

Some thoughts on/around:

Financial Institutions, Markets and Regulation: A Survey

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Did we lack theory to understand the crisis?

- ▶ Publication years for papers in the survey:

Quartiles	Min	Q1	Q2	Q3	Max
Theory (78)	1977	1998	2005	2009	2015
Empirics (39)	2003	2009	2011	2013	2015

- ▶ Similarly, in Benoit, Colliard, Hurlin, and Perignon (2015):

Quartiles	Min.	Q1	Q2	Q3	Max.
Theory (100)	1980	2002	2009	2013	2015
Empirics (74)	1990	2010	2013	2014	2015

Frontiers of finance and the crisis

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- ▶ Two possible conclusions (both true):
 - ▶ **We already knew a lot in 2008!** Old problems in a new garb (e.g. runs on shadow banks).
 - ▶ **A lot of updating to do** on the theory side.

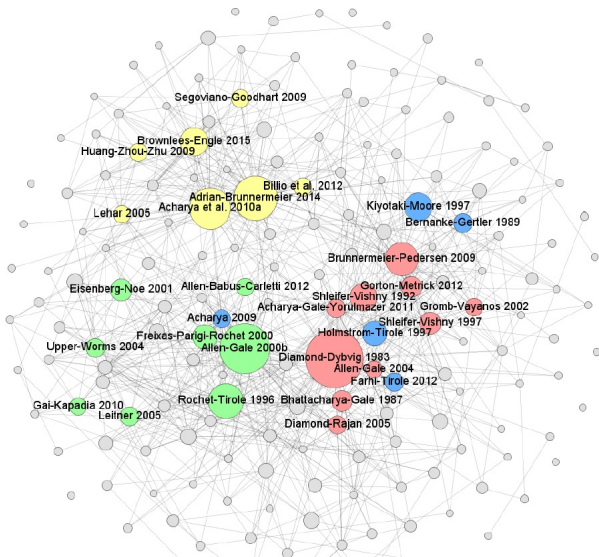
What was/is missing then?

- ▶ **Consistent body of knowledge** based on separate papers illustrating different mechanisms.
- ▶ Conceptual apparatus for market participants and regulators.
- ▶ Concepts need to be **operationalized**.
- ▶ Up-to-date applications of the theory, **in particular for regulation**.
- ▶ Some problems need deeper breakthroughs in economic theory.

Some gaps or frontiers to open up, **from currently being done to long-term challenges**.

A consistent body of knowledge?

From Benoit, Colliard, Hurlin, and Perignon (2015), citation network on systemic risk:



Theory of regulation

- ▶ Simple question: **are capital requirements good** for banking stability?
 - ▶ Theory cited in the survey suggests it's unclear.
 - ▶ Few empirical studies (e.g. Aiyar, Calomiris, and Wieladek (2014)), weakly linked with theory.
- ▶ Need for calibrated models of bank regulation **that can be used by policy-makers**, current research front (e.g. Clerc, Derviz, Mendicino, Moyen, Nikolov, Stracca, Suarez, and Vardoulakis (2014)).
- ▶ Analysis of **new tools** and how to optimally design them, e.g.:
 - ▶ Stress-tests (Bouvard, Chaigneau, and De Motta (2015), Goldstein and Leitner (2015)).
 - ▶ Market triggers (Bond, Goldstein, and Prescott (2010), Sundaresan and Wang (2015)).
 - ▶ Financial benchmarks (Duffie and Dworczak (2014), Shapiro and Coulter (2014)).

Maturity transformation

- ▶ Recognized as key function of a bank, at least since Diamond and Dybvig (1983).
- ▶ Many more models since, e.g. Allen, Babus, and Carletti (2012), Brunnermeier and Oehmke (2013).
- ▶ Need for **richer models amenable to calibration**, rationalizing simple measures of maturity mismatch (Brunnermeier, Gorton, and Krishnamurthy (2014)).
- ▶ Equilibrium models where demand and supply of credit at different maturities endogenously determine the yield curve, with the short rate pinned down by the central bank?
- ▶ And with **market failures generating an optimal liquidity ratio** to impose?

