A. I. C.
ASTI INCENTIVES & CONGRESSI

Convegno Invernale

ADEIMF 2016

Polo Didattico delle Piagge
Università di Pisa
Pisa, 18/19 febbraio 2016

ASSOCIAZIONE DOCENTI ECONOMIA INTERMEDIARI MERCATI FINANZIARI
2005 2015

- Terza Sessione -

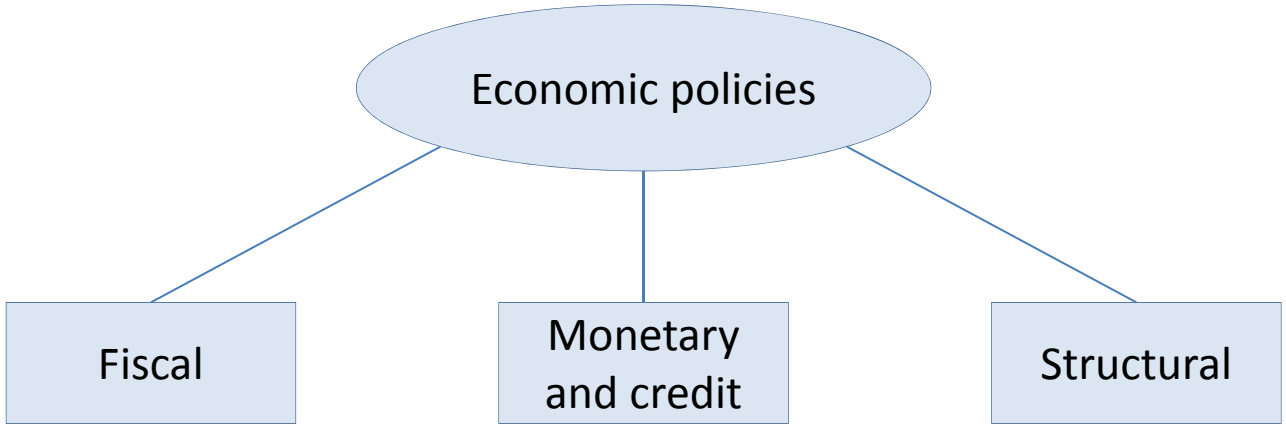
INSTABILITÀ DEGLI INTERMEDIARI FINANZIARI, RAFFORZAMENTO PATRIMONIALE E GESTIONE DELLE CRISI NEL QUADRO DELL'UNIONE BANCARIA EUROPEA

Rainer Masera

Università degli Studi Guglielmo Marconi

- The necessity of overall repair of the analytical and policy paradigms after the Great Financial Crisis 2007-2009 led to a profound reassessment and the identification of a new “macro prudential” framework to cope with systemic shocks, and notably with the perverse interaction of bank failures, government deficits/debts and sovereign risk (in particular in the Euroarea) (de Larosière Report, 2009).
- The purpose of these slides is to offer a framework that takes into account a double order of interconnections: first, light is shed on the complex interactions between the micro and macro levels (with possible fallacies, but also synergies, of composition); secondly, reference is made to the links between different economic policies, notably regulatory and monetary/credit policies.
- From this perspective, macroprudential policies – aimed at preventing/containing systemic risk and instability – take on particular significance, and it is proposed to extend them beyond the common focus (and related dichotomy) with respect to the requirements of micro supervision in the financial field.

↘ The traditional approach to government economic policies focuses on:



↘ The first two policies are fundamentally macroeconomic and demand-side. The third are microeconomic and supply–side.

↘ The traditional goals of economic policies are price stability, sustainable full employment and growth. The two alternative approaches to their adoption are discretionary vs. rule-based policies.

- The fallacy of composition is the logical (and economic) fallacy of inferring that something is true of the whole from the fact that it is true for every part of the whole.
- The converse of the fallacy of composition is the fallacy of division: something true for the whole must be true of all of its parts.
- Both logical fallacies were first confuted by Aristotle in his Sophistical Refutations, and are well-known in modern philosophy and logics.
- No less than 6 fundamental economic paradoxes surround policy making in the Eurozone in the New Millenium: inflation, liquidity, saving, de-leveraging, central bank independence from treasuries, bank capital.

- I will make reference to two of these paradoxes, which are highly relevant for systemic risk and financial stability.
- The "**paradox of de-leveraging**" is a well-known example of fallacy of composition, with important implications for banking regulation and supervision. It is linked to the paradox of thrift; it can be seen as an analogical extension of the former paradox to stocks rather than flow adjustments.
- The paradox of de-leveraging is often associated with H. Minsky, but has famous predecessors, notably I. Fisher.

Leverage (L=D/A)

- The ratio of debt (D) to assets (A) usually builds up during credit booms and leads to financial imbalances for representative agents, sectors and indeed the whole economy.
- The situation can be especially critical if also the public sector is characterised by growing debt/income ratios.

