

Bank Capital Requirements and Asset Prices: Evidence from the Swiss Real Estate Market

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Summary

- We investigate the effects of the globally first activation of the Basel III **countercyclical capital buffer**.
- The intervention did **not** affect some of the most **overheated** regions.
- CCyB led to an additional **decrease** in the **price growth** of single-family houses but not of condominiums.
- More affected banks relatively reduced their **mortgage lending** activity, supporting the underlying **channel**.

Introduction

We empirically analyze the activation of the **countercyclical capital buffer (CCyB)**, a post-crisis macroprudential measure. Since proposed by the Swiss National Bank (SNB) **sectoral** implementation of the CCyB applies to **residential mortgages** only, we investigate whether increased bank capital requirements could help to slowdown the **house price growth**.

CCyB in Switzerland

- **Globally first activation** of the CCyB: motivated by the imbalances in the real estate and mortgage markets.
- Only example of a **sectoral CCyB**.
- **Activation**, February 2013: extra CET1 capital worth 1% of bank's outstanding risk-weighted domestic residential mortgages.
- **Subsequent increase**, January 2014: 2% CET1 capital.

Hypotheses

- **H1**: More overheated cantons are more affected by the CCyB activation.
- **H2**: The CCyB activation leads to a larger slowdown of the residential property price growth in more affected cantons.
- **H3**: The market for single-family houses is more affected by the CCyB activation than the one for condominiums.

Data

Real estate data:

- Cantonal quarterly (2012Q1 - 2014Q4) price indexes for both **condominiums** and **single-family houses (SFHs)**.

Bank data:

- Banks' official balance sheet data matched with the **composition of mortgage lending** supply in each canton.
- Bank-specific **capital requirements** based on the Swiss regulatory standards.
- **~95% of the market** for mortgages in Switzerland.

Methodology

- **Difference-in-differences** framework exploiting heterogeneous treatment intensity across cantons.
- Banks more exposed to CCyB in 2012:
 - **Mortgage-specialized**
 - **Capital-constrained**
- Treated canton: above the median **weighted average treatment intensity** measures of banks active in the canton.
- **Specification**: two canton-level treatment measures and their interaction.

Results

H1 ~~X~~

- Heterogeneity in **banks' treatment** and **cantons' financing structure** defines the distribution of the treatment across cantons (Figure 1).
- **More affected cantons** tend to exhibit **less** real estate market **overheating** (Figure 2).

H2

- The intervention induced an extra **0.7-1.6%** average quarterly price growth rate **slowdown** within the treated cantons' market for SFHs
- **Considerable economic significance** relative to the 0.96% average quarterly growth rate.
- CCyB effect is **attenuated** in **"twice-treated"** cantons, potentially due to competition

H3

- **Mitigated** price growth for SFHs but **not for condominiums**.
- **Condominiums** are **less dependent on mortgage loans**: financed to a larger extent by **"deep-pocketed" institutional investors** seeking positive yields.

Mortgage channel

- **Channel**: capital requirements impact house price growth rates through the banks' mortgage lending.
- Based on the **bank-canton level** analysis, more **affected banks** display a relative **slowdown** of their **mortgage lending** activity.

Conclusion

The CCyB's **effectiveness** in stabilizing asset prices crucially **depends on** the market's underlying **financing structure**. Our results suggest that the cantons with a **more overheated** real estate market were **less affected** by the intervention. However, a higher exposure to the CCyB led to an **additional reduction** of the **SFH price growth**. Moreover, we provide evidence for the **mortgage lending channel**. Our work raises important **policy implications** by shedding light on the intended and unintended effects of a novel macroprudential tool. For instance, in the presence of **heterogeneous** developments of real estate prices across **regions**, CCyB **requirements** could be **calibrated** accordingly.

