Introduction and overview

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What are we doing?

- Global Institute for Macroprudential Modeling www.gimm.institute: a (non-profit) networking organization for finstab and macropru practitioners
- Running regional and technical workshops
- Developing and implementing a finstab and macropru model framework
- Global macrofinancial scenario deliveries

What is the framework for?

- Big-picture aggregative description of two-way "behavioral" interactions between macro and the financial system with endogenous feedback
- Model based framework for scenario analysis
- Support for finstab scenario production and macropru policy analysis, its cost-benefit analysis
- Top-layer complement to other existing models/tools
- Designed to help synthesize a variety of insights and inputs, including expert judgment
- Focus on medium-term time dimension of solvency risk (but flexible to judgmentally accommodate a range of other dimensions)
- Customizable and extensible to accommodate regional and jurisdictional specifics

What is the framework not meant to be?

- Forecasting framework
- Formal probabilistic model or statistical prediction framework
- Deeply structural (aka DSGE) or "publishable" model
- Theory-based justification for macropru interventions (aggregate risk, money creation vs intermediation functions of banks, myopia, etc.)
- Framework for (stress) testing individual institutions

Digression: Theoretical foundations

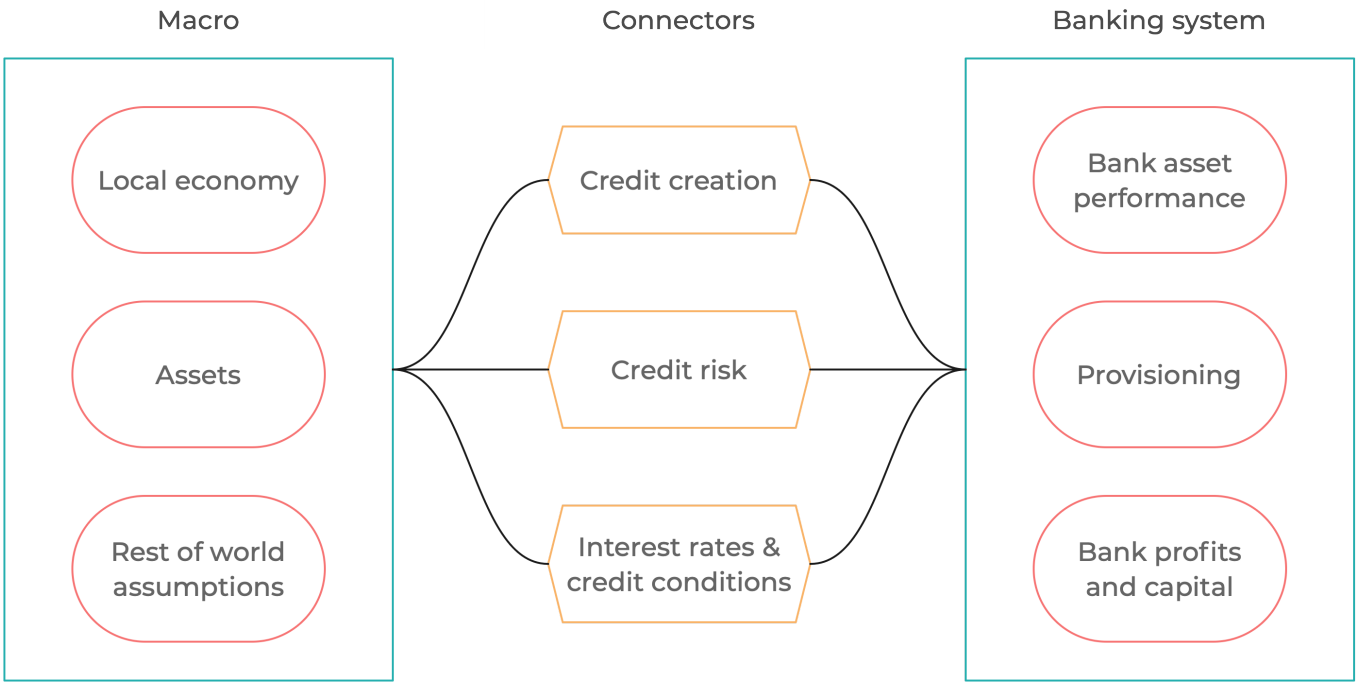
- A large amount of insights from our work on macropru DSGE models
- Converted to semi-structural form
- Evolving form, based on our implementation expercience