- ↘ Exit from a financial crisis generally requires sustained, orderly reduction of leverage. But, if all agents/sectors attempt to de-leverage at the same time – including the public sector – the simultaneous effect to redeem debt leads to “fire sales” of assets and to market failures.
- ↘ A perverse result can manifest itself: an increase in leverage mainly because of lower asset prices. «Precautions that may be smart for individual and firms – and indeed essential to return the economy to a normal state – nevertheless magnify the distress of the economy as a whole» (Yellen, A Minsky Meltdown…, 2009).
- ↘ The paradox of de-leveraging has also been illustrated and applied to analysis of the Eurozone (Masera, 2012; Cour Thimann and Winkler, The ECB’s non-standard…, 2012).

- The common current neglect of fallacies of composition is a “collateral effect” of the Lucas New Classical Macroeconomics (NCM), associated with the assumptions of rational expectations and perfectly efficient markets.
- As indicated, in this approach – based on the representative price-taker economic agent – it becomes necessary to consider deviations from economic equilibrium as the result of external shocks, such as unanticipated “news”: price volatility is a reflection of exogenous risk (quantities are given, as a consequence of the price taking assumption).
- The Neoclassical analysis and New Classical Macroeconomics see money (and finance) as a neutral veil: the “Classical” real-monetary dichotomy.
- But, if the classical dichotomy does not hold, the Modigliani-Miller theorems on the irrelevance of financing sources do not apply.
- Banks’ capital becomes therefore costly and binding in the credit creation process.

- The so-called “Basel capital standards” of banking regulation make reference to an accounting framework where “capital” is fundamentally banks’ equity.
- Basel regulation conceived for microeconomic bank stability acquires a macroeconomic, monetary policy dimension: it is not only an issue of micro/macro prudential trade-off, but also of interaction between economic policies.
- The “**paradox of capital”** can be summarised as follows.

The paradox of capital: monetary/credit policies and capital regulation

In a phase of recession/faltering recovery and of financial stress excessive capital requirements (predicated on micro prudential grounds) can lead to cumulative destabilizing credit restraint, invalidating monetary policy impulses: procyclicality and fallacy of composition.

Leverage is a key aggregate/regulatory requirement which should be at the center of micro/macroprudential analysis. The paradox of deleveraging must be taken into account.

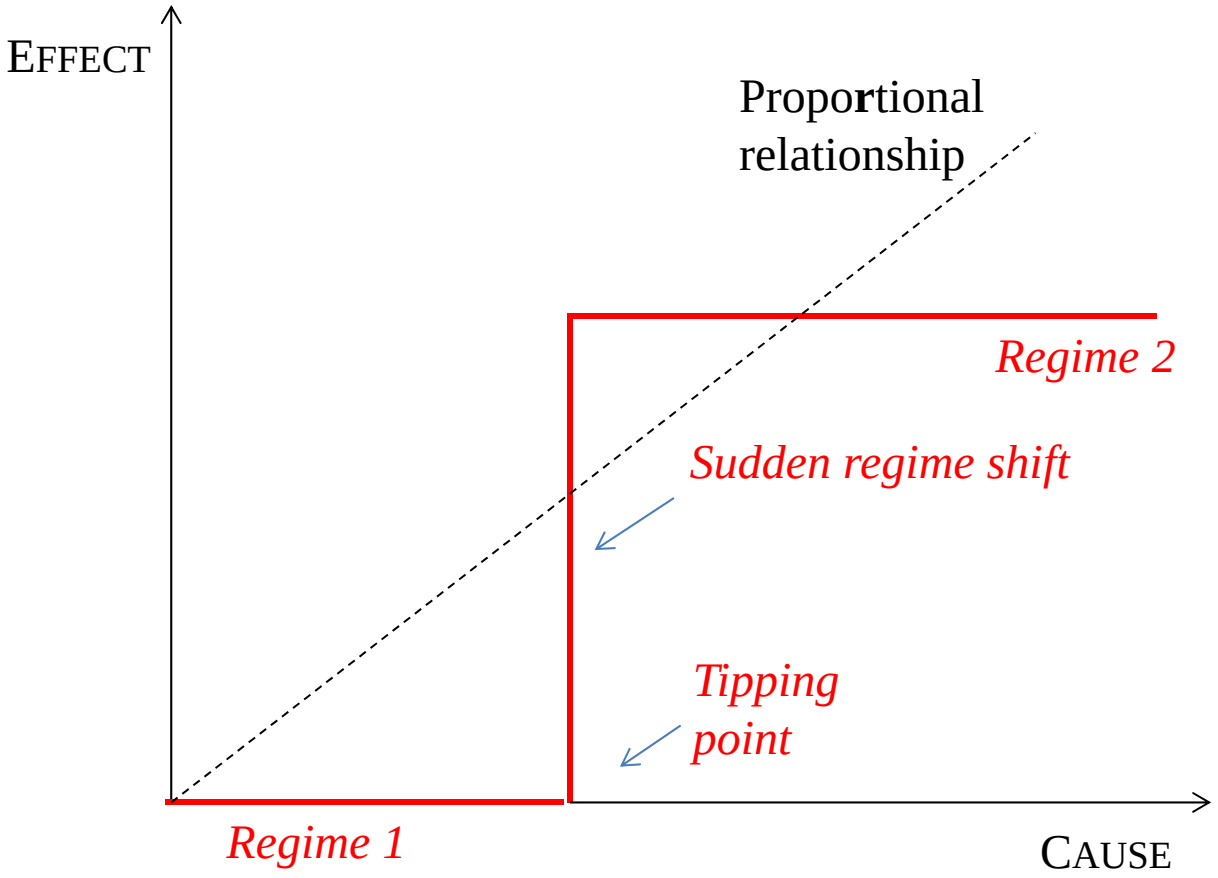
The money/credit supply process can be affected by equity requirements. Capital (and not bank reserves) can become the key factor, limiting bank credit and undermining the reliability and effectiveness of the monetary transmission mechanism.

