The Political Economy of Leaning Against the Wind:
Preliminary Results

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Motivation

- Much interest in the **efficacy** of macro-prudential regulatory (MPR)
  - Limit the buildup of systemic risk
  - Contain the macroeconomic costs of financial instability
- Existing **literature** largely **focuses** on links between MPR and **financial stability**.
  - Lim et al. 2011; IMF 2013; Cerutti et al. 2015; Lim et al. 2011; IMF 2013; Cerutti et al. 2015; Claessens et al. 2013; Jiménez et al. 2012; Camors and Peydro 2014

Political Economy of MPR

Missing **politics**

- **Political** dynamics potentially **complicate** MPR **implementation**
  - Move against market and public sentiment during boom periods
  - Affect who can obtain access to financing and at what price
- Use of some MPR can be highly and conspicuously **distributional**, potentially constraining their use and effectiveness
- Allocation of MPR responsibilities to hitherto independent central banks creates additional concerns about the nature of the **accountability** relationship

Political Constituency Problem

Claudio Borio (2013)

“There is no ready-made constituency against the inebriating feeling of growing rich.”

MPR alludes to systemically beneficial outcomes that are difficult to translate into straightforward material gains

Accountability Relationship Issue

"If the FPC were to decide to activate the **countercyclical buffer** … it would be done to ensure the sustainability of the credit cycle and **increase the resilience of banks** to the credit cycle."

But, "[It] would be akin to some form of **monetary tightening**."

Bank of England hints at temporary rise on capital requirements (November 2015)

Emphasis added.

Political **Reaction**

Andrew Tyrie, MP and Chair of Treasury Committee

"The bank is not ruling out the possibility that the monetary policy stance could be tightened through the FPC's use of countercyclical buffers."

"**Parliament would need to keep a close eye** on exactly how, and with what degree of transparency, this decision was taken, given the respective remit of the Monetary Policy Committee and FPC."

Emphasis added.

Our Focus

Institutional configurations

Political incentives

Democracy: incentives to avoid tightening

- **Electoral accountability** may create political incentives to **avoid tightening**
  - Public may have limited collective memory and preferences for financial stability
  - **Myopic voters** may perceive greater benefit from **easy credit**
  - **Less democratic** societies with weaker removal pressures may enable greater space to MPR tools

Democracy: incentives for tightening

- **Electoral accountability** may also create political incentives for **tightening**
  - **Perceived regulatory failures** for failing to spot a bubble may erode the reputations of central banks and politicians.
  - Removal pressures in democratic societies may **incentivize tightening** because political fallout from puncturing a non-bubble may be less than failure to spot a real one.

Elections

- **Electoral accountability** may also create **MPR electoral cycles**
  - **Tightening close to an election** would slow credit provision, potentially heightening voter dissatisfaction.
    - Temporal **proximity** to election may **dampen** use of MPR tools
  - **Loosening after elections** - politicians can use post-election period to stabilize economy.
    - Temporal **remoteness** to election may **heighten** use of MPR tools.

Inequality

- **Inequality** may be root **cause of credit booms**, especially in societies with limited capacity or political will to implement redistributive policies (Rajan 2010; Calomiris and Haber 2014)

- Governments may aim to **boost the consumption of lower-income** households through easier credit conditions and less stringent regulation

Inequality may forestall tightening or stiffen resolve

- Politicians may prefer not to intervene and instead **accommodate credit bubbles to boost their popularity**, suscepting regulators to political pressure.

- However, **inequality-induced credit booms** may **heighten perceived need** for regulators to lean against the wind.

Institutional MPR Policy Environment

- **Independent central banks** could be less susceptible to political incentives and financial sector lobbying.

- **Ministry of Finance (MoF) involvement** may have opposite effect.

Monetary policy environment

- **High policy interest rates** and **restrictive exchange rate** policies may push central banks to MPR tightening to address credit conditions.

Global credit cycles:

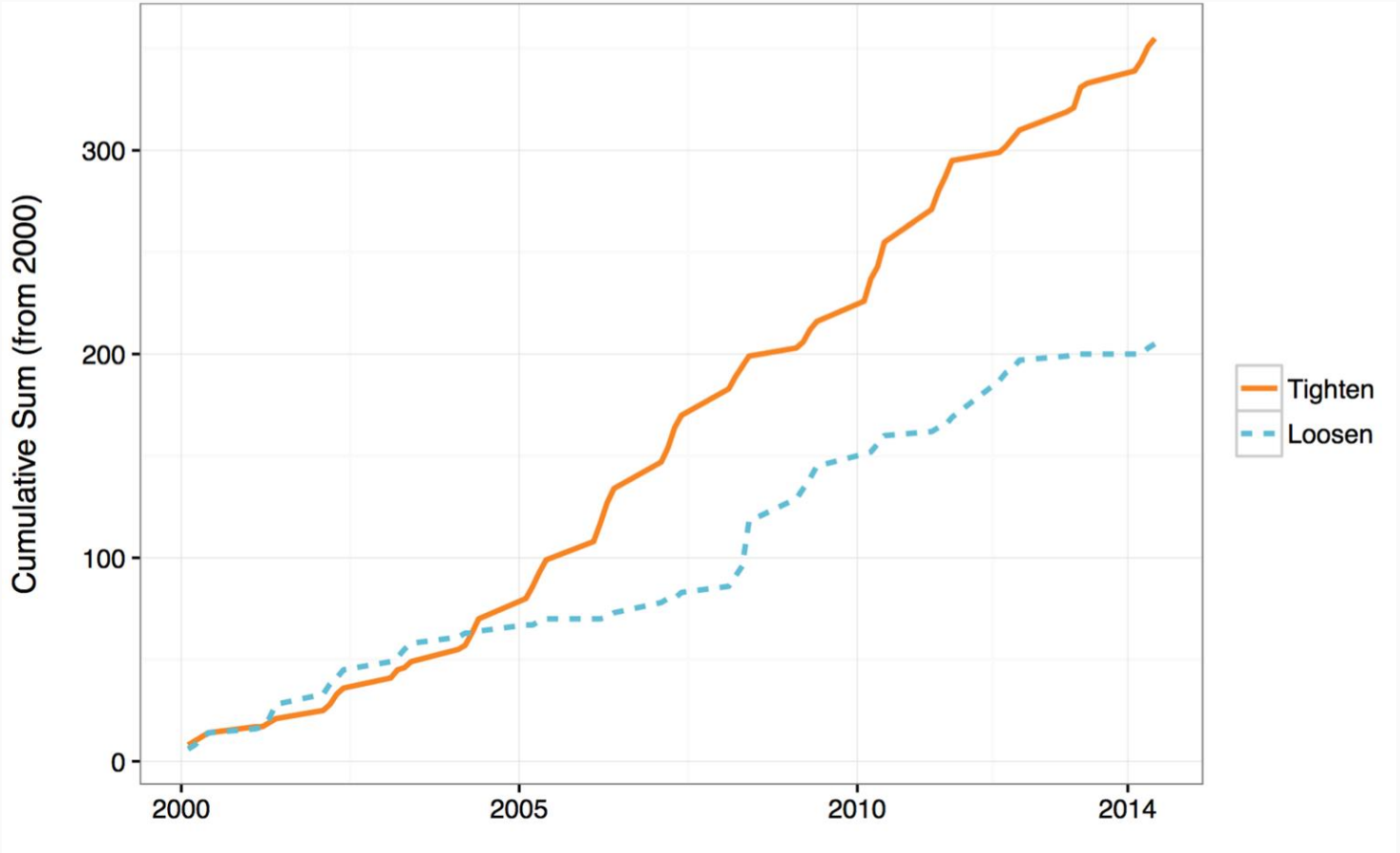
  - Low US interest rates might fuel bubbles as investors seek yield.
  - High US interest rates may threaten bank health as it becomes more difficult to payback US rate-linked loans.

