

# 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**.
- CCyB led to an additional **decrease** in the **price growth** of single-family houses but not of condominiums.
- The intervention did **not** affect some of the most **overheated** regions.

## Methodology

- **Difference-in-differences** framework exploiting heterogeneous treatment intensity across cantons.
- Bank treatment intensity measured as **Mortgages/Total Assets** in 2012.
- Treated canton: above the median **weighted average treatment intensity** of banks active in the canton.

## Hypotheses

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

## Results

H1 ~~X~~

- Figure 1 shows a **core-periphery structure**: many small banks grant mortgages in few cantons whereas few big banks are active in many cantons.
- **Small peripheral banks** are more mortgage-oriented, therefore **more affected** by the CCyB activation.
- **More affected cantons** tend to exhibit **less** real estate market **overheating** (Figure 2).

H2

- The intervention induced an extra **59bps** average price growth rate **slowdown** within the treated cantons' market for SFHs (**considerable economic significance** relative to the 97bps average quarterly growth rate).
- The result is mainly driven by the CCyB's **activation** in 2013, which is potentially more disruptive.

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.

## 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 macroprudential measure under study. Moreover, we show that a higher exposure to the CCyB treatment led to an **additional reduction** of the **SFH price growth**. Our work raises important **policy implications** by shedding light on the intended and unintended effects of a novel regulatory 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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## Introduction

We empirically analyze the activation of the **countercyclical capital buffer (CCyB)**, a post-crisis macroprudential measure. Since the Swiss National Bank (SNB)'s **sectoral** implementation of the CCyB applies to **residential mortgages** only, we investigate the intended and unintended consequences of this intervention for the Swiss real estate market.

## CCyB in Switzerland

- **Globally first activation** of the CCyB: motivated by the imbalances in the real estate market.
- 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.

## Data

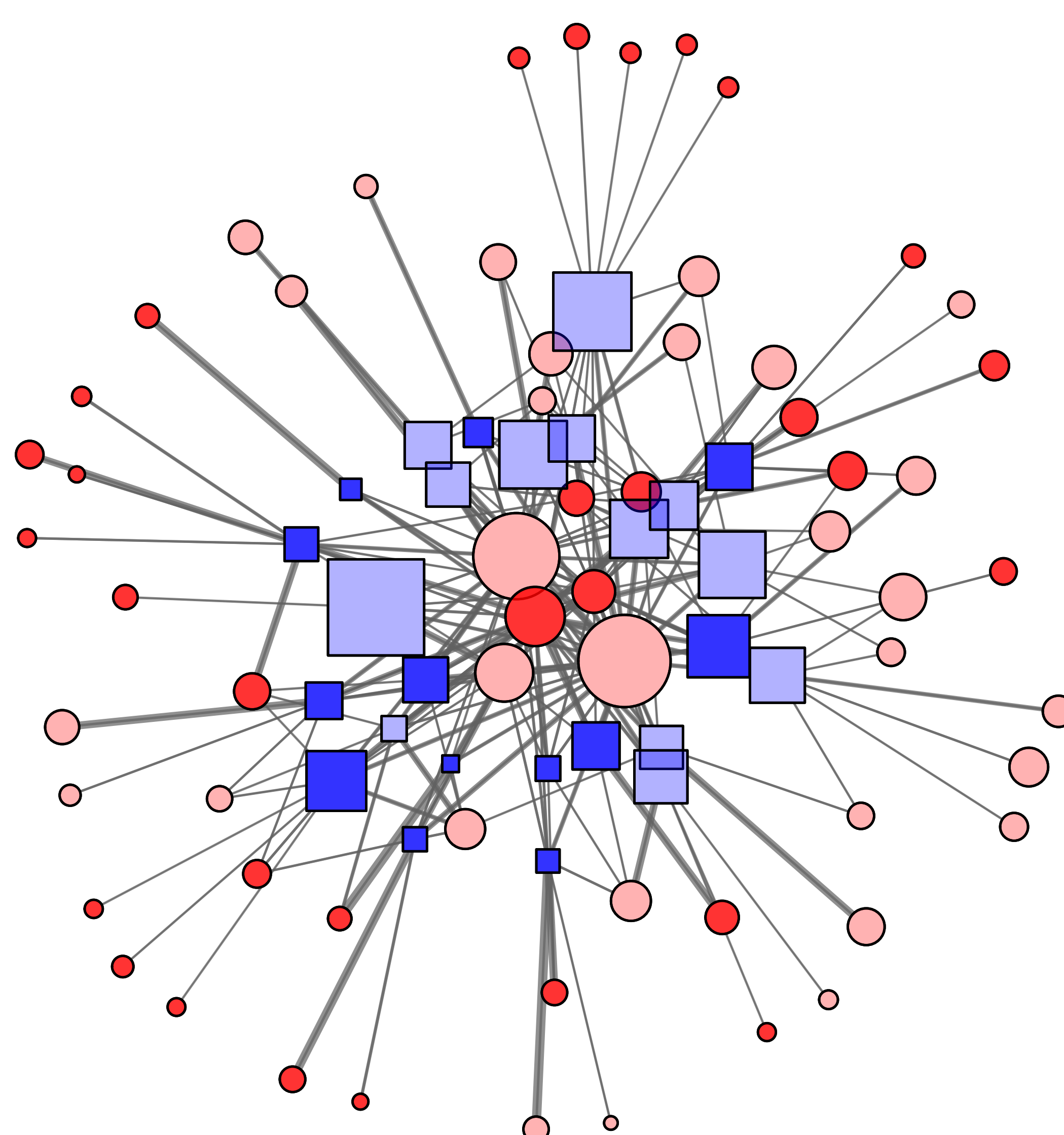
### Bank data:

- **Composition of mortgage lending supply** in each canton matched with banks' accounting data.
- 145 banks: 99.76% of the Swiss residential mortgage market financed by banks.

### Real estate data:

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

Figure 1. The network of mortgage lending suppliers



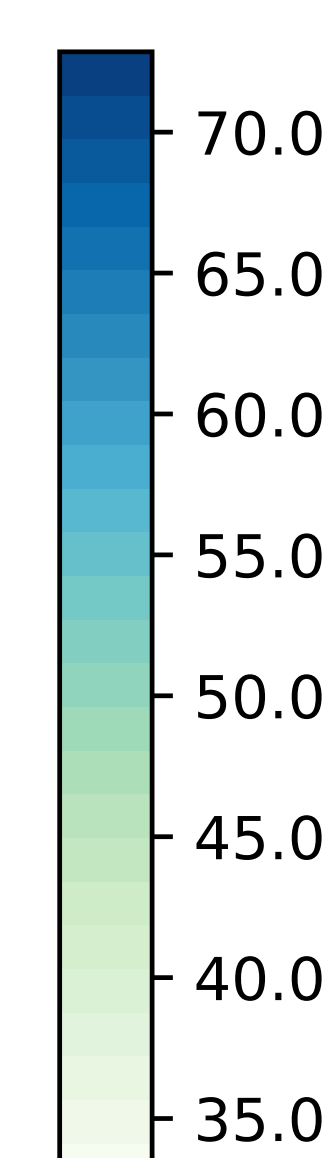
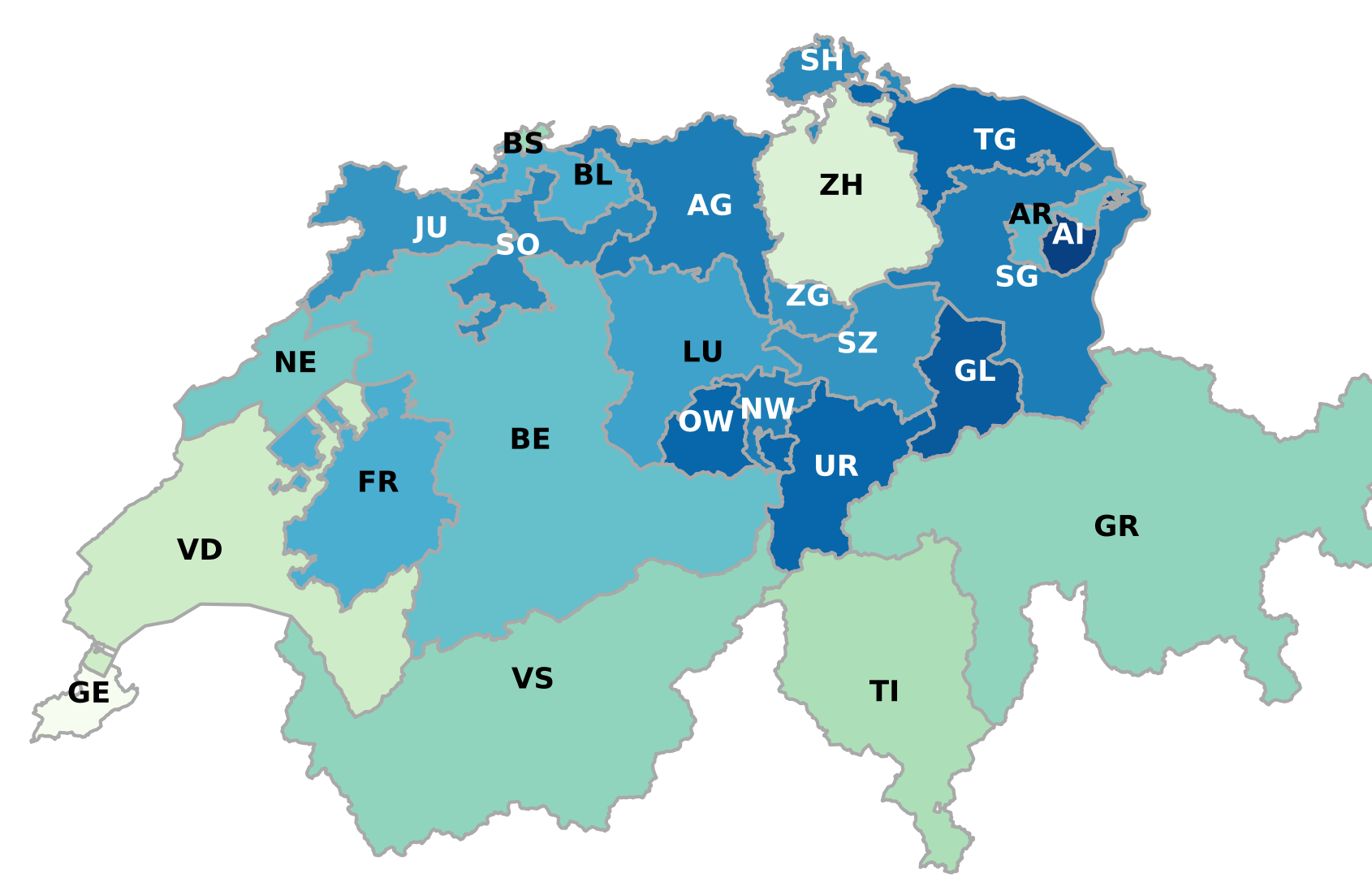
