driven by the housing-related factors, we slightly revise and re-estimate our baseline specification:

$$\begin{aligned} Y_{i,t} &= \alpha_1 + \alpha_2 Affected_i \cdot Post_t + \alpha_3 Post_t + \alpha_4 Affected_i \\ &+ \alpha_5 HomeValue_{i,t} + \alpha_6 HomeEquity_{i,t} + \alpha_7 X_{i,t} + \epsilon_{i,t}. \end{aligned} \tag{8}$$

where $HomeValue_{i,t}$ and $HomeEquity_{i,t}$ capture the impact of these respective components on the portfolio share of different types of assets [15]. The results in Table 8 suggest that the inclusion of the two housing variables do not change our main empirical findings. The share of bank deposits in the affected households' portfolios decline, while the share of risky assets increase. Meanwhile, the signs (but not the significance) of the coefficients for $HomeValue_{i,t}$ and $HomeEquity_{i,t}$ are in line with Chetty et al. (2016) (higher home values are associated with more safe and less risky assets, while higher home equity is associated with fewer safe and more risky assets in the portfolio).

[15]The OLS estimates for α_5 and α_6 are likely to be biased due to correlation between the error term and the housing-related variables. However, we are primarily interested in whether α_2 is robust to the presence of these housing-related variables; estimating Equation 8 via OLS should be sufficient to satisfy this goal.

[INSERT TABLE 8 HERE]

5.3 Other Contemporaneous Policy Change

In 2005 the mutual fund dealer association in Canada (MFDA) introduced a protection scheme that covers investors in case their mutual fund dealer becomes insolvent. While this contemporaneous policy change could account for the inflows into mutual funds that we document, this is highly unlikely because the MFDA protection only covers valid financial losses that arise from the failure of a dealer to return or account for customer's property. Since such losses are determined on the date of insolvency, the value of the investor's mutual funds is likely lower than what it was when bought initially. Thus unlike deposit insurance, which guarantees principal and interest repayment, the MFDA protection still leaves investors exposed to losses.

The DinD approach that we follow addresses the concern that our empirical results are driven by this change. If indeed the higher attractiveness of mutual funds due to the policy change was at the root of the portfolio rebalancing, there is no reason to believe that only affected households (i.e. those with uninsured deposits) would rebalance their portfolio, but rather all households. Nevertheless, to alleviate the concern that the introduction of the mutual protection drives the results, we repeat the analysis on a sub-group of households that already held mutual funds in the pre-2005 period, since they are already familiar with that asset and for them the introduction of protection is less likely to play a role. Table 9 confirms that depositors who were already mutual fund holders still react by reducing their safe asset holdings and shifting into risky assets.

[INSERT TABLE 9 HERE]

5.4 The Role of Financial Advice

It is possible that affected households were not receiving financial advice during the pre-period and they had placed a disproportionately high weight on partially-insured deposits as a result. The increase in the deposit insurance limit and the subsequent decrease in the spread may have acted as a wake-up call, prompting households to seek financial advice that may have contributed to the portfolio rebalancing. In other words, the increase in the portfolio weight of risky assets represents both a compensation for the drop in the portfolio's α and a correction of earlier mistakes that led to partially-insured deposits being very prominent in the portfolio. We investigate this possibility using survey questions on a household's use of financial advice. The CFM asks "Over the last 12 months, did anyone in your household receive any professional advice (free or for a fee) from any of the following?", with the household indicating the number of times it received advice from different types of financial firms.[16] Thus we calculate the total number of times a household received professional advice and the number of times it received advice from deposit-taking institutions during the previous 12 months.

The data suggest that both affected an unaffected households received professional advice twice during the pre-change period (2.02 times for affected and 2.15 times for unaffected households), and while the frequency of professional advice decreased in the post period, it remained similar for both groups (1.82 for affected and 1.97 for unaffected). Using the "frequency of professional advice" as a dependent variable in equations 1 and 3 (we also consider a negative binomial since the outcome is a count variable), Table 10 suggests no difference in advice frequency (from deposit-taking institutions or otherwise) post the limit increase. Therefore, it is unlikely that the policy change acted as a catalyst for these households to receive financial advice and subsequently change their portfolio allocations.

