

The 2020 Triangle: Inequality, Systemic Risk and Climate change - Panel Discussion

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Panelists: **Giovanni Dosi** (Scuola Superiore Sant'Anna), Pisa; **Stan Dupre** (2° Investing), Paris; **Benoit Lallemand**, Finance Watch, Bruxelles; **Simon Willis**, Young (Foundation) London

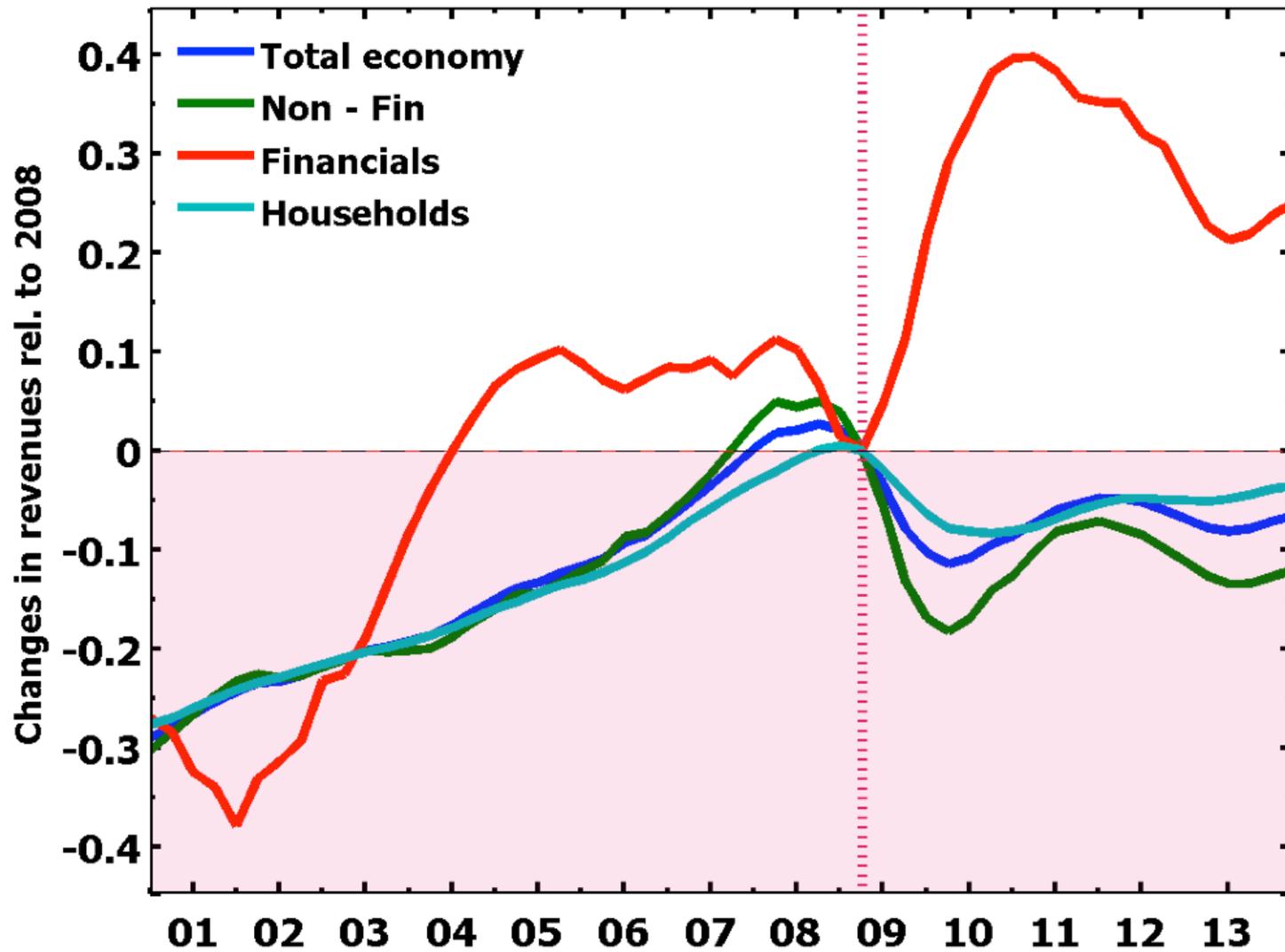


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Panel Session Background

- Six years after Lehman's default, financial instability is not resolved, inequality is growing and the sustainable development agenda has been put on hold.
- Growing awareness that these three issues might reinforce each other via **feedbacks loops** we have ignored so far.
- The implications are particularly important for **policy making** since tackling one issue at a time might be a hopeless battle. The big question is whether and how a more holistic approach to policy could make a difference.
- In this respect, by combining economics with network science and complex systems, the emerging field of **Global System Science** encourages scientists to collaborate from the start with policy makers in order to deliver better metrics, policies that are more across-areas and more evidence-based, as well as more citizens' participation.
- The first two GSS- 2020 Triangle panels:
 - September 24 2014, Lucca, Italy – during the European Conference on Complex Systems (**ECCS14**)
 - October 8 2014, Bruxelles - during 3rd **GSS Open Conference**