Empirical Modeling

Dependent Variable

- **Binary** indicator of **tightening at least one macroprudential regulatory lever** in a country-quarter.
- Including lending standards, reserve requirements, capital regulation, risk weights, underwriting standards, profit distribution, and loan-to-value ratios.
- Derived from Reinhardt and Sowerbutts (2015).

Cumulative Sum of MPR Tightening and Loosening (full sample). Derived from Reinhardt and Sowerbutts (2015)



Estimation Approach: Logistic Regression?

Logistic regression or similar approach would obviously be the place to start modeling our binary dependent variable of MPR tightening.

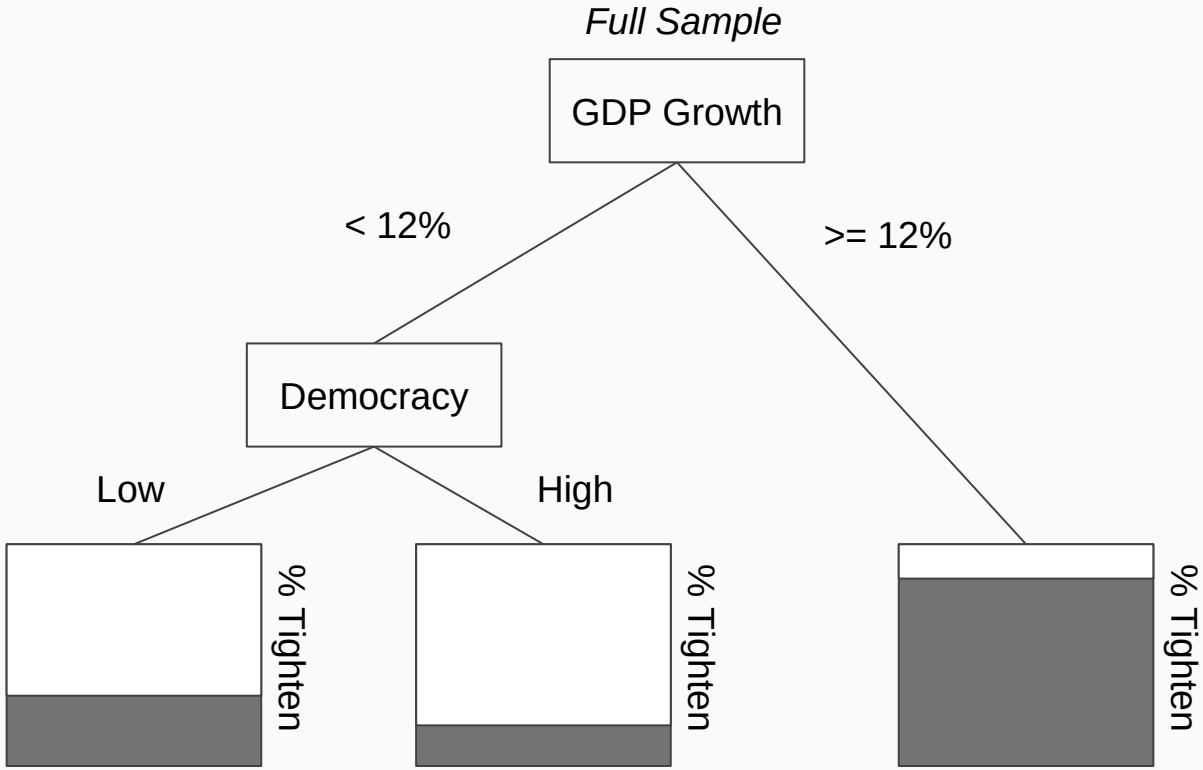
However:

- **Highly correlated** explanatory variables.
- **Few events** in the estimation sample due to considerable listwise deletion of missing values.
- **Many predictors** compared to number of events.
- Likely **non-linearities**.
- Important **outliers**.

Estimation Approach: Random Forests

All of these issues suggest that **Random Forests** may be a more appropriate way to model our data (Jones and Linder 2015).

Simple Hypothetical Classification and Regression Tree (CART)



Adapted from Jones and Linder (2015)

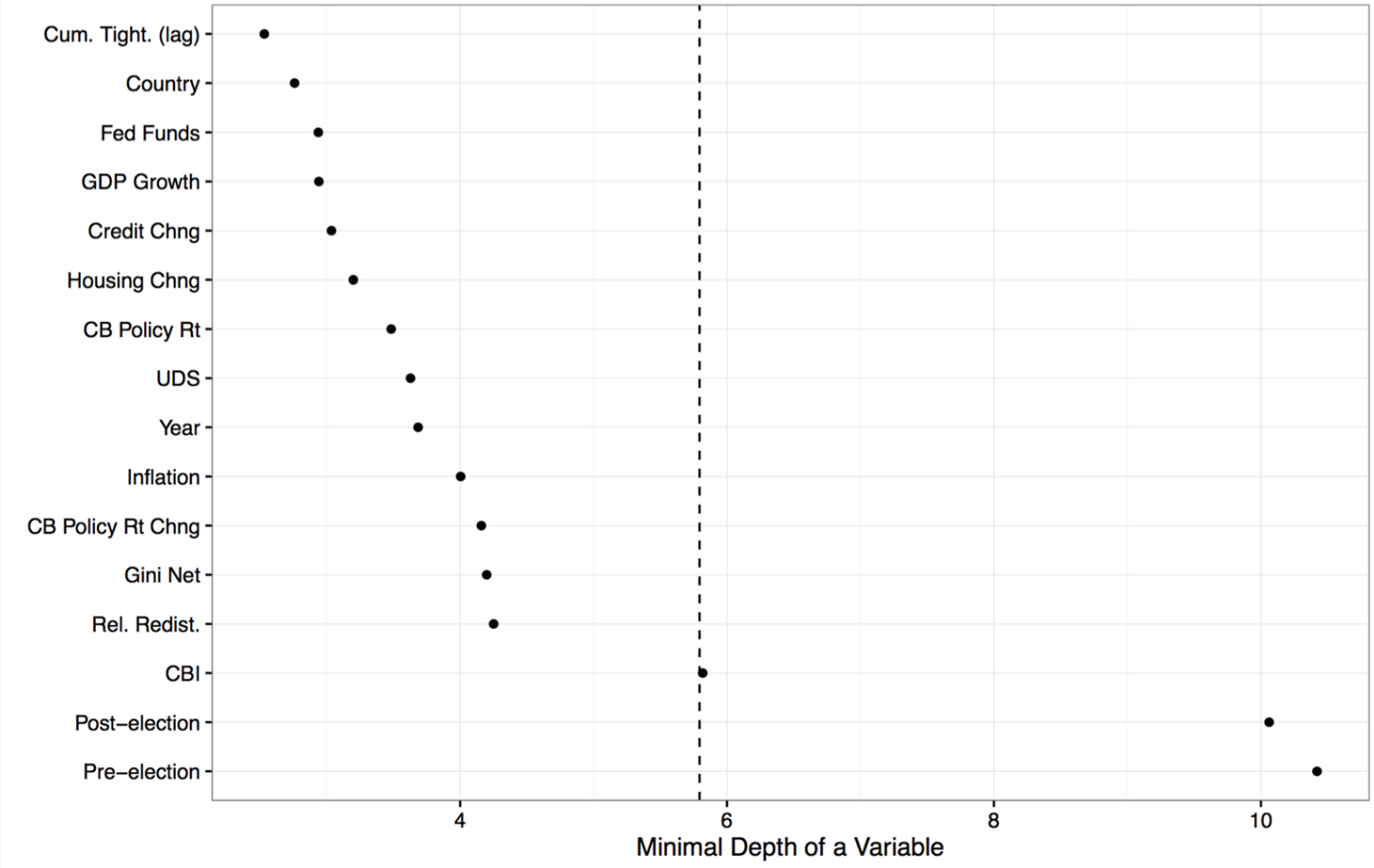
Forest of Trees

CART using the whole sample **overfits**. So:

1. Create a “**forest**” of trees fitted to **bootstrapped samples** of the data set.
2. Then find **average effects** in the forest.