[16]These different types of firms are "Banks/Trusts/Credit Unions", "Brokers", "Insurance Companies", "Independent Advisers" and "All Other". The household chooses between the options "Not Used". "1', "2', "3-4", "5-6" and "7+". We consider "3-4", "5-6" and "7+" to be 3, 5 and 7 visits, respectively.

[INSERT TABLE 10 HERE]

6 Conclusion

We examine how households adjust behavior following an exogenous change to the amount of safe assets in their portfolios. In 2005, the deposit insurance limit in Canada was raised from 60,000 CAD to 100,000 CAD, effectively converting part of the previously uninsured deposits in the households' portfolios into fully-insured ones.

Using detailed household survey data we document that following the limit change, households rebalanced their financial portfolios, withdrawing partially-insured deposits while increasing exposure to mutual funds and stocks, thereby changing the risk composition of their portfolios. We also consider how banks respond when facing the deposits outflows. While some attempt to stem the tide by not significantly reducing the rates offered on partially-insured deposits, others cut it more deeply as they simultaneously benefit from inflows of insured deposits, presumably via account consolidation.

Thus as opposed to the well-documented inflows that banks benefit from in stressful times, when the insurance limit is raised, or upon the introduction of a deposit insurance scheme, our results highlight an overlooked financial stability implication. Specifically, generous coverage may lead to outflows of deposits from the banking system, by altering the risk-characteristics of households portfolios, making them more exposed to market risk. In addition, we highlight the importance of partially-insured deposits for households and how they adjust their investment decisions in response to a change in a government policy. Taking our findings even further, it is possible that the deposit outflows that we document impact banks lending decisions. This, however, remains a topic for future research.

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Figure 1: Slowdown in personal deposits after the higher limit

