

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 leads to a **price growth reduction** for both single-family houses and condominiums.
- More **overheated** cantons tend to be **more CCyB-affected**. This is **desirable** from a **financial stability** perspective.
- **Bartik instrument**, constructed relying on bank-level data, allows us to provide evidence on the underlying **mortgage-lending channel**.

Introduction

We empirically analyze the activation of the **countercyclical capital buffer (CCyB)**, a post-crisis macroprudential measure. Since the 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.

Data

Real estate data:

- Cantonal annual (2010-2015) price indexes for both **single-family houses (SFHs)** and **condominiums (CONs)**.
- Provided by Wüest Partner (W&P) and Fahlränder Partner (FPRE), the leading Swiss real estate consulting companies.

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

Bartik instrument research design:

- **Endogenous shifts**: estimated changes in banks' mortgage supply.
- **Exogenous shares**: pre-treatment bank-canton mortgage market shares.

Canton-level CCyB treatment:

- **Estimated** starting from the bank-level treatment measures (namely, mortgage specialization and capital constraint).
- Represents the **contraction in the aggregate mortgage supply** associated with the CCyB activation.

Reduced form specification:

- Regress house price growth on the estimated CCyB treatment.

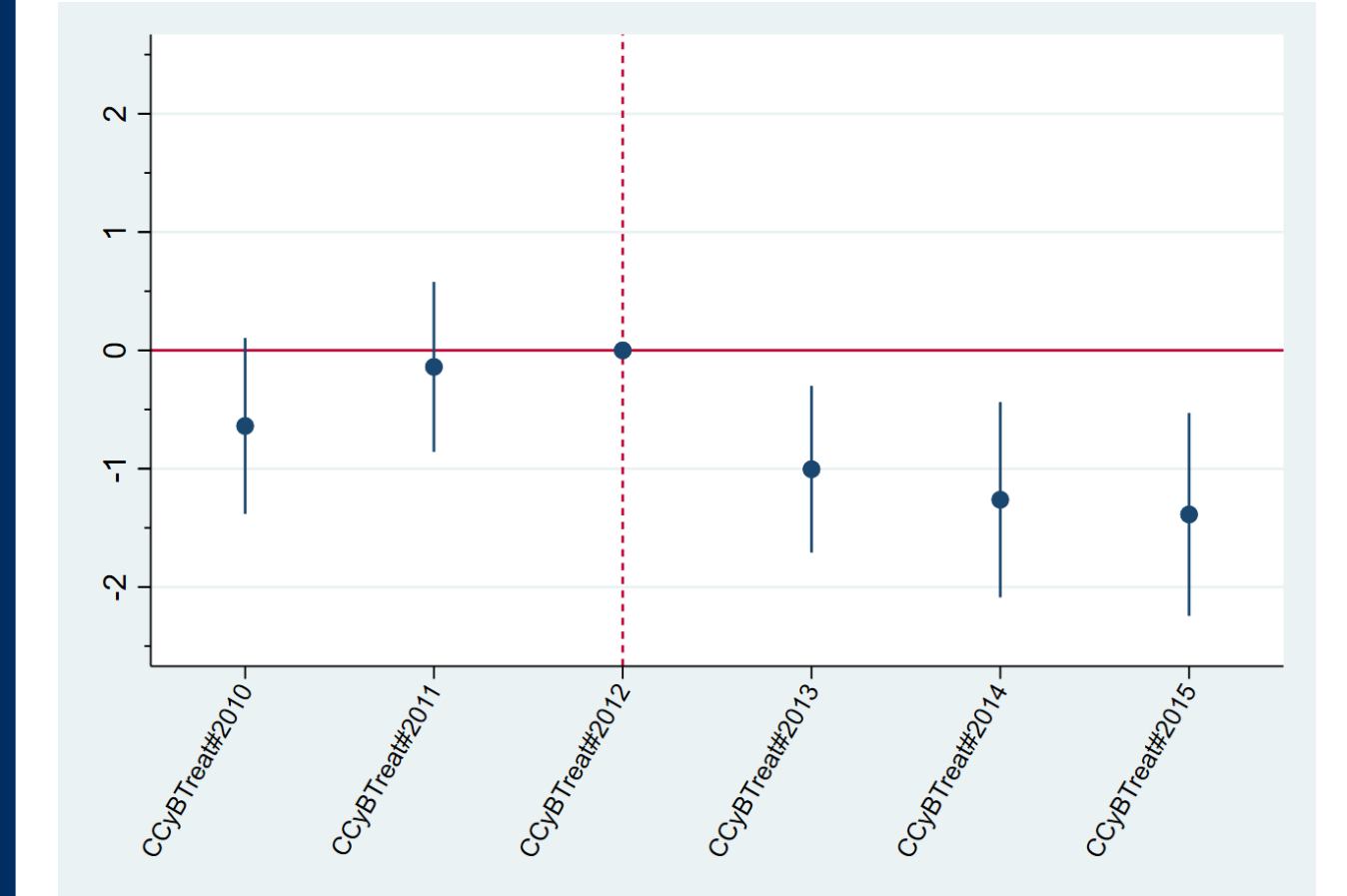
Results

H1 ✓

- Heterogeneity in **banks' treatment** and **cantons' financing structure** defines the distribution of the CCyB treatment across cantons (Figure 1).
- More **economically vibrant cantons** experience a stronger contraction in mortgage lending.
- Presumably, this is due to the presence of **alternative bank business opportunities**.
- These more **CCyB-affected cantons** tend to exhibit **more overheating** (Figure 2).

