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***NEW ECONOMICS OF REGULATION:
FINANCIAL STABILITY AS A SOCIAL DILEMMA***

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Faruk ÜLGEN New Economics of Regulation: Financial Stability as a Social Dilemma, AEA@ASSA,
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Please, given the virtual conditions, feel free to keep in touch by email (faruk.ulgen@univ-grenoble-alpes.fr) during the meeting days and after for any remarks, questions, suggestions, etc.

Thanks much in advance.

Happy and healthy New Year 2022

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Abstract:

NEW ECONOMICS OF REGULATION: FINANCIAL STABILITY AS A SOCIAL DILEMMA

- **Keywords:** Collective action, cooperative games, financial regulation, mechanism design, public good
- **JEL Classification Codes:** C70, D82, G18, H44

The issue:

What regulatory arrangements for systemic financial stability?

The dilemma:

Controlling the evolution of individual strategies with high potential for systemic risk without unduly impeding positive market dynamics?

- This is an exploratory essay on financial regulation and stability that draws upon the basic issues studied within Public choice and Collaborative decision-making approaches.
- In the tradition of mechanism design approach à la Myerson, this article comes within the scope of the *New Economics of Regulation*: “Instead of focusing on particular regulatory institutions, the new economics of regulation, in the tradition of the mechanism design literature, aims at characterizing optimal regulation” (Laffont, 1994: 508).
- I seek to implement the principal-agent methodology in the analysis of the relationship between (public/private) regulators and regulatees in order to identify the conditions for an optimal regulation.

- Compared with the literature developed on this issue, the article offers an alternative perspective to financial stability.
- It assumes that (systemic) financial stability is a public good to be provided by appropriate mechanisms and cannot only rest on market self-regulation
- because of the *specific characteristics of monetary and financial operations and dynamics* that lead to a crucial distinction between the “normal” (market) activities (producing/consuming tomatoes, software or holidays) and financial activities.

- Financial regulation is of systemic importance since the smooth functioning of markets requires a continuous and sustainable provision of financial activities, and thus financial stability at the macro level.
- From self-regulation to state regulation, different regulatory models could be outlined.
- However, in light of the 2007-2008 financial turmoil, composite micro-macro-based regulatory models may have a political and ideological attraction for policy-makers and private institutions.
- I borrow from the analysis of Ostrom (1998) on the commons and collective action through *polycentric governance* and consider the conditions under which an optimal regulation might be designed and implemented in a smooth and flexible way to meet **the dilemma** (cf. page 3 above)

The dilemma developed:

Two constraints must be considered in order to assess the relevance and the feasibility of the preferred regulation model.

- First, the model must be compatible with a minimum level of decentralized individual action. Although regulation can be organized and implemented by and/or under public control, it should seek at supporting market activities.
- Second, regulation must be designed according to an ultimate macro objective, financial system's stability.

I. Regulation

I.I. Industry-interest related regulation

“as a rule, regulation is acquired by the industry and is designed and operated primarily for its benefit” (Stigler, 1975: 115), even if one can positively assume that “political systems are (...) appropriate instruments for the fulfillment of desires of members of society” (Ibid.)

I.2. Regulation as a *market-permitter*

Regulation as a support system that seeks to supply to society “a structure of beliefs that make prosperity and liberty possible (...).

Regulation, in other words, in some sense creates the very possibility of marketplaces” (Carpenter, 2009: 164).

I.3. Regulation as a system of constraints for the common good

As a set of restrictions/constraints imposed over individual/market activities through a binding set of rules, usually implemented by the public power to influence business or social behavior, regulation aims at preventing actions that might harm society and/or seeks to facilitate/encourage/incite actions to enhance society's welfare (Baldwin et al. 2012).

I.4. Regulation as mechanism design

- R. Myerson (1988): A mechanism is defined as “a specification of how economic decisions are determined as a function of the information that is known by the individuals in the economy.
- In this sense, almost any kind of market institution or economic organization can be viewed, in principle, as a mechanism.
- Thus, such a perspective can offer “a unifying conceptual structure in which a wide range of institutions can be compared, and optimal institutions can be identified”

- J.J. Laffont (1994: 508): Different economic institutions can then be seen as different mechanisms for communication that should allow separate individuals to enter into contact with each other without provoking systemic clashes and catastrophes.
- The usual framework is a principal-agent set up within which “the principal is the State or the regulatory institution and the agent is the regulated firm.
- The principal maximizes social welfare under incentive constraints which result from the informational advantage of the agent and its strategic behavior.
- The regulation problem is essentially a control problem under incomplete information and the results obtained in this literature have a much broader interest than regulation itself”

- Most models use game theoretic approach tools and analyse situations such that relevant incentive-constraints-based regulatory frameworks could result in an optimum.
- A specific conceptual tool to be used in such an analysis is the concept of incentive efficiency (Myerson, 2008) that leads to the evaluation of the rules (and institutions) by which resources are allocated.
- Following Laffont (1994: 507), I assume that regulation is “the public economics face of industrial organization. It explores the various ways in which governments interfere with industrial activities for the good or for the bad”.