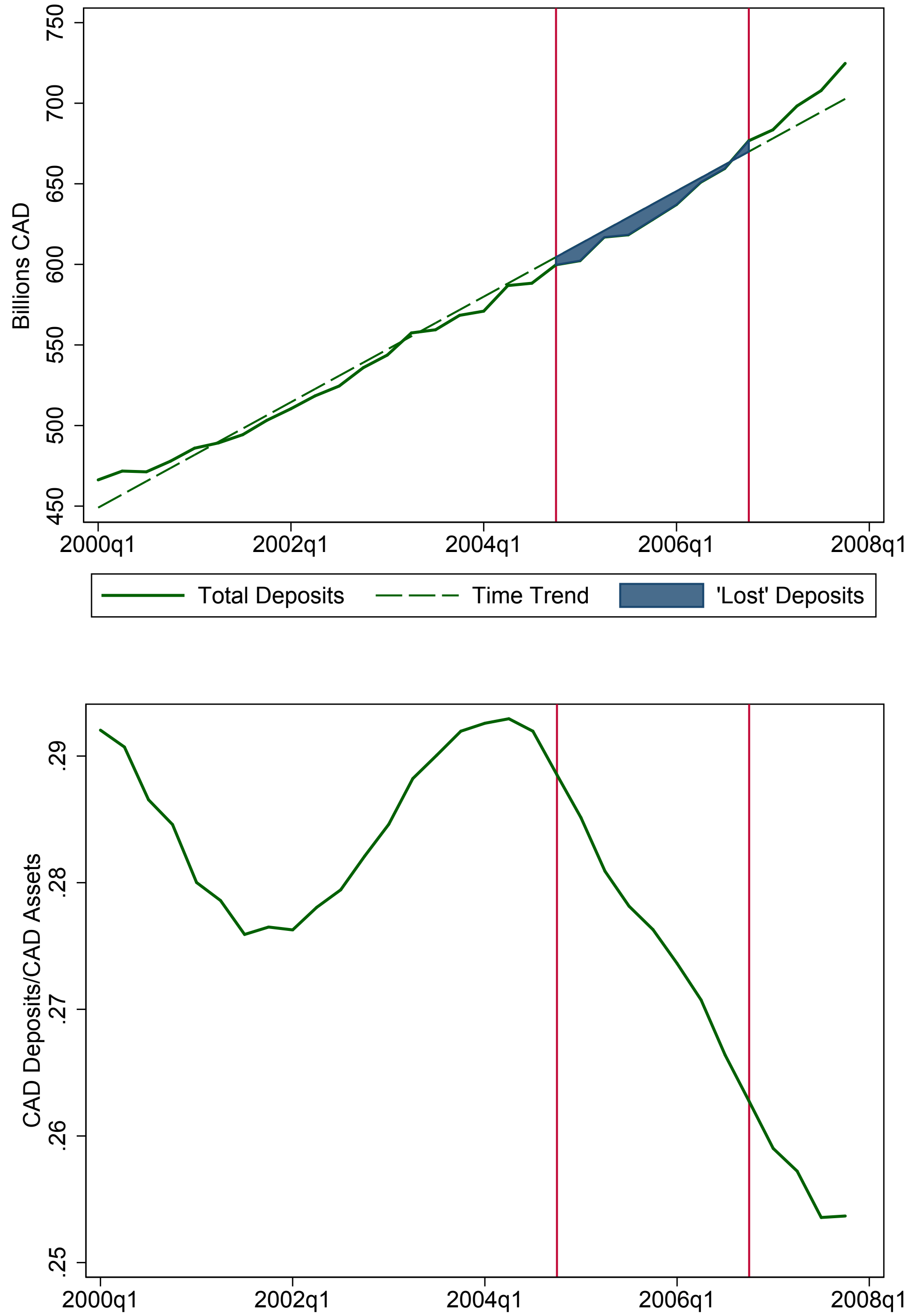

Figure 2: Impact of the higher deposit insurance limit (and a 95% confidence interval) on the spread between partially- vs. fully-insured deposit accounts, broken down by quarter. Sample period 2003Q2-2006Q4