Allows us to include many highly **correlated** predictors in the same model, examine **nonlinearities**, and **outliers** on our “**rare**” events.

Minimal Depth Variable Importance for MPR Tightening



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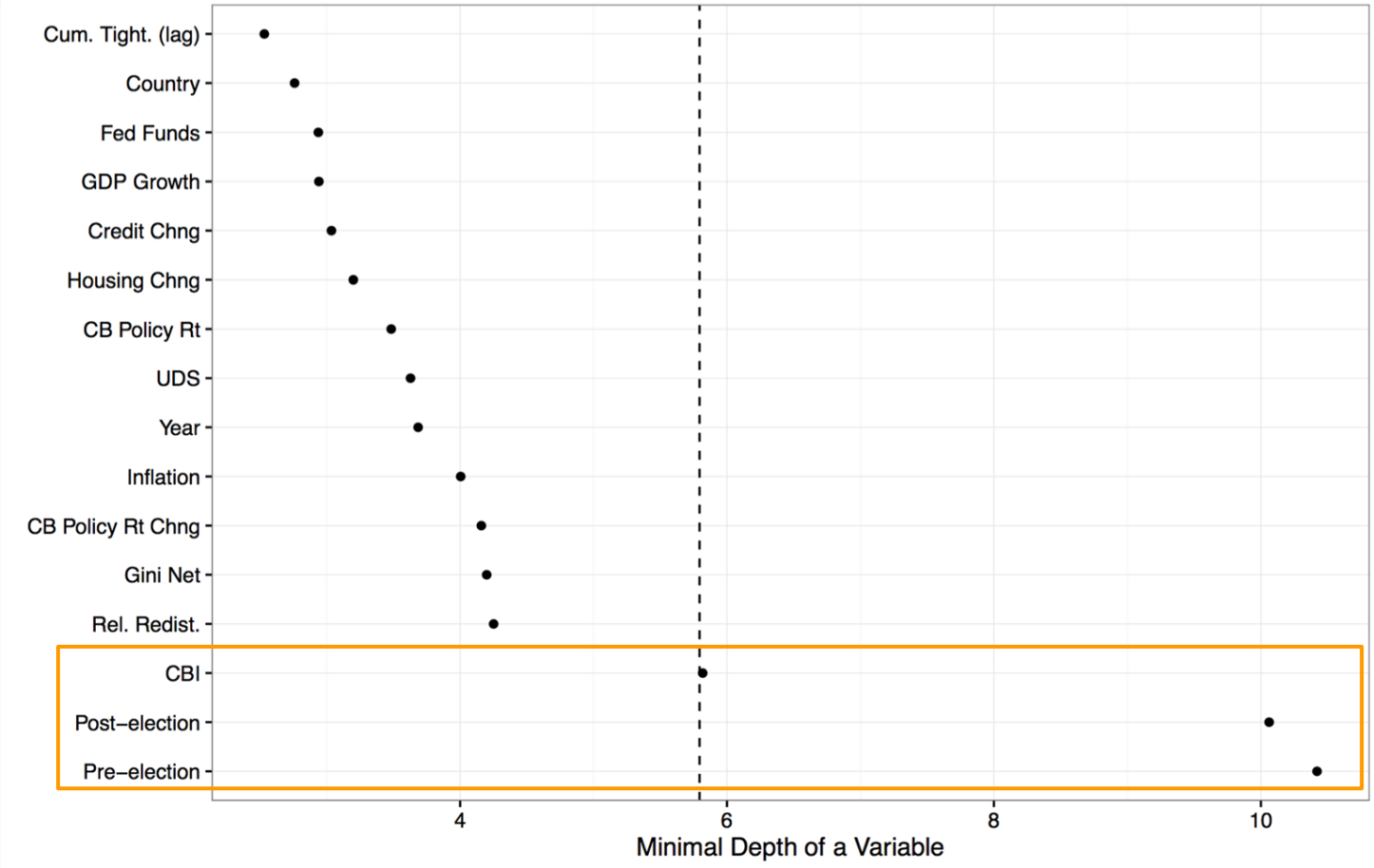
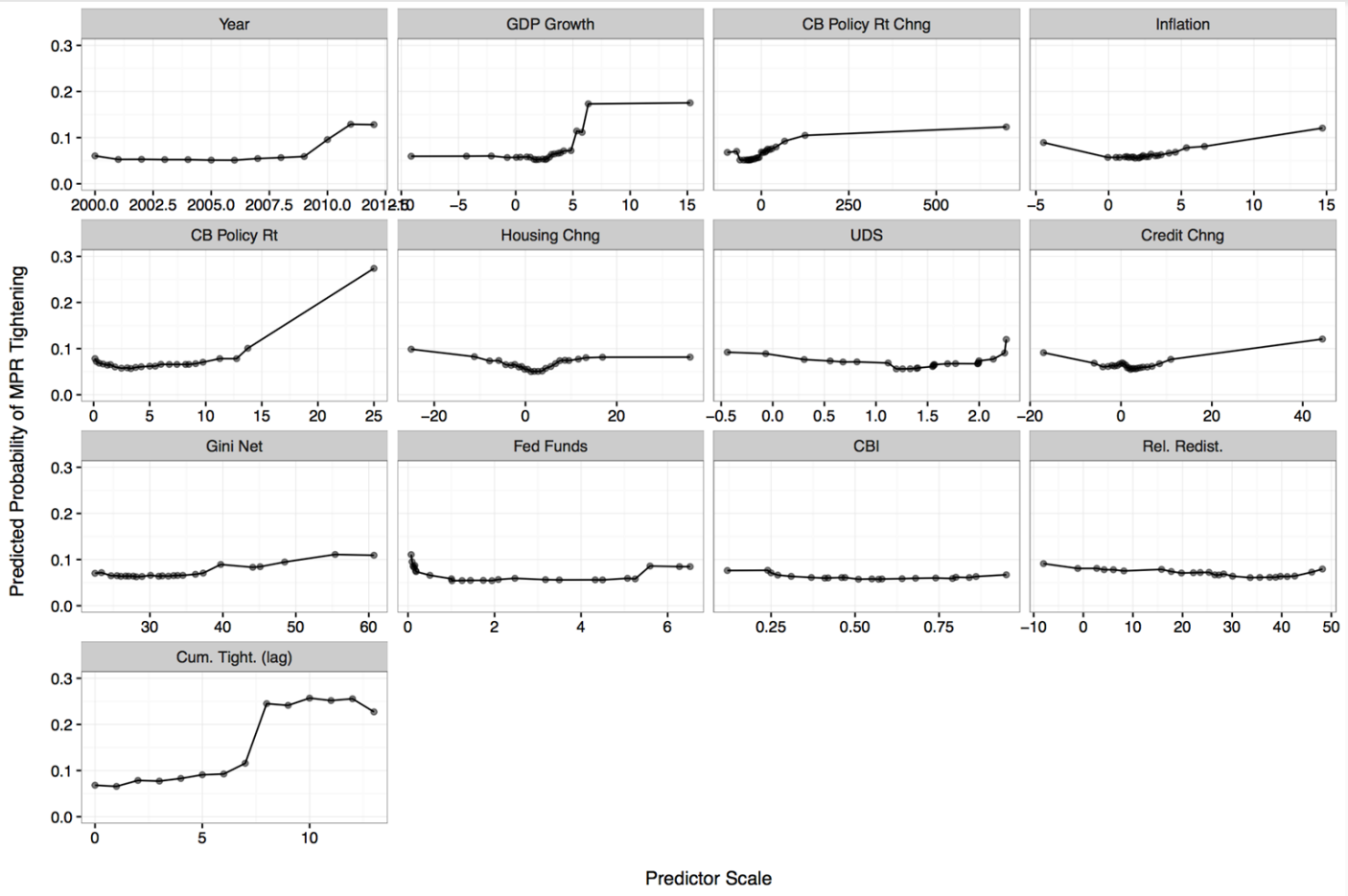


