How Do Households Respond to Negative Deposit Rates? Evidence from a Swiss Bank

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Summary

- I investigate the response of depositors to negative deposit rates using depositor-level data.
- I document a clear bunching at the threshold.
- I find that affected households respond by:
  - Reducing their deposits swiftly and substantially.
  - Transferring their excess deposits to other banks.
  - Investing with the bank.
- I do not observe any effect on consumption.
- Also, I find that some client characteristics matter.

Introduction

- Conventional wisdom: **retail deposits** are **sticky**.
  - Is it still the case in a **negative territory**?
- Transmission of negative rates (**deposits channel**).

Research questions

- Investigate the **response** of **retail depositors** to the negative policy rate pass-through.
  - Does consumer **inertia** play a role?
  - Do households respond by **saving less** and **spending more**?
  - Do they **rather** undertake **riskier investments** or put money "in a **safe place**"?

Novelty

- The response of households to negative deposit rates has **never** been **empirically** studied.

Institutional framework

- 12.2014-01.2015: **SNB** communicated the introduction of a policy rate of **-0.75%**.
- Four out of five Swiss systemically important banks[a] communicated the **pass-through** to **institutional** and\or **corporate** clients almost immediately.
- In the following years, commercial banks repeatedly expressed their intention **not** to charge negative interest rates to their **retail** clients.
- However, banks' **interest margins** had been steadily **shrinking**.
- Therefore, as of **June 2022**, more than **20** Swiss **banks** broke a taboo and announced a (tiered[b]) **pass-through** also to **households**.

[a] Credit Suisse, Zürcher Kantonalbank, UBS, PostFinance.

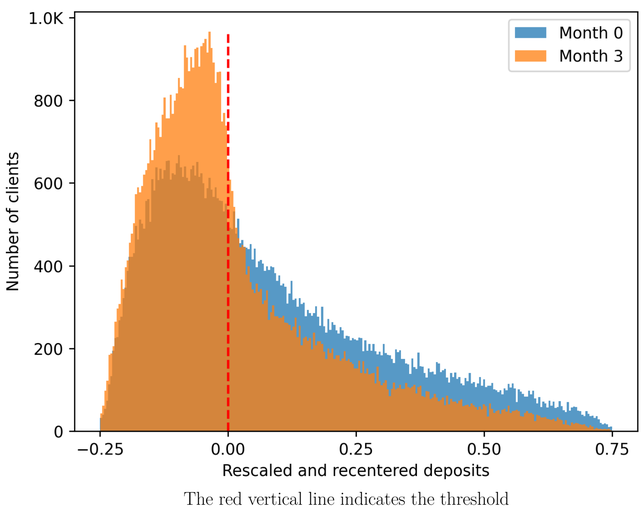
[b] Median threshold: CHF 250,000 \ Average wealth (2018): CHF 370,148\taxpayer.

Data

- Bank-depositor relationship data from a Swiss bank:
  - **Deposit** and **investment** holdings.
  - Volume and number of **bank transfers** and **cash withdrawals**.
  - Volume and number of debit and credit **card transactions**.
- **Monthly** frequency (end-of-month data).
- 24 months: 1 year before and 1 year after the treatment.
- **Client characteristics**.

Bunching at the threshold

Fig. 1: Distribution of rescaled deposit holdings



The red vertical line indicates the threshold

Hypotheses development

Drechsler et al. (2017): opportunity cost of holding deposits. In the context of **negative policy rates**, the presence of a **ZLB** on deposit rates generates an **"opportunity benefit" of holding deposits**.

However, when commercial banks **break** the **ZLB**, a **direct cost of holding deposits** emerges. Therefore:

- **H1**: **Outflow** of deposits into **cash**\to **competitors**.
  - Alt: **Inertia**.
- **H2**: **Outflow** of deposits into **other assets**.
  - Alt: **Inertia****No** excessive **risk taking** in the loss domain (Bracha, 2020).
- **H3**: **Increased consumption** (Khoury & Pal, 2020).
  - Alt: **"Satiation"** (Ahmed et al., 2021)**Outside options**.