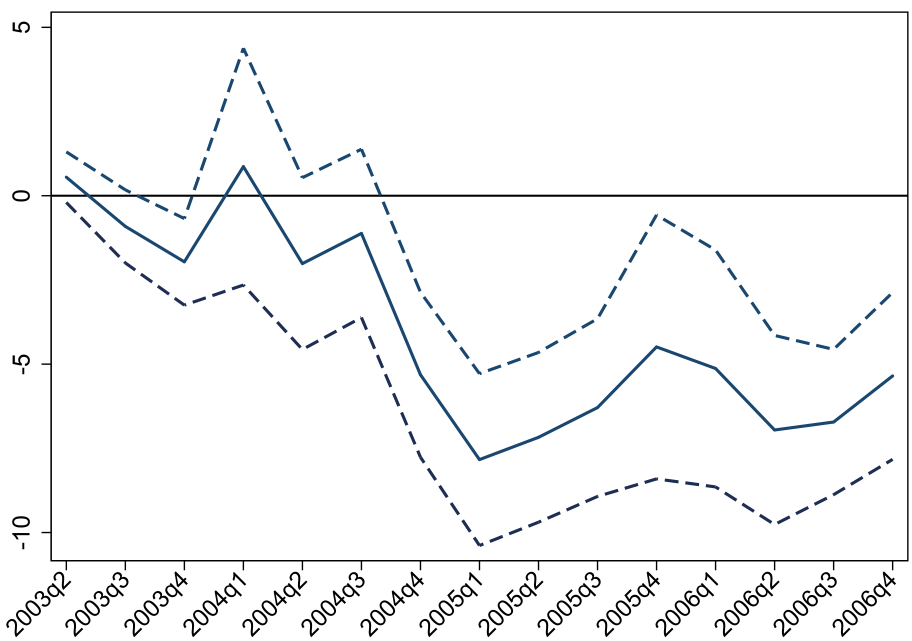

Figure 3: Banks' Response and Deposit Dynamics

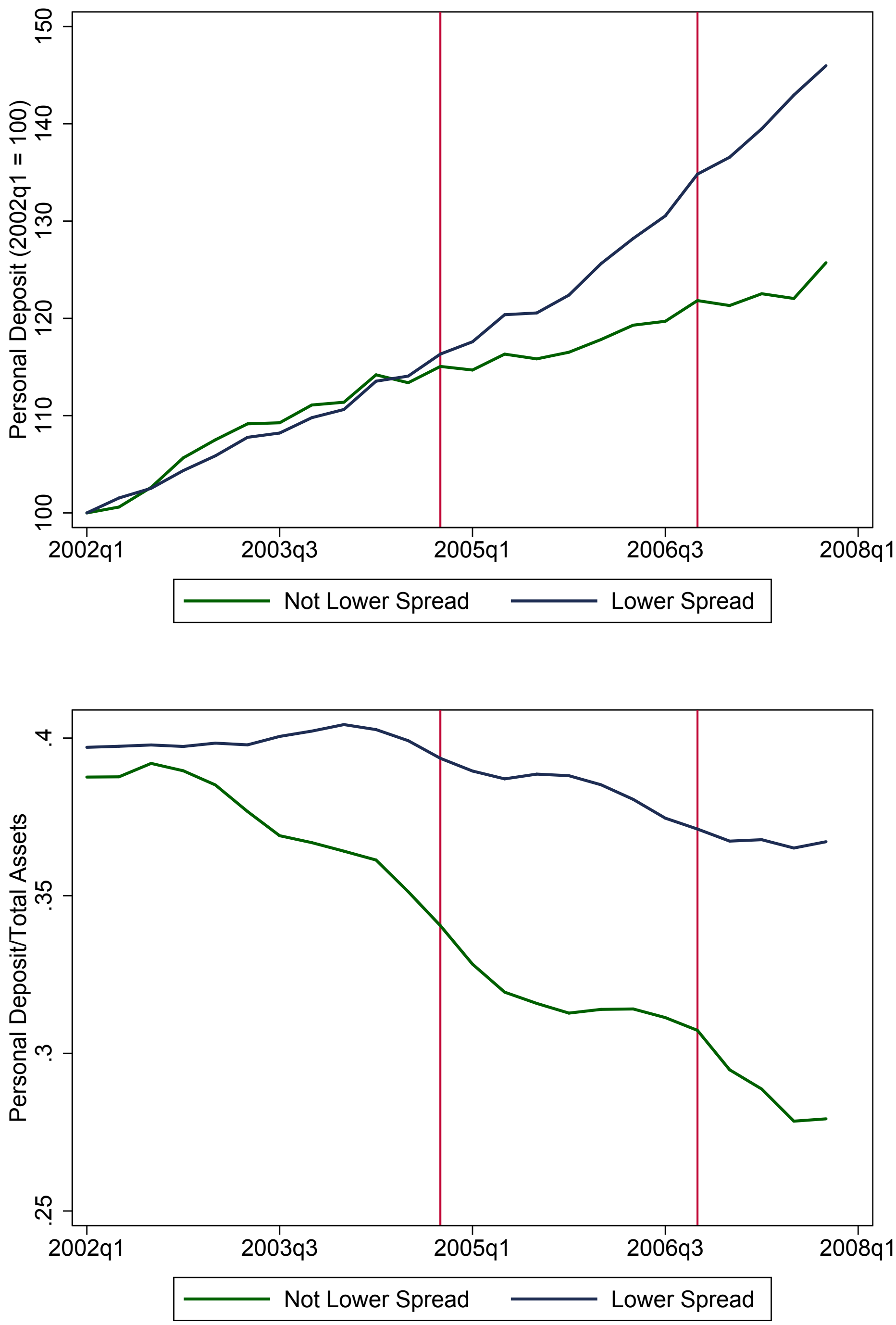

Table 1: Summary statistics of household characteristics before the increase in the deposit insurance limit ("pre-change period"). Affected households are those with deposits that were not fully insured (i.e. at least one deposit account with a balance above the deposit insurance limit). Unaffected households are those with total deposits above $60,000 but with no uninsured deposits. ***, ** and * represent significance at the 1%, 5% and 10% level, respectively.

	Affected HHs (N: 491)				Unaffected HHs (N: 392)				
	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max	Mean Diff.
Deposit Share	0.689	0.288	0.057	1	0.662	0.312	0.061	1	0.027
Risky Asset Share	0.223	0.267	0	0.943	0.266	0.298	0	0.935	-0.043**
Safe Asset Share	0.046	0.102	0	0.782	0.041	0.088	0	0.664	0.006
Uninsured Deposit + Risky Asset Share	0.484	0.251	0.012	0.961	0.266	0.298	0	0.934	0.217***
No. of Bundles	3.739	2.179	1	15	4.132	2.024	1	13	-0.393***
Total Deposits ($1000s)	248.8	205.8	63.3	1425.8	110.1	65.5	62.6	515.1	138.7***
Uninsured Deposits ($1000s)	117.4	162.2	0.005	1150					
Income ($1000s)	74.7	42.7	7.5	175	71.1	41.1	7.5	175	3.6
Financial Wealth ($1000s)	454.2	436.8	63.3	3137.5	246.2	252.2	62.6	1651.6	208***
Home Owner?	0.935	0.247	0	1	0.962	0.192	0	1	-0.027*
Home Equity/Financial Wealth	0.779	0.925	-0.987	7.843	1.276	1.371	-1.234	9.849	-0.497***
Household Size	2.033	0.807	1	6	2.199	1.081	1	8	-0.166***
Married?	0.739	0.439	0	1	0.729	0.445	0	1	0.009
Age	66.429	11.441	30	92	63.533	11.993	31	97	2.897***
Education (High School)	0.289	0.454	0	1	0.293	0.456	0	1	-0.004
Education (Some College)	0.189	0.392	0	1	0.196	0.398	0	1	-0.007
Education (College and Higher)	0.360	0.481	0	1	0.385	0.487	0	1	-0.025
Big City?	0.468	0.499	0	1	0.406	0.492	0	1	0.063*