- Indeed, works on regulation usually deal with the classical problem of regulation of network industries in order to make them more competitive and then achieve market-efficient institutional environment.
- However, in this article I argue that financial activities have some peculiar characteristics that distinguish them from other industries and must be studied separately.
- The study of financial regulation as a mechanism design issue may then be conducted through public choice and the like literature if financial stability is regarded as a public good.

- Therefore, the question is not to know whether or not financial regulation must be organized through market mechanisms (the so-called self-regulation) or through tight public supervision (constrained regulation).
- It is rather related to the relevant type of regulatory framework to be set up between an extra-market independent public regulator and private market players, the regulatees (banks, financial institutions, etc.), in order to ensure social coherence.
- The conceptual departure is a classical procurement and regulation issue that is specifically developed with regard to some peculiar characteristics of modern monetary economies.
- Two mechanism design alternatives are considered: a mediation-based revelation model and a cheap talk model within the framework of a non-cooperative communication game.
- Under some assumptions, the application of each model results in a specific mechanism design that is consistent with economic efficiency and stability criteria.

- This raises the crucial question of the relevance of incentive constraints-based regulatory rules that should perform in their communication and coordination role by allowing (private/public) people to undertake activities that are consistent with systemic stability.
- See, for instance, Armstrong and Sappington (2006: 325): “These issues are particularly relevant in key network industries (such as the telecommunications, natural gas, electricity, transport, and water industries) where scale economies can render production by many firms uneconomic, but where some competition may be useful to help discipline incumbent suppliers of key services.”

Regulation for stability and social coherence

- **Financial stability:** “is a state whereby the build-up of systemic risk is prevented. Systemic risk can best be described as the risk that the provision of necessary financial products and services by the financial system will be impaired to a point where economic growth and welfare may be materially affected. Systemic risk can derive from three sources: - **an endogenous build-up of financial imbalances**, possibly associated with a booming financial cycle; - **large aggregate shocks** hitting the economy or the financial system; - **contagion effects** across markets, intermediaries or infrastructures.” (<https://www.ecb.europa.eu/pub/fsr/html/index.en.html>)
- **Social coherence:** the rules/institutions that would be implemented in the name of society in order to lead a given economic system to a time-consistent efficiency (which might be different from the simple market-price efficiency) such that the reproduction of the system in time, that is, its viability, could be expected in a rational way.

II. Regulatory design: Cheap talk or mediation model

(NB: Formal models are in progress)

The design and implementation of particular supervision and intervention procedures are related to the choice of a peculiar organizational mode for which

“the game equilibria corresponding are as good as possible when one takes into account the constraints imposed by the diversity of information and the interests amongst the members of the organization” (Radner, 1987: 5).

Two mechanisms (among other possible communication games) are presented here:

cheap talk and direct revelation mechanism with a mediator.

- The first is much closer to free market contract schemes since it has simple rules and lower organizational constraints.
- The second is more centralized and binding.

a) Cheap talk is a plain conversation, unmediated and payoff-irrelevant. It rests on the free-negotiation principle. It does not include credibility costs but it conveys credibility to make players believe each other.

The advantage of cheap talk is that it allows large freedom of decision and action to market actors.

Could a cheap talk relation -as a continuous communication mechanism- generate a consistent information circulation and then result in a relevant regulatory schema?

Such a schema would be cheaper than any other regulation device and also let intervening parties free of heavy regulatory constraints.

Aumann and Hart (2003 : 1619) state that « With cheap talk, more can be achieved by long conversation than by a single message –even when one side is strictly better informed than the other.”

However, this process does require time.

b) The second alternative is the direct revelation mechanism with a mediator (Myerson, 1988).

The central mediator is a trustworthy person who asks market actors to report all their relevant private information.

The mediator then reveals to each individual, separately, only her/his own recommendation about the expected action of each individual.

If individuals expect that the others will be honest and obedient to the mediator, therefore, every individual will respect his/her engagements as announced to the mediator and will not implement cheating strategies.