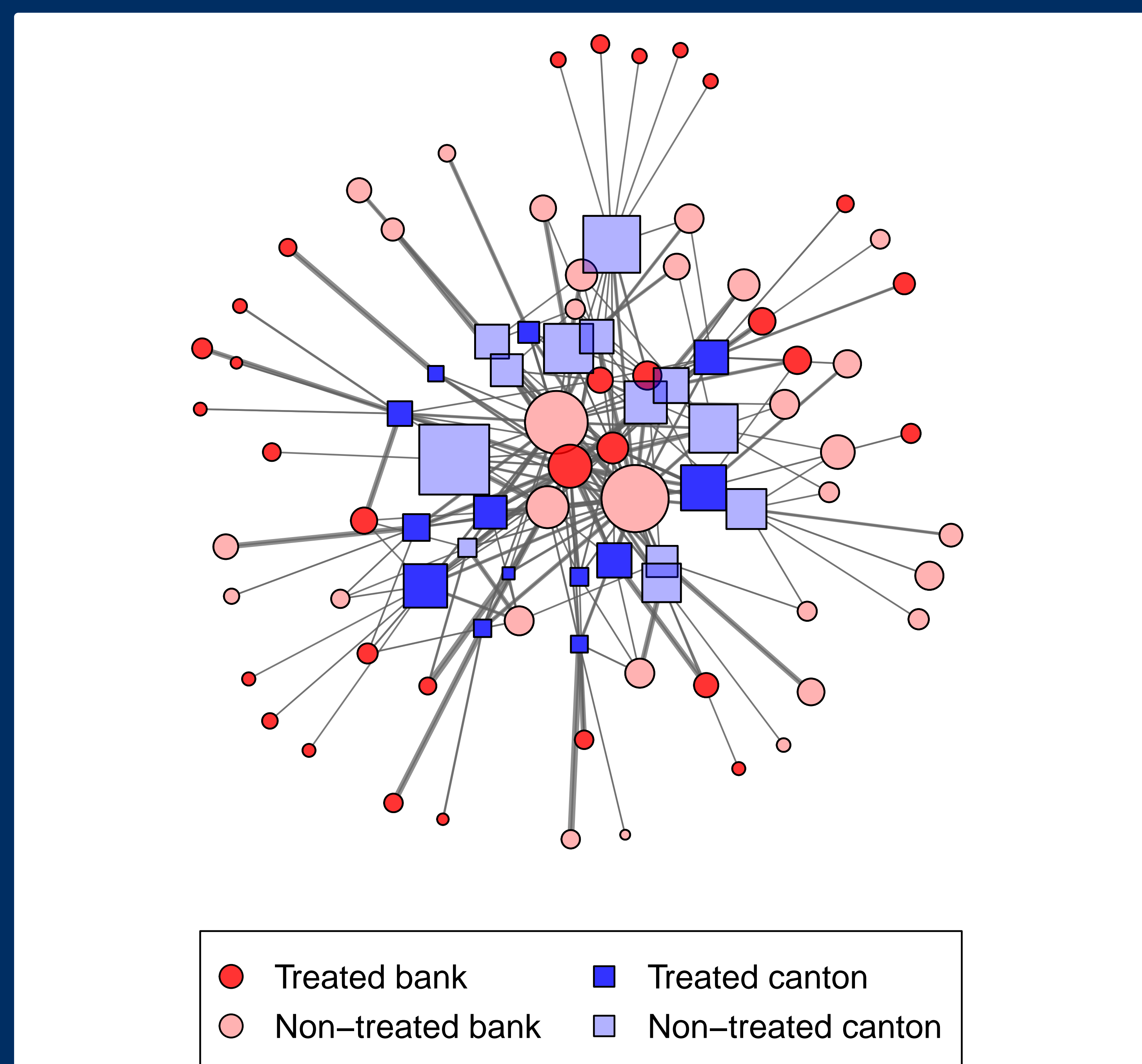
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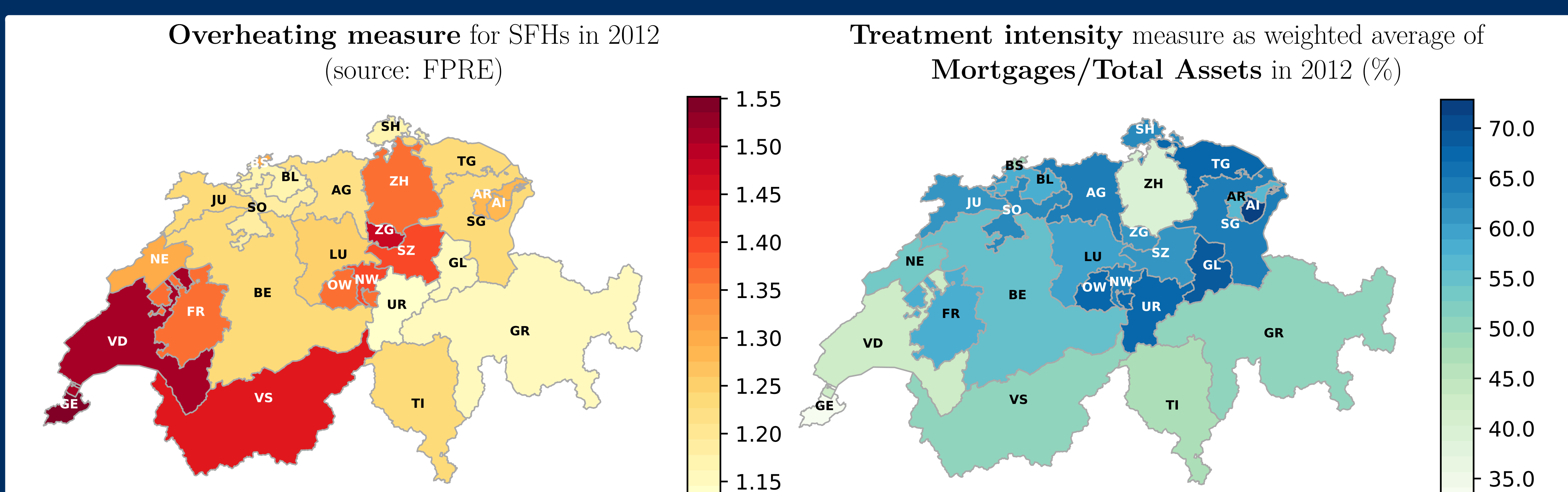
Figure 1. The network of mortgage lending suppliers



The diagram represents a bipartite network of 26 **cantons** and 61 **banks** connected by the presence of a **mortgage lending relationship** in 2012. The size of the nodes reflects Total Assets and GDP in case of banks and cantons, respectively. Treatment intensity is based on our mortgage specialization measure.

Core-periphery structure: many small banks grant mortgages in one or few cantons whereas few big banks are active in many cantons. Smaller cantons rely more on their local banks, while larger cantons are financed by less mortgage-specialized ones.

Figure 2. Overheating and treatment intensity distributions



The maps reveal that the least treated cantons (Geneva, Zurich and Vaud) are among the overheated ones, while some of the most treated cantons (Glarus, Thurgau, Uri) do not experience a considerable real estate market overheating.