Table 2: Impact of the higher deposit insurance limits on the portfolio share of insurable deposits, risky assets and safe non-deposit assets. Affected households are those with deposits that were not fully insured (i.e. at least one deposit account with a balance above the deposit insurance limit). Unaffected households are those with total deposits above $60,000 but with no uninsured deposits. All specifications include a vector of household characteristics (not reported for brevity). In columns (i) and (iii), these household characteristics vary across the two time periods. In column (ii), only the interaction of the pre-change household characteristics with $Post_t$ are included. In column (iii), marginal effects are reported. Standard errors are clustered at the postal code-based region level. *** is significant at the 1% level.

Panel A: Insurable Deposits			
	(i)	(ii)	(iii)
Affected·Post	-0.079***	-0.111***	-0.076***
	(0.018)	(0.029)	(0.018)
Affected	0.125***		0.135***
	(0.015)		(0.015)
Post	-0.084***	-0.744	-0.069***
	(0.014)	(0.512)	(0.014)
R-squared	0.354	0.795	0.145
Panel B: Risky Assets			
	(i)	(ii)	(iii)
Affected·Post	0.063***	0.079***	0.061***
	(0.016)	(0.027)	(0.016)
Affected	-0.129***		-0.139***
	(0.016)		(0.016)
Post	0.073***	0.484	0.054***
	(0.012)	(0.408)	(0.012)
R-squared	0.333	0.817	0.161
Panel C: Safe Assets			
	(i)	(ii)	(iii)
Affected·Post	0.011	0.019	0.011
	(0.009)	(0.014)	(0.009)
Affected	-0.001		-0.001
	(0.007)		(0.007)
Post	-0.005	-0.111	-0.005
	(0.006)	(0.228)	(0.006)
R-squared	0.031	0.634	0.026
N	1,766	1,766	1,766
Estimation Method	OLS	OLS	Fractional Logit
HH Fixed Effects	No	Yes	No
HH Characteristics	Time-Varying	Pre * Post	Time-Varying

Table 3: Impact of the higher deposit insurance limits on the subcomponents of the "risky assets" category. All definitions and specifications are identical to those in Table 2. In column (iii), marginal effects are reported. Standard errors are clustered at the postal code-based region level. ***, ** and * are significant at the 1%, 5% and 10% levels, respectively.

Panel A: Stocks			
	(i)	(ii)	(iii)
Affected·Post	0.026**	0.016	0.023**
	(0.011)	(0.017)	(0.011)
Affected	-0.038***		-0.043***
	(0.012)		(0.013)
Post	0.023***	0.057	0.010
	(0.008)	(0.317)	(0.009)
R-squared	0.187	0.829	0.149
Panel B: Non-Government Bonds			
	(i)	(ii)	(iii)
Affected·Post	0.005	0.002	0.004
	(0.005)	(0.006)	(0.005)
Affected	-0.008*		-0.009*
	(0.004)		(0.005)
Post	0.001	0.063	0.001
	(0.003)	(0.125)	(0.003)
R-squared	0.033	0.649	0.091
Panel C: Non-Money Market Mutual Funds			
	(i)	(ii)	(iii)
Affected·Post	0.032**	0.061**	0.036**
	(0.016)	(0.026)	(0.016)
Affected	-0.084***		-0.089***
	(0.015)		(0.016)
Post	0.049***	0.364	0.039***
	(0.013)	(0.408)	(0.012)
R-squared	0.159	0.778	0.089
N	1,766	1,766	1,766
Estimation Method	OLS	OLS	Fractional Logit
HH Fixed Effects	No	Yes	No
HH Characteristics	Time-Varying	Pre * Post	Time-Varying