Direction and Magnitude

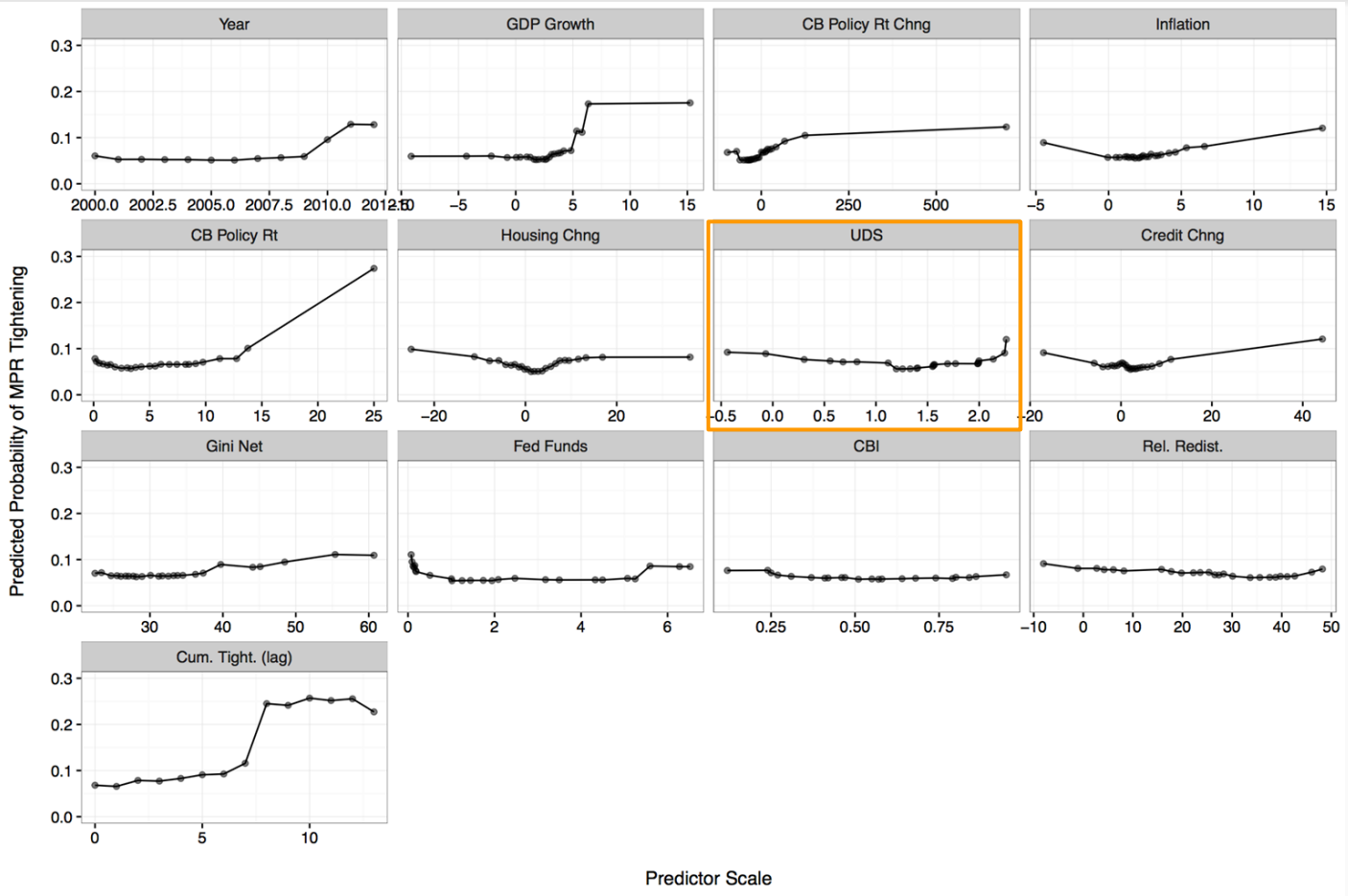
- Examined **partial dependence** of each variable on the probability of MPR tightening.

- Think of this as the **marginal effects** of the variables.

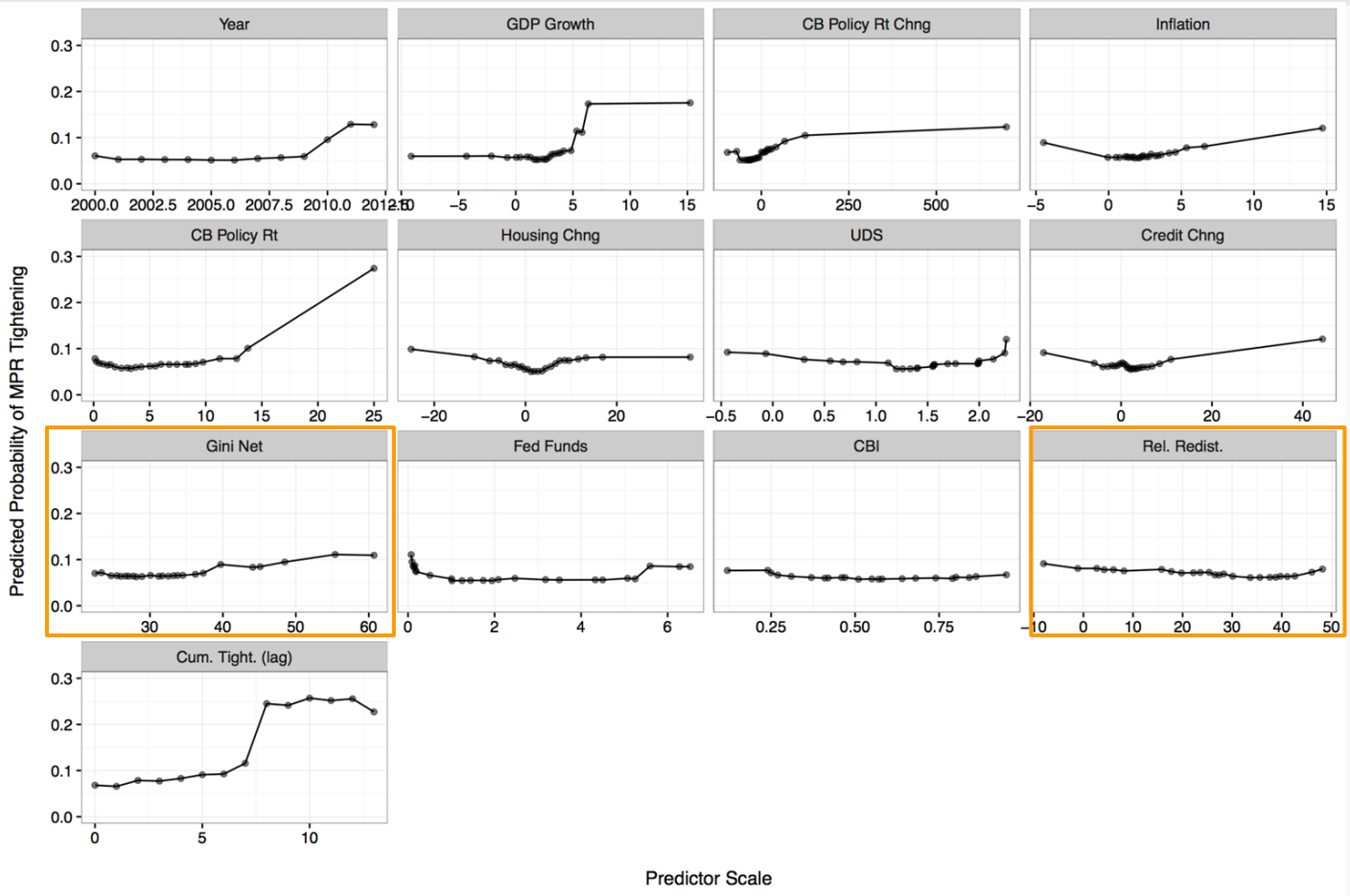
Partial Dependence Plot of MPR Tightening