H2 ✓

- After the intervention, a one standard deviation increase in the **estimated CCyB treatment** leads to an average additional annual **price growth reduction** of 1.78 pp for CONs and of 1.27 pp for SFHs.
- **Economic significance**: average pre-treatment annual growth rate of 4.33% for CONs and 3.15% for SFHs.



Mortgage channel ✓

- Higher capital requirements **impact** house **price growth rates** through the bank **mortgage** lending.
- The 2SLS analysis reveals that the more a canton is **CCyB-affected**, the stronger is the **reduction** in the **cantonal mortgage volume growth**.

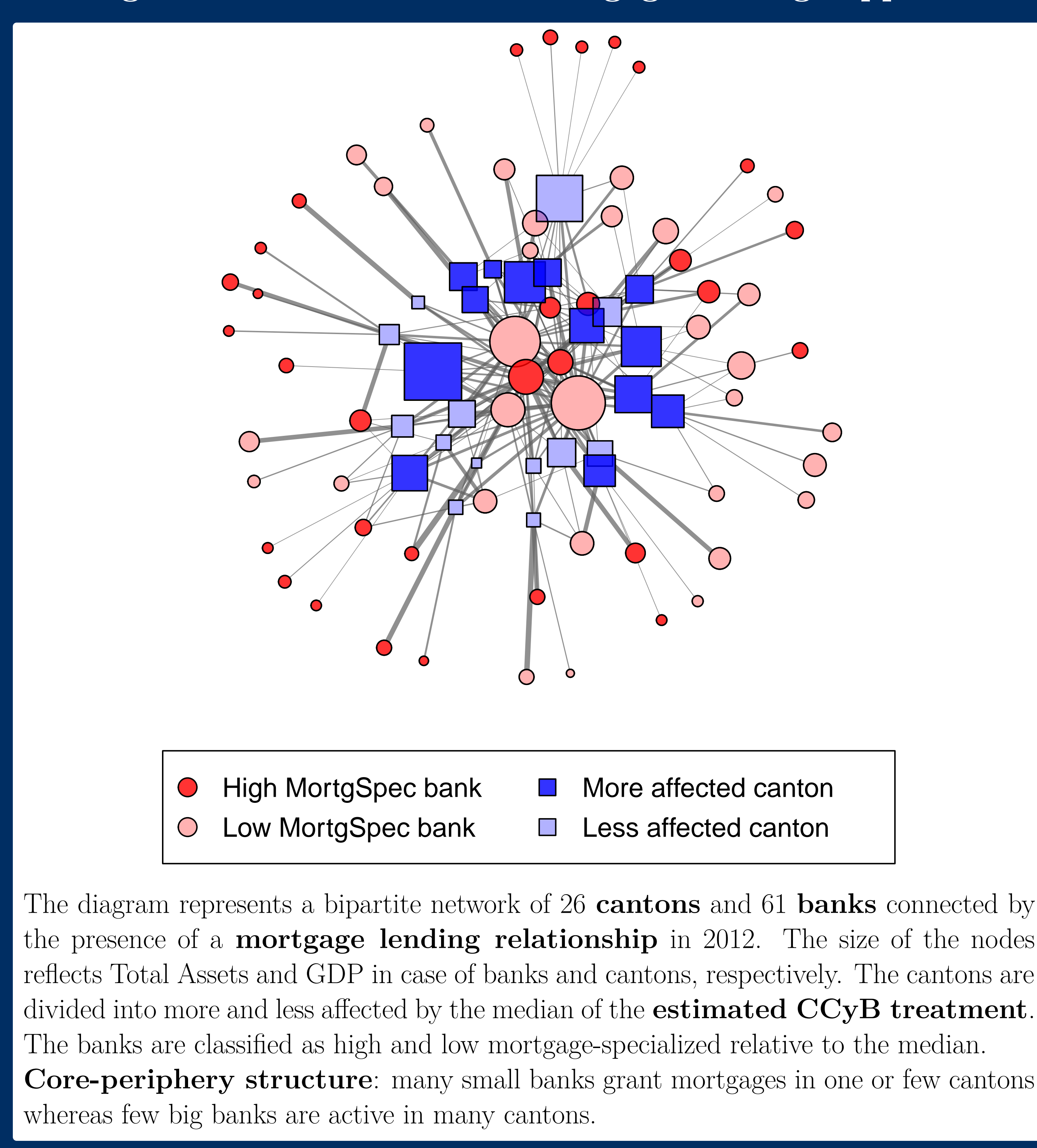
Conclusion

We document a **mitigation of house price growth** in the more CCyB-affected cantons. These cantons experience a more overheated pre-treatment real estate market. We also provide evidence on the underlying **mortgage lending channel**. Our work raises important **policy implications** by shedding light on the intended and unintended consequences of a novel tool. For instance, **depending on the financing structure**, macroprudential policies can induce positives externalities that could **reinforce macro-financial