Use cases and place in finstab and macropru

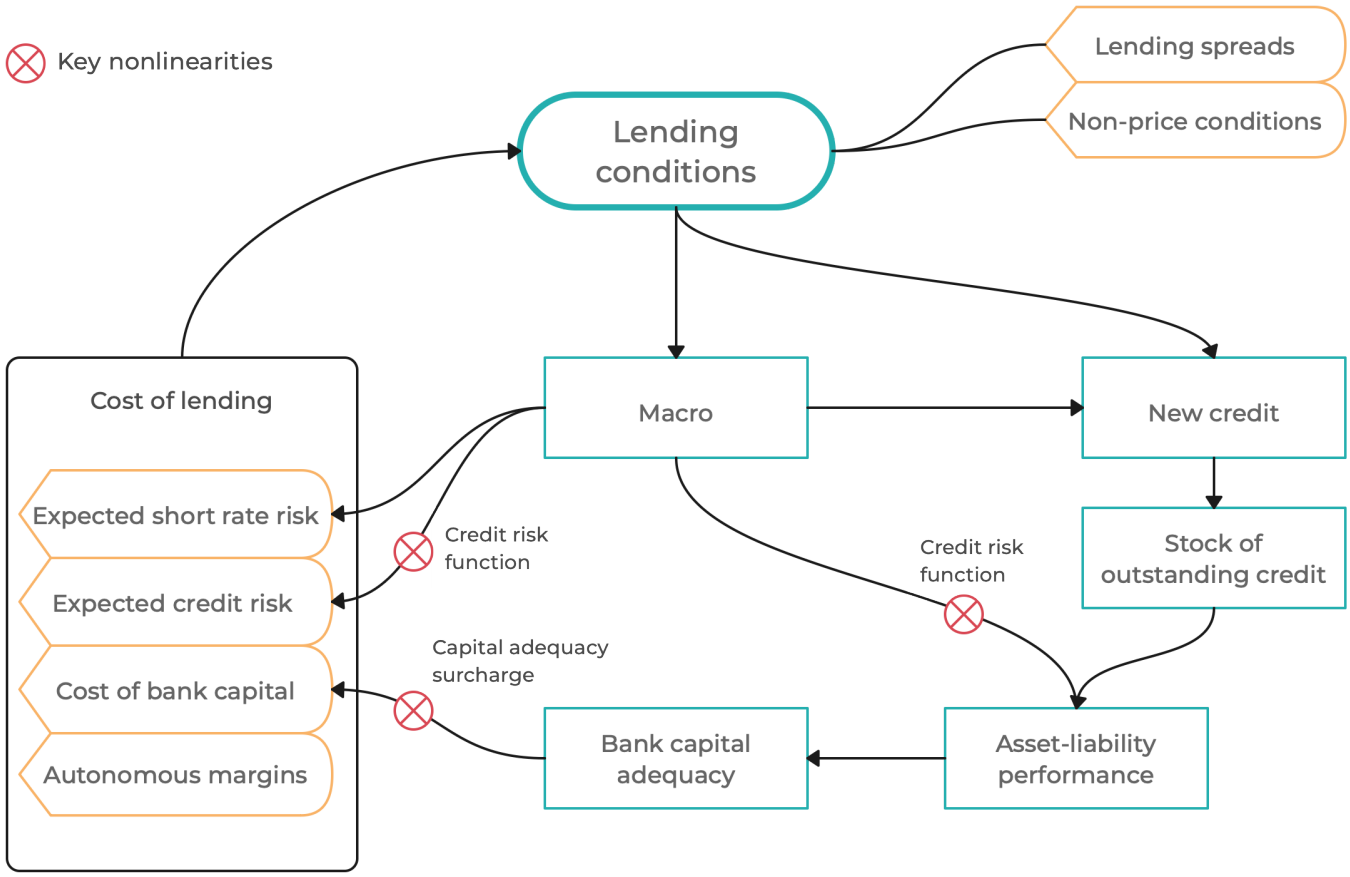
After we see the structure of the model

Basic structure of the framework

- Modular design (highly customizable) rather than fixed form
- The very basic model framework consists of three types of modules: macro, banking system, and connecting modules
- Examples of extension we implemented elsewhere: nonbank intermediaries (securities dealers), corporate fixed income markets, sovereign fixed income markets
- Keywords: Nonlinearities, asymmetries, stock-flow relationships, aggregate risk, macropru as robust not optimal policy



Core feedback



Semi-structual modeling approach

- **Top-down** model building strategy: the properties of the model as a whole matter and are frequently the starting point for writing equations

- Explicit (but not microfounded) concepts of **supply and demand**

- **Unobserved components**: sustainability trends both in macro and financial parts (potential output, credit to GDP, excess comfort buffers, etc.)

- Forward-looking (model-consistent) **expectations**

  - Help introduce some financial concepts consistently (e.g. IFRS9, pricing of future anticipated risk, etc.)
  - Help construct scnearios with expliciti assumptions about future events and their anticipation

- Well-behaved *8steady state** (steady growth path)

- Calibration heavily based on the properties of the model as **a whole system** ("smell test" simulations, policy trade-offs)

- Simplifying assumptions to mimic real word in an analytically tractable way (loan repayment schedule, present value calculations, asset valuation)

Operational flexibility

- Not a traditional econometric or research model with fixed form
- Needs to be maintained as a live evolving project, reacting to needs and questions arising over time
- Some equations and parameters may change as part of scenario assumptions

Typical use cases

1. **Data-based baseline projections**, e.g. scenarios consistent with macroeconomic assumptions (e.g. central bank macro forecast) and the current state of the financial sector

2. **Macro stress scenarios** build with the macro baseline as the starting point (delta method): input into futher stress testing tools

3. Impact of (alternative) **macroprudential interventions** in such scenarios, aggregative input into cost-benefit analysis discussions

4. **Conceptual/"theoretical" simulations**, in particular policy interventions simulations for building insights, elevating discussions inside the institution, building macropru narrative for the public