Away from “partial” equilibrium

Good models have to leave a great deal aside, but richer models are necessary to study:

- ▶ Interaction between different regulations (Goodhart, Kashyap, Tsomocos, and Vardoulakis (2012)).
- ▶ Interaction of the **real and financial sectors** (e.g., macro-finance literature).
- ▶ Links between the **labor markets for bankers, regulators,** perhaps even academics (Bond and Glode (2014)).
- ▶ Political economy of regulation (Kahn and Santos (2005)).
- ▶ Design of bank supervision (Agarwal, Lucca, Seru, and Trebbi (2014), Beck, Todorov, and Wagner (2013), Colliard (2015)).

Complexity and simplicity

Important regulatory debate, with calls for “simple” regulations (Haldane (2012)).

- ▶ Few **measures** of complexity (Haldane (2012), Cetorelli and Goldberg (2014), Vallee and Celerier (2014)).
- ▶ No theory-based measures.
- ▶ **Very little theory** in general: Arora, Barak, Brunnermeier, and Ge (2009), Carlin (2009), Hakenes and Schnabel (2012).
- ▶ Optimal regulation in such contexts?
⇒ requires **mechanism design/contract theory with bounded rationality**.

Regulatory dialectics

- ▶ The economist's traditional approach to regulation: design a game such that banks' optimal behavior yields an optimal outcome (mechanism design or reverse game theory).
- ▶ In practice, **banks find new strategies** not foreseen by the regulator, and bypass the regulation.
- ▶ This makes a new, more complex regulatory framework necessary.
⇒ process of **regulatory dialectics** (Kane (1977)).
- ▶ Close to evolutionary game theory: players discover new, better strategies over time.
- ▶ Little theoretical guidance on optimal regulations in such environments.
Towards “**evolutionary mechanism design**”?

Intrinsic incentives

- ▶ Debates around ethics in banking, some evidence (Cohn, Fehr, and Marechal (2014)) and regulatory concerns (Angeloni (2014)).
- ▶ **Crowding out effect**: monetary incentives weaken intrinsic incentives and can be inefficient (Frey and Jegen (2001)).
- ▶ Risk: may be an excuse for keeping weak regulations in place.
- ▶ Still, we know little about **optimal regulations in such contexts**.
⇒ Need for **behavioral mechanism design**.

Beliefs and expectations

- ▶ Key problem in economic theory since long ago.
- ▶ Going beyond rational expectations?
 - ▶ Basel regulation \Rightarrow incentives to meddle with **internal risk models** (Behn, Haselmann, and Vig (2014), Colliard (2014)).
 - ▶ **Agency issues**, e.g. the “London whale”.
 - ▶ How to preserve a **diversity of market views** if all banks are subject to the same stress-test? (Bernanke (2013))
- ▶ Economics and regulation of model choices still unclear.
- ▶ New field of inquiry as data about models and forecasts become available.

- ▶ We clearly need more/new/better data on everything.
- ▶ Maybe even more, we need a new approach to data collecting.
- ▶ Multiplication of studies with a clever experiment, hand-collected/private dataset used only in a couple of papers ⇒ lack of **systematicity** and replicability.
- ▶ First-order, if not exciting: develop **systematic databases**, e.g. EUROFIDAI, ambition to build the European equivalent of CRSP.
- ▶ Interacts with publication bias. Idea: can we **separately publish experimental design and experimental results**, as in e.g. biology?

Conclusion

- ▶ Easy to come up with long wish lists!
- ▶ A lot is being done already.
- ▶ Some important applied questions require new breakthroughs in economic theory.
- ▶ Keeping strong links between financial research and economic theory important, but increasingly difficult as both fields specialize.

Thank you!

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