Source: ECB Data Warehouse

SR ↔ I

→ **Rescuing the financial system** socializes private losses, **increasing inequality**

→ **New technologies** (e.g. bitcoins): inequality of access to financial services?

← More inequality decreases **aggregate demand** feeding **disproportion of finance** over the real sector



SR ↔ CC

→ **Volatile markets & credit crunch** hamper the ability of firms to make **long-term sustainable investments**

← **Uncertainty** over the future of **food and water** in certain areas increases **financial and political stability**



I ↔ CC



→ **Inequality** hampers **adoption of greener technologies**

← **climate change** may increase **volatility** in weather, pollution, **availability of food and water** (e.g. 1% fight stronger to hold control of those resources)

S ↔ I

→ **Stability** favors **long-term investments** in education: more inclusion

← **Fin. inclusion, engagement** in decisions, makes people aware and reduce panic



S ↔ S

→ **Stability**, allows long-term Investments improving **sustainable Production**

← **Sustainable use of resources**, smoothens the risk of **crises**



I ↔ S

→ **Participation** of citizens and stakeholders in **policy process**, increases the **strength of the measures**

← **Sustainable growth** makes available resources to **mitigate inequality**

Methodological linkages

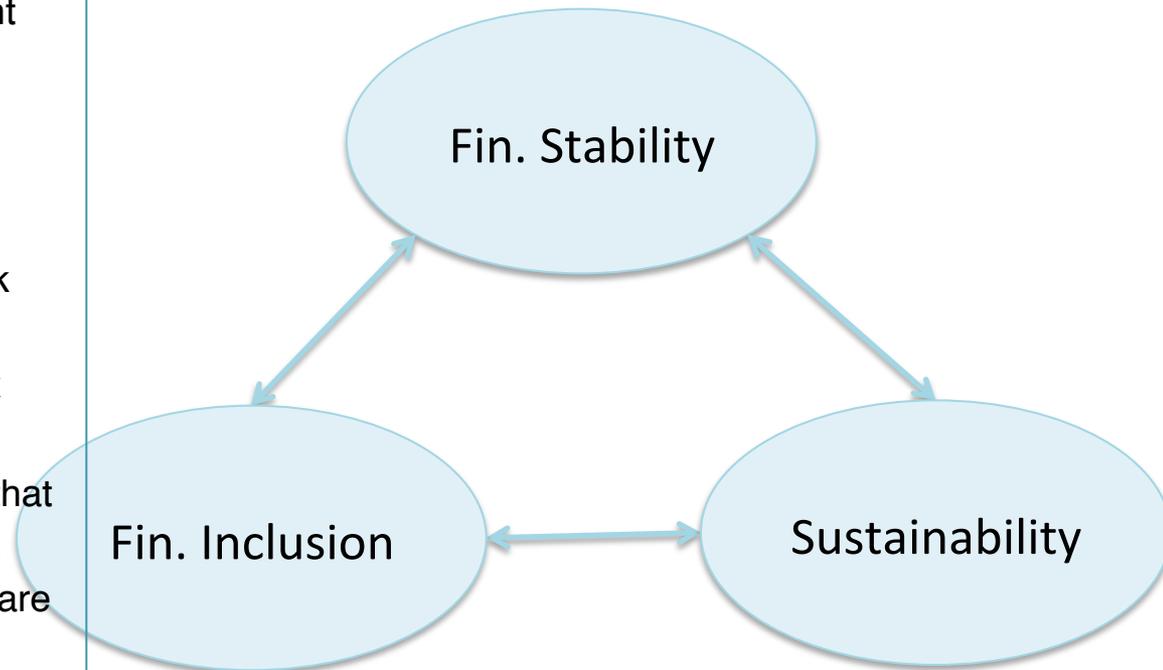
Analogies from perspective of **systems dynamics, complexity science, network science** and **game theory**.