stability**, in particular by smoothing asset price cycles. This indicates that CCyB could be used as an **alternative** and/or a **complement** to more traditional **monetary policy** tools.

Contacts

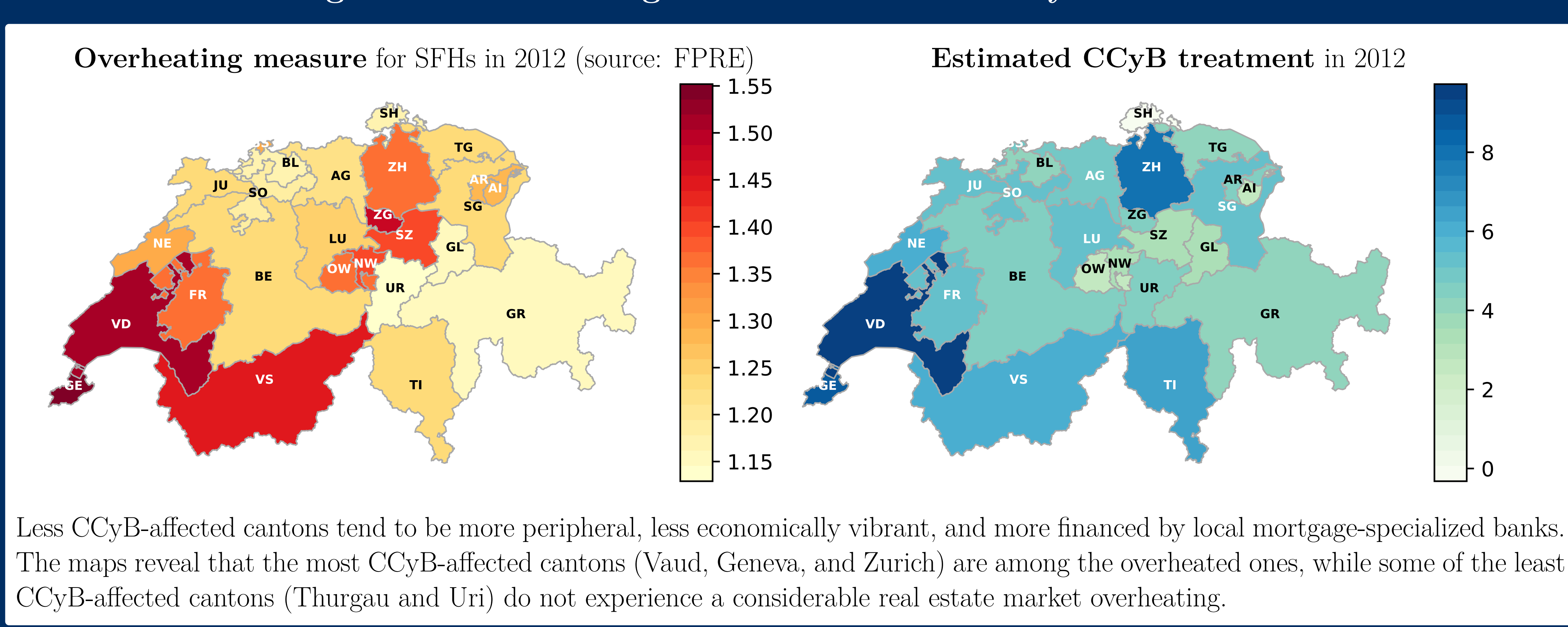
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Figure 1. The network of mortgage lending suppliers



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. The cantons are divided into more and less affected by the median of the **estimated CCyB treatment**. The banks are classified as high and low mortgage-specialized relative to the median. **Core-periphery structure**: many small banks grant mortgages in one or few cantons whereas few big banks are active in many cantons.

Figure 2. Overheating and treatment intensity distributions



Less CCyB-affected cantons tend to be more peripheral, less economically vibrant, and more financed by local mortgage-specialized banks. The maps reveal that the most CCyB-affected cantons (Vaud, Geneva, and Zurich) are among the overheated ones, while some of the least CCyB-affected cantons (Thurgau and Uri) do not experience a considerable real estate market overheating.