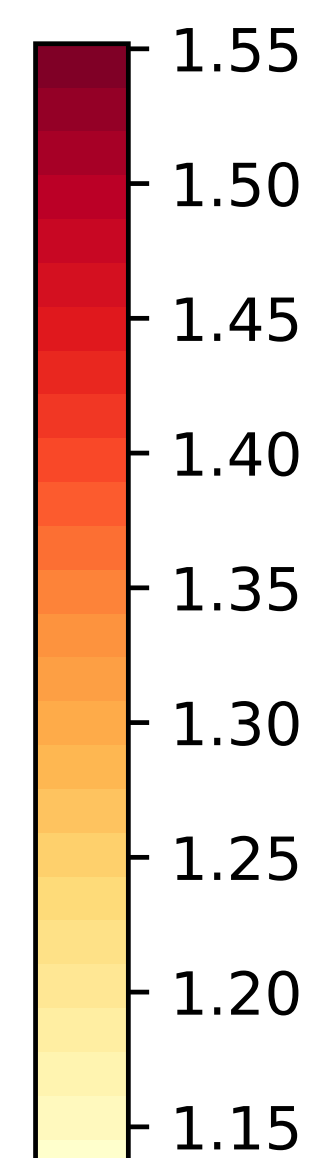
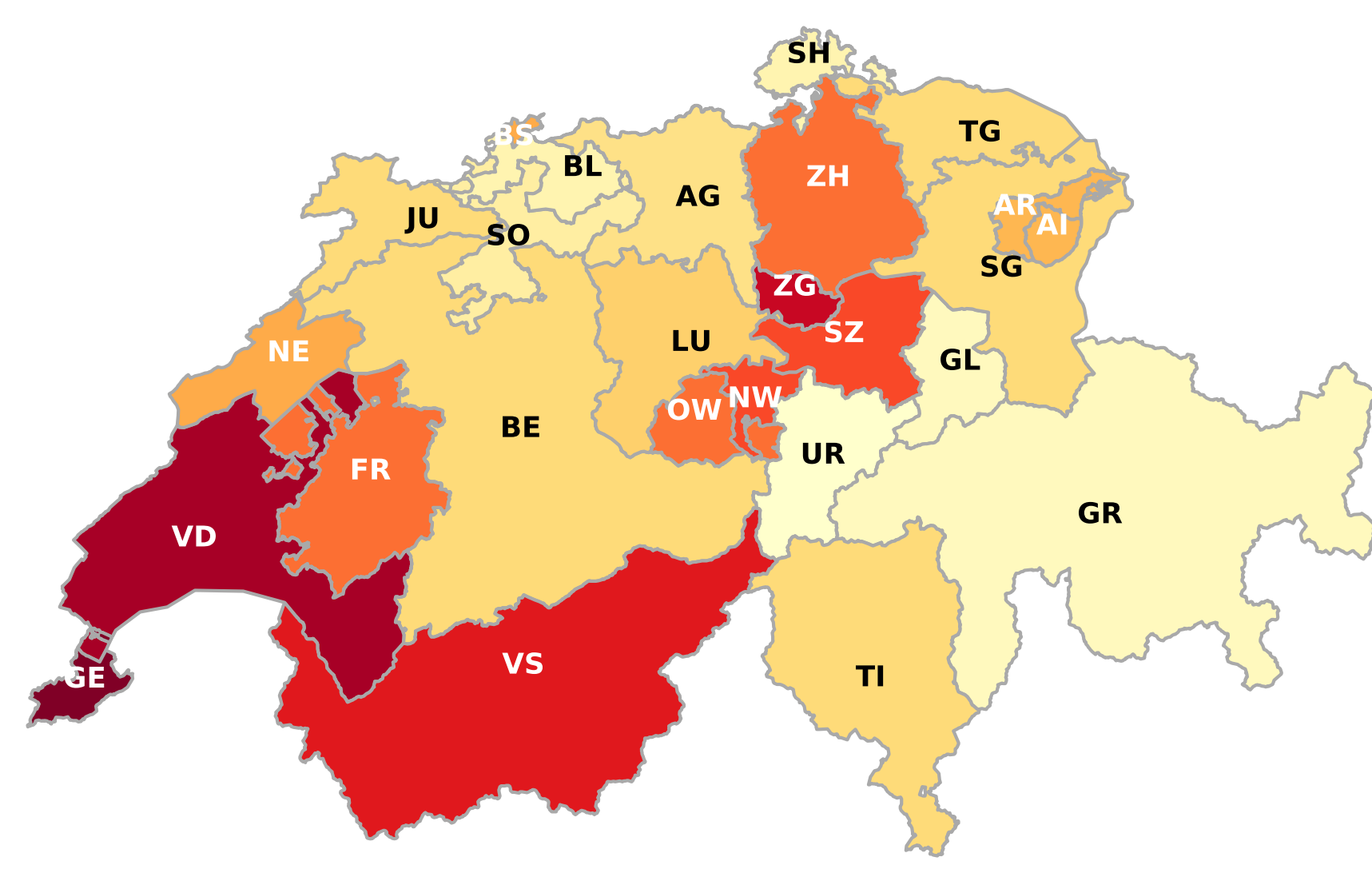
- Treated bank
- Non-treated bank
- Treated canton
- Non-treated canton

The diagram shows a bipartite network of 26 Swiss cantons and 61 banks. Links connect banks with cantons, where they provide mortgage lending. The width of the links is proportional to the market share of each bank in each canton; observations below 1% are dropped. 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.

Figure 2. Overheating and treatment intensity distributions

Overheating measure for SFHs in 2012 (source: Fährländer Partner Real Estate)

Treatment intensity measure as weighted average of Mortgages/Total Assets in 2012 (%)



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.