However, such incentive-compatible direct-revelation mechanisms rest on highly centralized mediation of the economic system.

b') Condition to reinforce the bilateral communication mechanism in a sender-receiver game: strategic information transmission (Crawford and Sobel, 1982): **communication of relevant information is dependent on the similarity of parties' interests.**

In a public regulator (seeking social coherence = systemic financial stability)-private regulatee (seeking individual profit maximization) relationship how much and how this similarity could/might be reinforced? (In other words, how to convince the regulatee that the regulator seeks the interest of the regulatee through systemic stability and not her/his own interest?)

III. Regulation as a social dilemma requiring collective action through the lens of Polycentric governance. A multiscale/multilevel regulation design

- Usual dichotomy between market-relying and state-relying governance frameworks.
- Fierce opposition between private interests and public interests, between the public good and the private good.
- Another perspective: “polycentric governance” (V. Ostrom et al. 1961) to avoid the *Tragedy of the Commons*.
- E. Ostrom (2010: 555): “when individuals are well informed about the problem they face and about who else is involved, and can build settings where trust and reciprocity can emerge, grow, and be sustained over time, costly and positive actions are frequently taken without waiting for an external authority to impose rules”.

- Some specific circumstances (such as repeated interactions that would allow reciprocation, reputation and punishment, and kin selection) might provide general solutions to the problem of the evolution of cooperation through mixed equilibria in public-good games with a certain level of cooperation (Archetti and Scheuring, 2012)
- Salter and Tarko (2019: 508) maintain that: “the only way in which a complex system can be made resilient is by giving up the goal of maximum short-term efficiency, keeping the scale low, and implementing redundancies. The emphasis on polycentricity and diversity, i.e. preserving a redundant variety of institutional devices rather than adopting a one-size-fits-all solution, should be understood from this perspective.”
- The regulations are expected to be endogenously generated by the market actors rather than exogenously by a top-down government intervention.
- However, in such a decentralized regulatory system, the constituent organizations have to be governed by an overarching set of rules aiming at aligning the information and incentives of individual actors with broader social goals such as financial stability.

- Following the results presented by Ostrom (2010b), it is worth recalling the general conditions under which polycentric governance could be expected to be efficient:
 - The publicness of goods may vary from low to high under specific conditions and then require a more or less polycentric organization then a monocentric public hand-guided governance.
 - Multiple-scale provision seems easier when the scale of production and the size of the organization required are small.
 - Therefore, a horizontal hierarchy is possible in a regular and open meeting-and-consultation environment within which all players can be involved. Such a “direct democracy” may allow simple, flexible and permanent communication among the members of the community through “cheap talk” mechanisms.
 - Characteristics of the actors involved, their respective position (power, obligations, interests, etc.), set of actions actors can take, and the map of functions within the collective game as well as the consequences of such actions on the provision process should be posited.

- Under such conditions, one might expect efficient outcomes from “the potentially productive efforts of individuals and groups to organize and solve social dilemmas such as overharvesting of common-pool resources and the underprovision of local public goods” (Ostrom, 2010b: 8).
- In light of these assumptions and results, to what extent could it be argued that financial markets might be regulated without public power-relying, non-market supervision?
- To answer this question, I argue that given the central role of monetary/financial operations in the economy and their unstable dynamics, systemic stability cannot be expected from markets self-adjustment.
- It has to be organized and managed by a society-wide collective action plan that I call “the visible public hand”.

IV. Criticalness of monetary and financial operations

IV.I. A market economy as a monetary economy

- Market-based capitalist economy is a monetary economy (credit-debt financing process of economic life)
- Financial markets are at the core of economic operations
- Without monetary operations and related financial systems no economic activity can be undertaken and no wealth can be created
- Therefore, financial stability and continuous monetary (debt-financing) operations are essential conditions for a smooth economic development

IV.II. Characteristics of money

- Money is *transversal* since all economic transactions rely on monetary relations, and changes in money/financial markets affect the whole economy irrespective of decision units involved in debt relations.
- Money is also *ambivalent*. Indeed, it lies both in private decisions (debt-financing operations) and public rules and constraints.

Money is created through private decisions of banks (credit) and entrepreneurs (financing needs-debt)

It is a decentralized market outcome.

It is the general unit of account (society's economic language), means of payment, and means of general/social debt settlement (*social extinguisher* of every engagement).

Money must lean on some societal public references.

The sustainability of the accumulation process lies in the systemic possibility to validate the debt structure (the realization of expected profits and repayment of debts) (Ülgen 2015: 497).

→ Money and related financial operations are required to allow market actors to undertake their decentralized economic activities.

→ Therefore, financial stability:

- defined as the conditions that would make possible and sustainable continuous market operations,
- is a prerequisite for a viable functioning of the economy.

Financial stability is not a “normal” product (good or service) that could be excludable and rival.