To what extent **we know already a solution** but we are not able to coordinate on its implementation?
Examples:

- Climate.** we know what we need to do to reduce CO2 emissions. The problem is how to reach an international agreement and **how to discourage firms and consumers** from CO2 intensive habits.

- Finance.** Findings from literature on financial networks suggest systemic risk could be mitigated with a less interconnected, correlated and complex financial system (e.g. Battiston and Caldarelli, JFMI 2013). The problem is that financial institutions have **incentives at odd with the public interest** and they are very powerful.

Could progresses on the investigation of these analogies at a formal and mathematical level be a breakthrough for the design of more effective policies?



Methodological linkages

Understanding interdependencies btw actors and system components

Which kind institutional arrangements “fit” these actors’ interdependencies

Collective action/ self-organisation

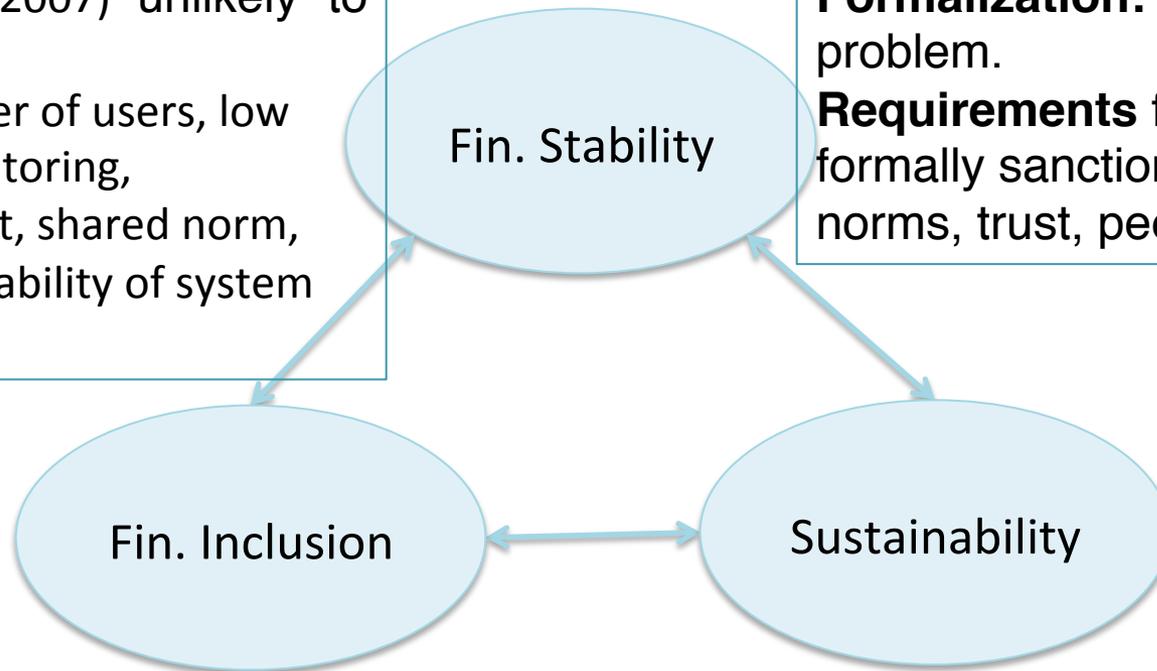
(e.g., Ostrom 2007) unlikely to occur action:

- small number of users, low cost of monitoring, enforcement, shared norm, high predictability of system dynamics...

Common resources: competing interests.

Formalization: Common good problem.

Requirements for cooperation: formally sanctioned rules, social norms, trust, peer pressure



Factors for solutions include change the game into easier
– Green growth: de-carbonising national economies can accelerate growth