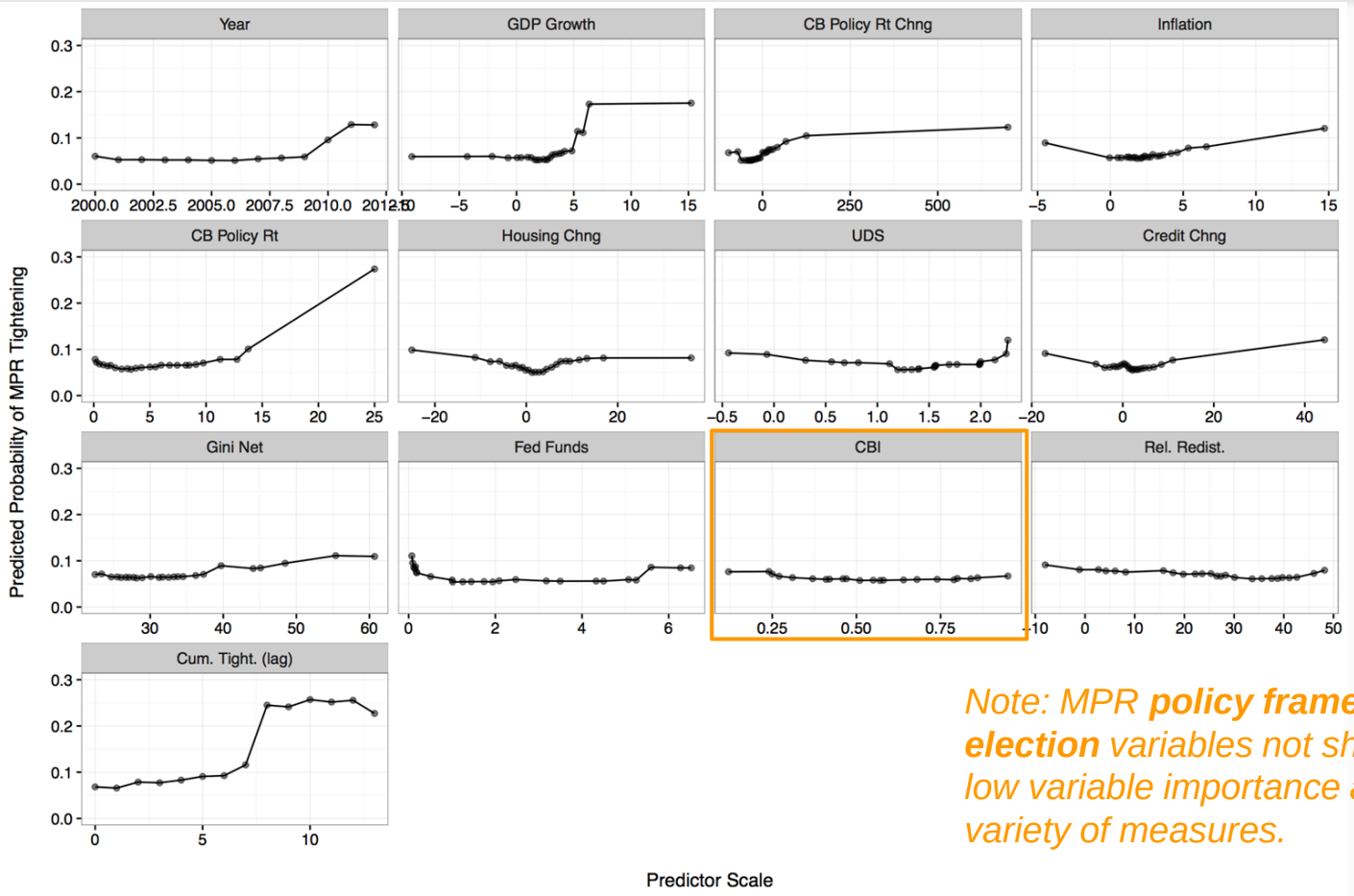
Partial Dependence: **Democracy**



Partial Dependence: **Inequality and redistribution**

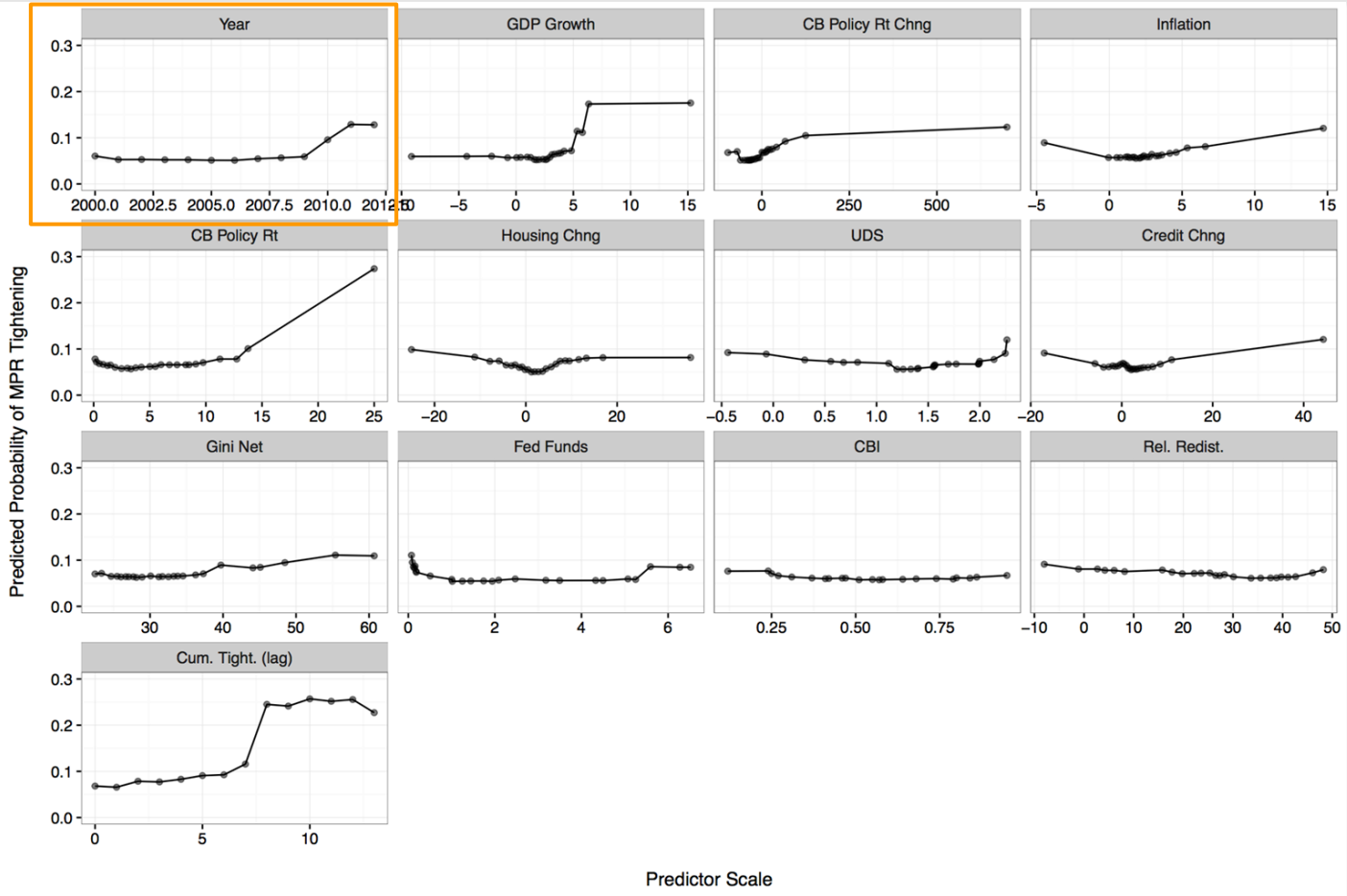