Methodology - Regression Kink Design

$$\overline{Dep_{i,t_{[1,12]}}} = \alpha_0 + \beta_0 Treat_i + \alpha_1 Dep_{i,t_0} + \beta_1 Treat_i \cdot \kappa \cdot Dep_{i,t_0} + \epsilon_{it}$$

- Dependent variable ($\overline{Dep_{i,t_{[1,12]}}}$): 12-months (after) **average** of client i's rescaled **deposit** holdings.
- Running variable (Dep_{i,t_0}): **deposits** held by client i at the end of the month **preceding** the **announcement**.
- Dummy variable ($Treated$): equal to 1 if client i's deposits (at t_0) **exceeded** the **threshold**.
- Scaling factor (κ): the announced **negative rate**.

Results - Regression Kink Design

Fig. 2: Average deposits before the announcement

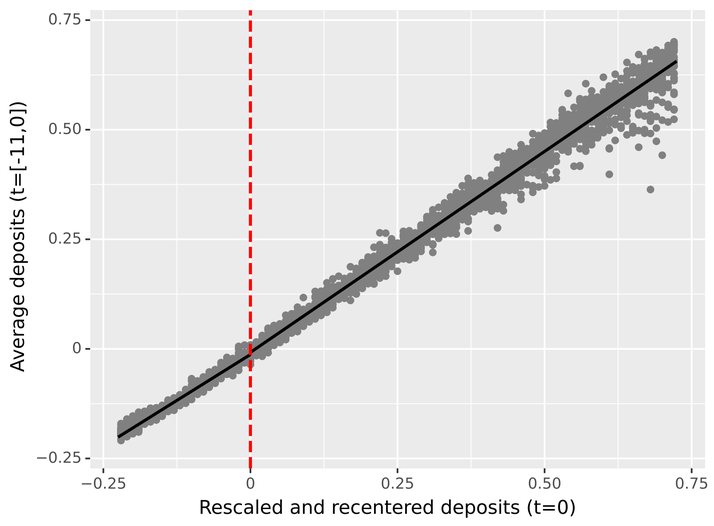
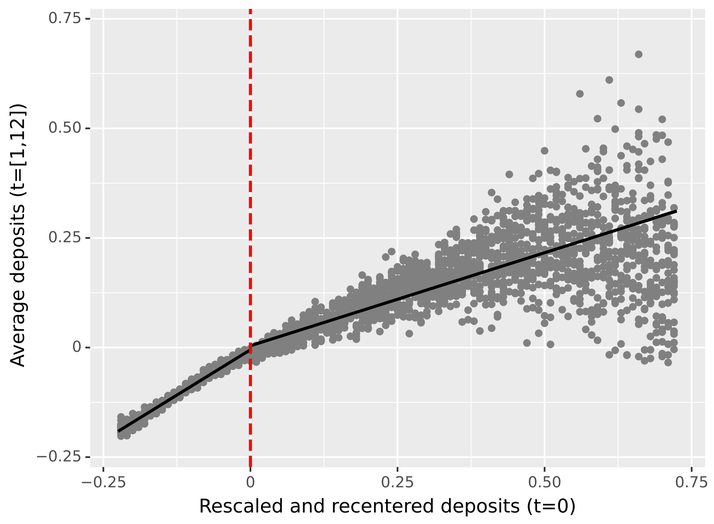


Fig. 3: Average deposits after the announcement



Red vertical lines indicate the threshold

- The average **deposit outflow induced** by **each CHF 1** that a client was supposed to be **charged** ranges from **CHF -14.07** to **-61.52**.
  - Alternative interpretation: average **deposit outflow** of **CHF -23.09** for **each CHF 100** of **treated deposits**.
- The magnitude **decreases** with the **bandwidth**.