Table 4: Impact of the higher deposit insurance limit on account balances. All coefficients are in $1000s. In column (i) high-balance accounts that were opened between the pre- and post-periods are also classified as *Partial.* In column (ii), *Partial* accounts are those that had a balance above the limit in the *pre-period.* All regressions include financial institution and household fixed effects. Standard errors are clustered at the household level. *** indicates significance at the 1% level.

	(i)	(ii)
Partial · Post	-33.5***	-101.1***
	(7.4)	(7.4)
Partial	109.1***	137.4***
	(5.7)	(5.7)
Post	-3.8**	19.1***
	(1.9)	(2.6)
N	3,722	3,722
R-squared	0.389	0.431

Table 5: Impact of the higher deposit insurance limit on the spread between partially- vs. fully-insured deposit accounts. The dependent variable is calculated as the difference in the interest rates offered on two term deposits that are identical in all features, except one account has a minimum balance requirement above 60,000 CADs, while the other has a maximum balance limit of 60,000 CADs. Observations are at the bank-account type-month level. Total number of financial institutions in the sample is 14. All regressions include financial institution and account type fixed effects. Standard errors are clustered at the account type level. *** indicates significance at the 1% level.

	(i)	(ii)
Post	-0.049***	-0.013
	(0.006)	(0.012)
N	18,858	9,859
R-squared	0.366	0.428
Pre-Period	Jan 2003-Dec 2004	Jan 2003-Dec 2003
Post-Period	Jan 2005-Dec 2006	Jan 2004-Dec 2004

Table 6: Financial institution-specific changes in the spread (between partially- and fully-insured accounts), balances of partially-insured deposit accounts and fully-insured accounts belonging to unaffected households following the deposit insurance limit increase. Top four banks are those who cut the rate by more than the sample's average of 4.9 bps, while the rest are those who cut by less. *Pre-Change Spread* is the average spread between partially- and fully-insured deposit accounts offered by a specific financial institution during the pre-change period (January 2003-December 2004). *Pre-Change Balance* is the average balance in a partially-insured deposit account (i.e. an account with a balance exceeding the deposit insurance limit during the pre-change period). $\Delta Spread$ and $\Delta Balance$ capture the impact of the deposit insurance limit. These are regression coefficients obtained by estimating Equations 6, 4 and 7 as discussed above. Coefficients in bold are statistically significant at the 10% level or above.

	Deposit Rates		*Partially-Insured*		*Fully-Insured*	
	Pre-Change Spread	ΔSpread	Pre-Change Balance	ΔBalance	Pre-Change Balance	ΔBalance
Top four banks	0.139	**-0.118**	$138.8	**-$51.1**	$19.6	**$4.1**
Rest of the sample	0.116	-0.002	$126.9	**-$19.2**	$28.3	-$1.4

Table 7: Parallel trends test via placebo regressions. Placebo pre-change period is 2000-2002 and the placebo post-change period is 2003-2004. $Affected$ is defined as of 2003-2004. All definitions and specifications are identical to those in Table 2. In column (iii), marginal effects are reported. Standard errors are clustered at the postal code-based region level. ***, ** and * are significant at the 1%, 5% and 10% levels, respectively.

Panel A: Insurable Deposits			
	(i)	(ii)	(iii)
Affected·Post	0.055	0.043	0.049
	(0.033)	(0.048)	(0.032)
Affected	0.041		0.054*
	(0.033)		(0.032)
Post	0.049**	0.219	0.049**
	(0.024)	(0.743)	(0.023)
R-squared	0.293	0.601	0.124
Panel B: Risky Assets			
	(i)	(ii)	(iii)
Affected·Post	-0.019	-0.002	0.019
	(0.025)	(0.038)	(0.025)
Affected	-0.042		-0.042
	(0.029)		(0.029)
Post	-0.041**	-0.325	-0.041**
	(0.018)	(0.544)	(0.018)
R-squared	0.294	0.632	0.137
Panel C: Safe Assets			
	(i)	(ii)	(iii)
Affected·Post	-0.004	-0.006	-0.002
	(0.017)	(0.026)	(0.016)
Affected	-0.001		-0.002
	(0.015)		(0.013)
Post	-0.019	-0.024	-0.021
	(0.013)	(0.369)	(0.013)
R-squared	0.045	0.206	0.031
N	890	890	890
Estimation Method	OLS	OLS	Fractional Logit
HH Fixed Effects	No	Yes	No
HH Characteristics	Time-Varying	Pre * Post	Time-Varying