Partial Dependence: **Central bank independence and elections**

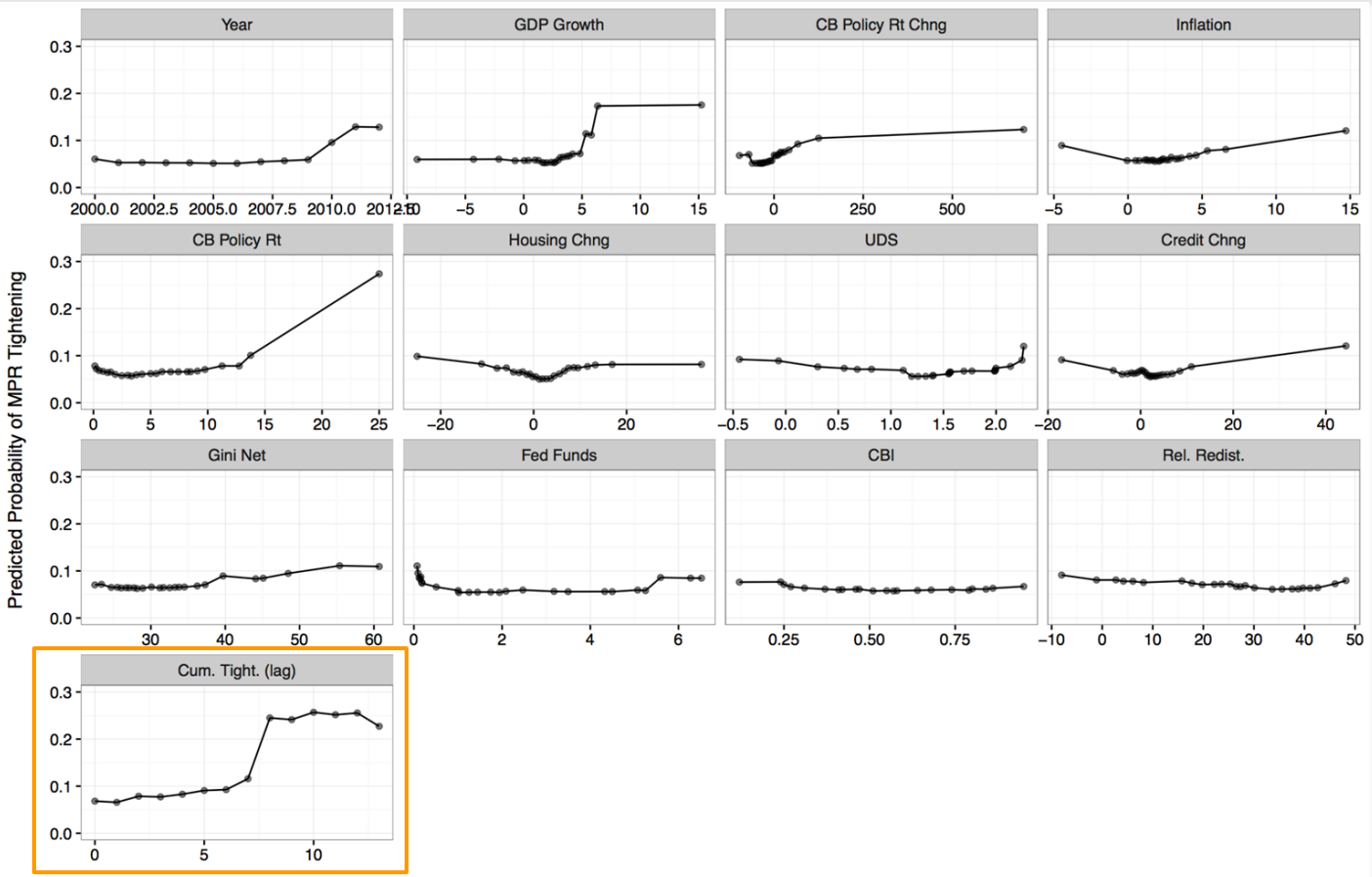


*Note: MPR **policy framework** & **election** variables not shown due to low variable importance across a variety of measures.*