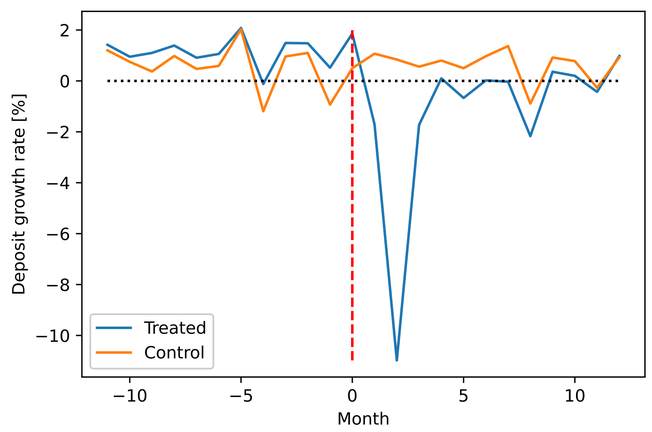
Methodology - Difference-in-Differences

$$DepGrowth_{it} = \alpha + \beta Treat_i \cdot After_t + \gamma(FE_i) + \delta(FE_t) + \epsilon_{it}$$

- Dependent variable ($DepGrowth_{it}$): **growth rate** during month t of **deposits** held by client i.
- Dummy variable ($After$): equal to 1 **after** the **communication** of the pass-through.
- Two-way **fixed effects** [client (FE_i) and time (FE_t)].

Results - DiD - Deposit holdings

Fig. 4: Evolution of deposit growth rates

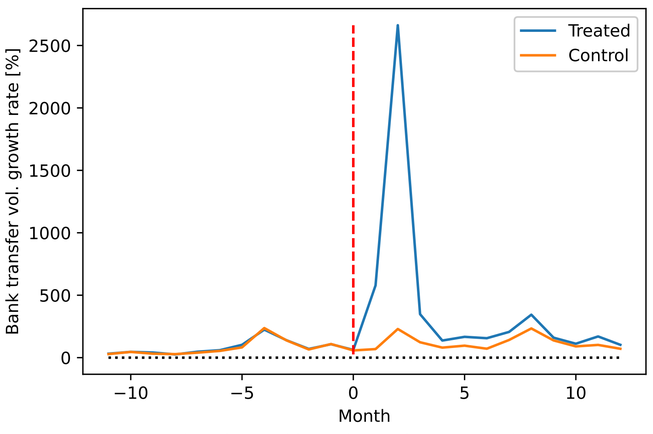


The red vertical line indicates the treatment date

- After the treatment, the average deposit growth rate among treated clients is about **1.47-2.58 pp** per month **smaller** than among control clients.

Results - DiD - Outflows from the bank

Fig. 5: Evolution of bank transfer volume growth rates



The red vertical line indicates the treatment date

- After the treatment, the average growth rate of **bank transfer** volume among treated clients is about **308 pp** per month **bigger** than among control clients (bank transfer number: +3.42 pp).

Results - DiD - Outflows from the bank

- **Cash withdrawal** volume: +**7.63 pp**.
- No significant results for cash withdrawal number.
- **No** significant results for **consumption**: volume\number of **debit** and **credit card transactions** (both onsite and online).

Results - DiD - Investments

- **Investments** in **mutual funds**: +**0.85 pp**.
- **Investments** in **other assets**: +**1.19 pp**.

Results - DiD - Client characteristics

- **Above-median income** depositors respond more **strongly** (better outside options?).
- **German** (vs. French) speakers respond more **strongly**.

Policy implications

Bank management perspective:

- **Good** news that depositors do **not** entirely **switch** and remain for (current or) **future business**.
- However, **fiercer competition** in the future?

Policy maker perspective:

- **Beneficial** in terms of **financial stability**?
  - Households **closer** to\below the **deposit insurance threshold**.
  - Might **prevent** potential **bank runs**.
- Increased **economic activity**?
  - Increase in **investments**.
  - **No** effect on **consumption**.

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