Table 8: Baseline estimation with home value (in 100,000 CADs) and home equity (in 100,000 CADs) included as explanatory variables. All other definitions are identical to those in Table 2. All specifications include time-varying household characteristics. Standard errors are clustered at the postal code-based region level. ***, is significant at the 1% level.

	Bank Deposits	Risky Assets	Safe Assets
Affected·Post	-0.078***	0.059***	0.011
	(0.018)	(0.157)	(0.009)
Affected	0.125***	-0.127***	-0.001
	(0.015)	(0.016)	(0.006)
Post	-0.084***	0.071***	-0.004
	(0.014)	(0.012)	(0.006)
Home Value	0.010	-0.009	0.001
	(0.013)	(0.012)	(0.004)
Home Equity	-0.011	0.016	0.001
	(0.013)	(0.012)	(0.004)
R-squared	0.354	0.335	0.031
N	1,766	1,766	1,766

Table 9: Re-estimation of baseline specifications with a sub-sample comprising of households that already had non-money market mutual funds in their portfolios in the pre-change period. All definitions and specifications are identical to those in Table 2. In column (iii), marginal effects are reported. Standard errors are clustered at the postal code-based region level. ***, ** and * are significant at the 1%, 5% and 10% levels, respectively.

Panel A: Insurable Deposits			
	(i)	(ii)	(iii)
Affected·Post	-0.058**	-0.093*	-0.057**
	(0.029)	(0.051)	(0.029)
Affected	0.131***		0.131***
	(0.019)		(0.018)
Post	-0.044**	-0.658	-0.043**
	(0.019)	(0.728)	(0.019)
R-squared	0.293	0.773	0.077
Panel B: Risky Assets			
	(i)	(ii)	(iii)
Affected·Post	0.061**	0.057*	0.058**
	(0.023)	(0.044)	(0.023)
Affected	-0.144***		-0.146***
	(0.021)		(0.021)
Post	0.041**	0.506	0.037**
	(0.018)	(0.729)	(0.018)
R-squared	0.293	0.786	0.081
Panel C: Safe Assets			
	(i)	(ii)	(iii)
Affected·Post	-0.003	0.008	-0.001
	(0.013)	(0.021)	(0.013)
Affected	0.003		0.002
	(0.011)		(0.011)
Post	-0.005	-0.202	-0.006
	(0.009)	(0.358)	(0.009)
R-squared	0.048	0.639	0.034
N	844	844	844
Estimation Method	OLS	OLS	Fractional Logit
HH Fixed Effects	No	Yes	No
HH Characteristics	Time-Varying	Pre * Post	Time-Varying

Table 10: Financial advice regressions. The dependent variable is either the total number of times the household sought financial advice in the last 12 months (Panel A) or the total number of times the households sought advice from a depository institution (Panel B). All definitions and specifications are identical to those in Table 2, except a negative binomial specification is used in column (iii).

Panel A: Total Advice			
	(i)	(ii)	(iii)
Affected·Post	0.148	0.164	0.068
	(0.177)	(0.293)	(0.094)
Affected	-0.251		-0.074
	(0.184)		(0.095)
Post	-0.122	0.065	-0.055
	(0.137)	(4.472)	(0.079)
R-squared	0.117	0.762	0.031
Panel B: Advice from Depository Institutions			
	(i)	(ii)	(iii)
Affected·Post	0.021	0.048	0.047
	(0.114)	(0.176)	(0.138)
Affected	0.028		0.052
	(0.114)		(0.137)
Post	-0.043	-1.138	-0.059
	(0.089)	(2.462)	(0.112)
R-squared	0.022	0.674	0.009
N	1,766	1,766	1,766
Estimation Method	OLS	OLS	Negative Binomial
HH Fixed Effects	No	Yes	No
HH Characteristics	Time-Varying	Pre * Post	Time-Varying