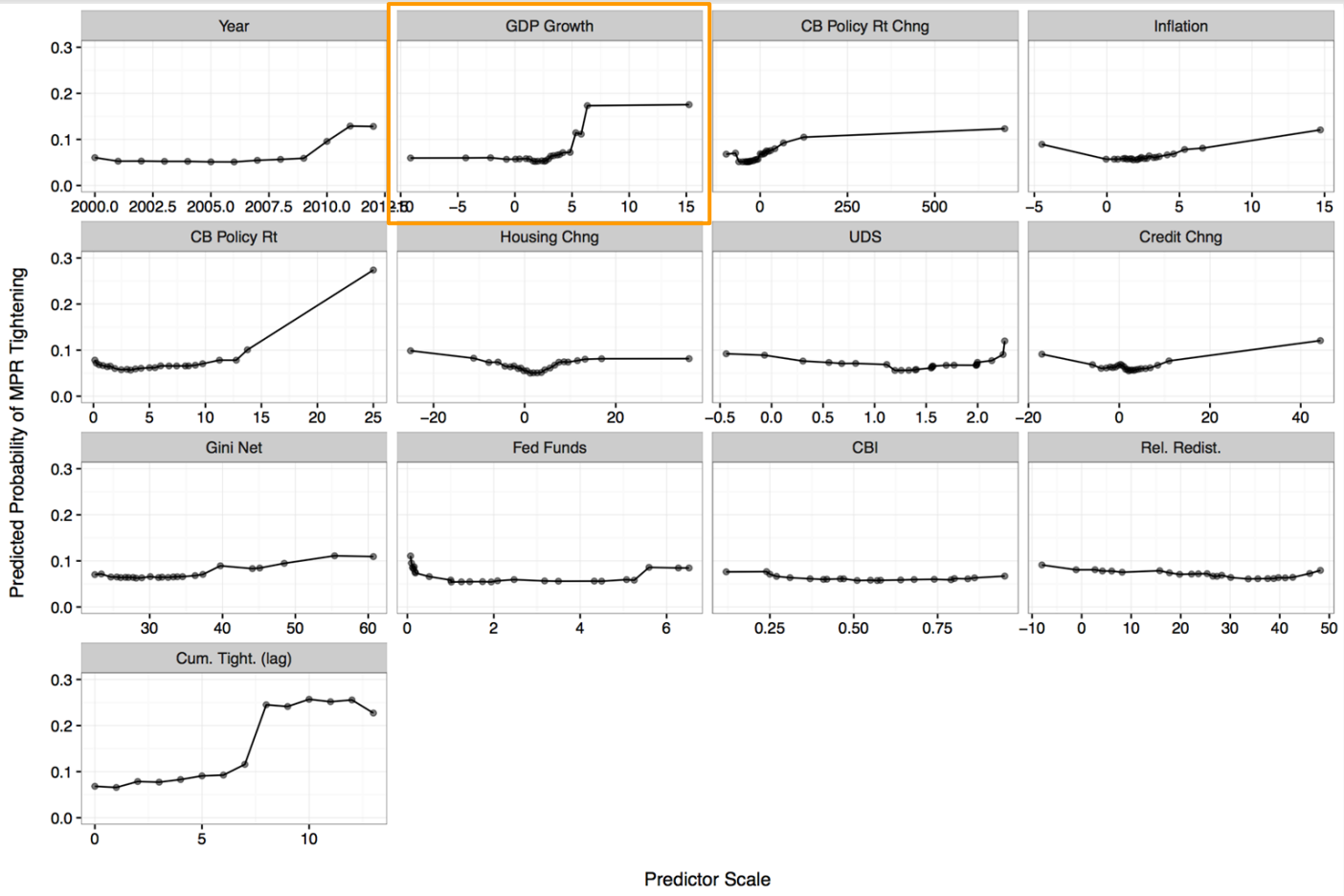
Partial Dependence: Time--Global shocks



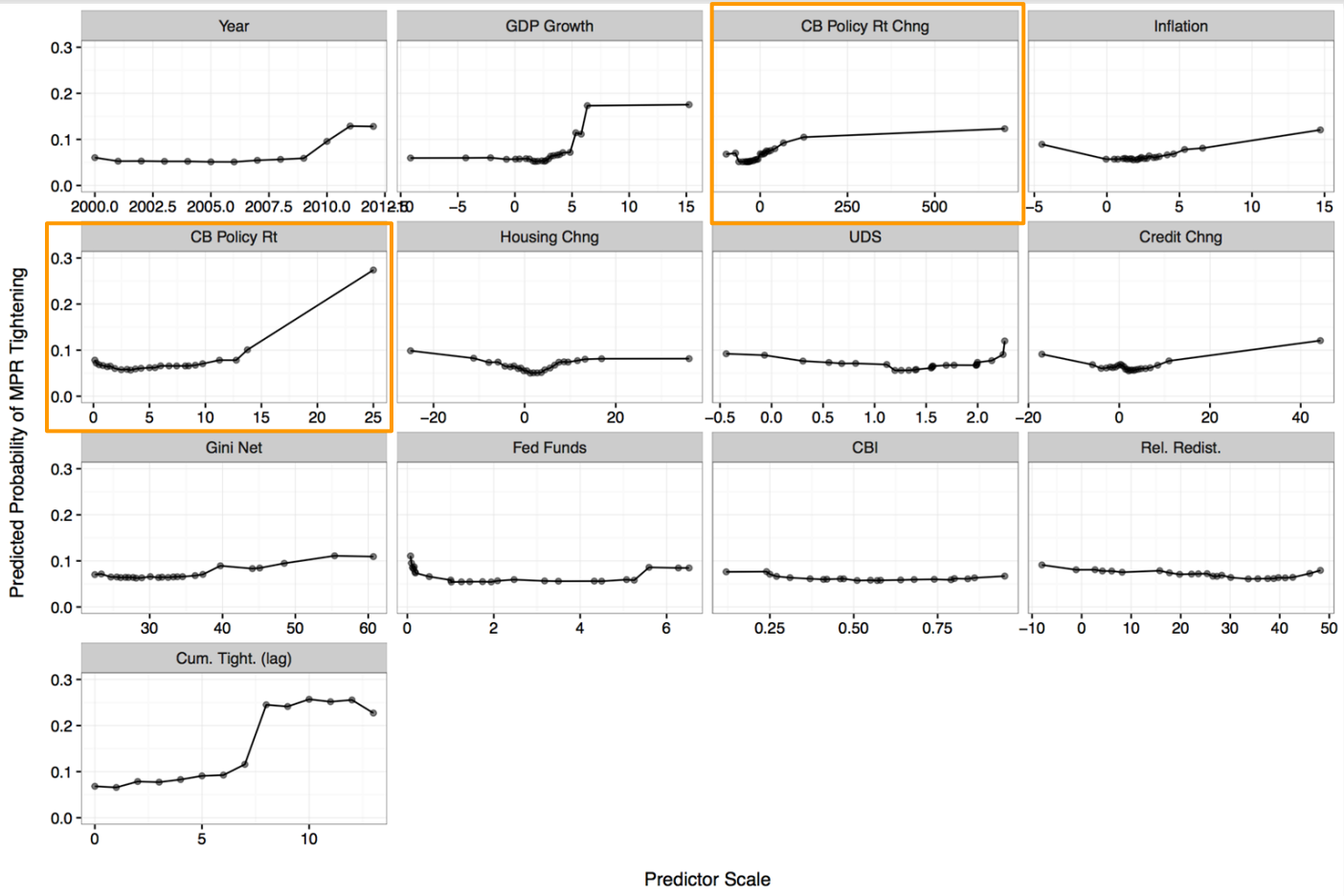
Partial Dependence: **Policy history**



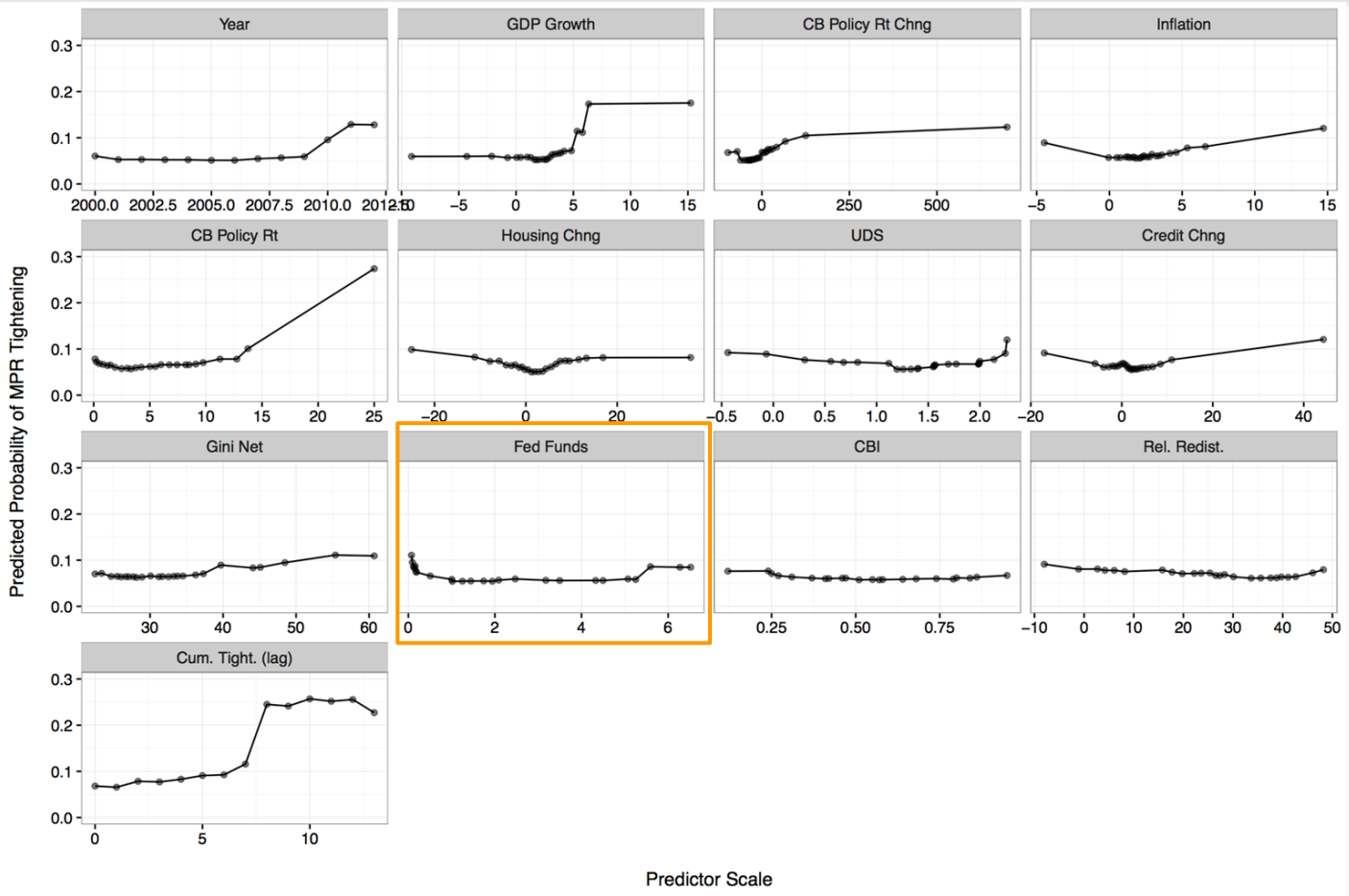
Partial Dependence: **Economic Growth**



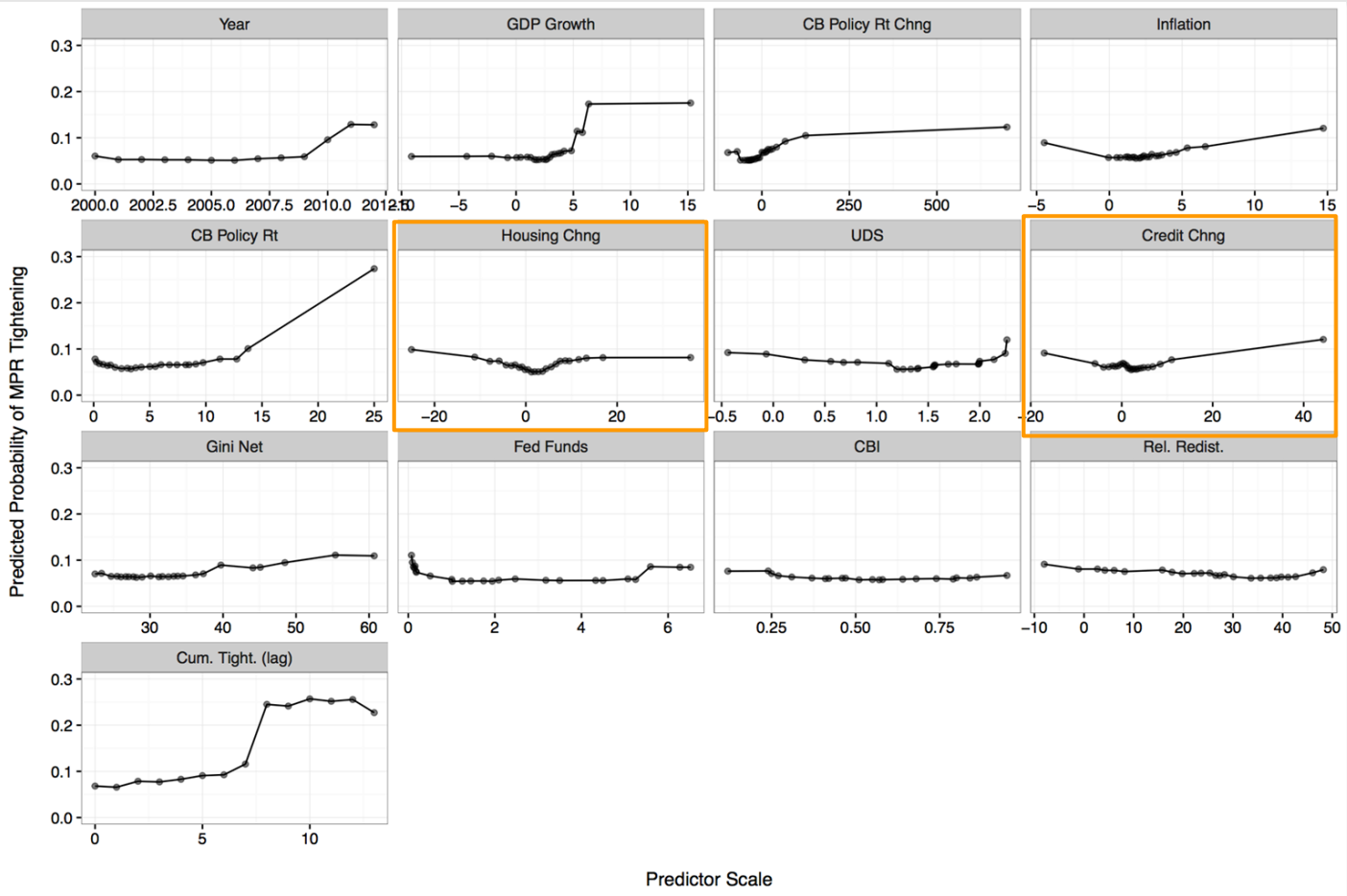
Partial Dependence: **Domestic monetary policy**



Partial Dependence: External monetary policy



Partial Dependence: **Asset prices and credit provision**



Conclusions

Preliminary political economy results

- No evidence of **MPR Electoral Cycle**.

- Likewise, weak to no evidence of **CBI/institutional framework** affecting MPR tightening decisions.

Preliminary political economy results

- **U-shaped** relationship relationship between **democracy** and MPR tightening:
  - Non-democratic: easier to tighten
  - Highly-democratic: competency concerns induce tightening
- More **inequality**/less redistribution:
  - Regulators lean against the wind of inequality-induced bubbles
    - **Reserve requirements** feature as **politically easier tool**