It is a “public good” and its inherent quality requires public production (Musgrave, 1945:44).

Its impacts are indivisibly spread around the entire society.

The question then arises: How to provide it (what is the relevant mechanism)?

V. Publicness of financial stability and relevant regulation

- A crucial aspect comes then into the picture: the financial system displays the features of a basic infrastructure common to the whole society whose stability proves to be a public good and a societal concern.
- A few distinctive criteria (size-scope and systemic/societal criticalness) of the activities to regulate allow to set the conditions for a relevant regulatory framework:

If an issue has a global character, it would fit well with top-down-like “power-over” governance (for instance, systemically important financial institutions), whereas more locally providable commons could be governed by bottom-up, polycentric, “power-with” mechanisms (local, cooperative banks, for instance).

- If financial stability proves to be rather a global concern than a local issue, the rationale for macro-prudential regulation against systemic failures should lead to a global governance of collective action.
- Therefore, the regulation/supervision of financial systems as a whole (macro-prudential) falls under the responsibility of public bodies, above and beyond the markets/private actors.
- In some specific cases, elements of governance may be entrusted to local institutions in order to increase the flexibility and speed of regulatory measures. Power-over and power-with, local and global cannot exclude each other when it comes to systemic financial stability.

- Some relevant directions for systemically consistent (global) measures might be given through works developed in the aftermath of the 2007-2008 global financial crisis. These directions are usually directed toward macroprudential organization of the regulatory framework.
- For instance, Acharya et al. (2009) suggest that the regulator in charge of systemic risk would act like the *headquarters* of the economy, and each individual firm would be considered as a component of the system.

- Two major aspects of regulation are considered:
- the measurement of systemic risk and the level of potential contribution of each financial institution to systemic risk.
 - In order to prevent moral hazard (allowing incentives for firms not to take on excessive systemic risk) and the pro-cyclical speculative behavior of markets, but also to involve private institutions within the rules of the game that consists in dealing explicitly with systemic risk, two sides of governance have to be framed:
 - systemic-risk management at the macro level (overall regulation of markets) and
 - a market-based system to involve the individual responsibility of firms according to their contribution to systemic risk.

- A very relevant proposal of such a regulatory framework is the individual contribution to aggregate risk through ex ante capital requirements and capital insurance.
- In the event of a payoff on the insurance, the payment should not go to the firm itself, but to the regulator:

“This would provide incentives for a company to limit systemic risk (to lower its insurance premium), provide a market-based estimate of the risk (the cost of insurance), and avoid moral hazard (because the firm does not get the insurance payoff)”
(Acharya et al. 2009: 284)

- Such a framework might help meet the minimum goals:
 - ➔ Making institutions more accountable for the negative systemic effects of their individual strategies (micro-prudential regulation assessed at the macro level)
 - ➔ Preventing micro-level rational individual strategies from turning into macro-level catastrophic outcomes (macro-prudential regulation based on the principle of "no one-way bridge between market behavior-mechanisms and the social optimum)

- As Ostrom (2010a: 555-556) states: “Self-organized, polycentric systems are not a panacea! There are no panaceas, however, for complex problems such as global warming. Besides the general benefits that a polycentric system can generate, there are also threats (...) The advantage of a polycentric approach is that it encourages experimentation by multiple actors, as well as the development of methods for assessing the benefits and costs of particular strategies adopted in one setting and comparing these with results obtained in other settings.

Concluding remarks

This article regarded financial regulation as a problem of mechanism design seeking a relevant collective action to solve an existential social dilemma: financial stability at a systemic level in large private institutions-dominated economy.

Assuming that financial stability is a public good, two mechanism designs are recalled within the framework of a non-cooperative communication game between a public regulator and market actors (the regulatees): a cheap talk model and a mediation-based revelation model.

Although within some delineated boundaries, the scope of application of each model results in a specific mechanism design that could be implemented within a macroprudential framework and seems to be consistent with economic efficiency and stability criteria.

However, the results that can be drawn from polycentric approaches à la Ostrom & Ostrom and the specific characteristics of monetary and financial operations in a market-based capitalist economy can provide relevant insights about the development of mechanism design models in the area of financial regulation.

The ultimate goal being the sustainable and society-wide welfare generating functioning of an economic system that is crucially relying on the stability of the way monetary/financial markets are operating and developing innovative solutions.

The road is long and with many options, but the game's worth the candle. The main thing is to keep an open mind without losing sight of the goal, which is a fulfilling society. Everything else is just ideas to be shared and developed together.

(I have always been afraid of those who say they have the truth!)

(Some) References

(a more detailed list is available upon request and is used to frame the developed version of this presentation)

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