Non-proportional capital rules can lead to artificial expansion of shadow banking and to systemic risk.

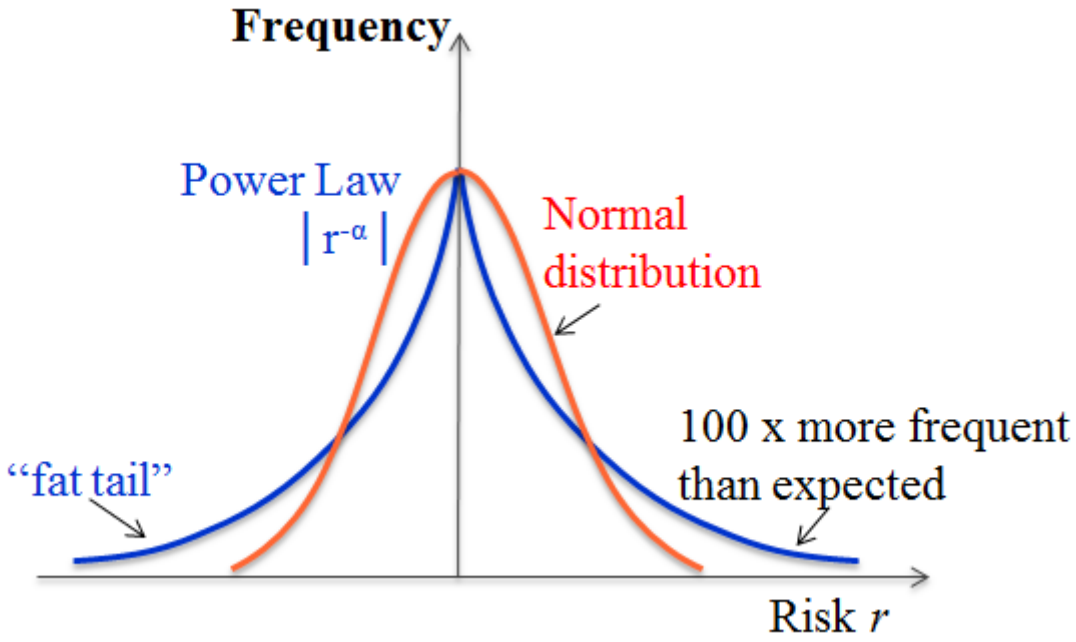
- Economic and financial systems are characterized by problems of idiosyncratic/fundamental risk and systemic risk (which are common to all complex systems).
- The first is specific to one element of the system, the second influences the entire market/financial system.
- Systemic risk implies instability, potentially catastrophic, not attributable exclusively to idiosyncratic agents, but arising also from the links and interdependencies (nonlinear and stochastic) that characterize the reference system.
- The failure of a single entity can trigger cascading failures that can result in the collapse of the entire network.
- The financial system is characterized by endogenous risk, which can also occur in physical systems.
- Exogenous risk is related to "news", i.e. to unexpected changes in economic fundamentals.
- Endogenous risk is unexplained volatility due to non-fundamental factors (perverse incentive structures, serially-related structures of opinion, methodologies of risk control, herd behaviour, ...).

- Analysis of the so-called “tipping points” in complex systems helps to explain the apparent paradox that strongly-connected networks (not only financial) can be “robust but fragile”.
- Within a certain range of values the connections act as risk shock absorbers (robust networks).
- However, outside the reference range, interconnections predominantly acquire a characteristic which gives rise to in propagation and amplification of shocks (contagion) resulting in systemic fragility («at times of acute distress co-movements in the various markets amplify and reinforce themselves» and “the system flips to the wrong side of the knife edge”).
- Complex adaptive networks in normal conditions can be described by Gaussian distributions and by Brownian motion/random walks. Under stress, they can breakdown according to power laws.

Complex systems: example of regime shift



Power laws and heavy–tail distributions



Source: Helbing (2010)

- As mentioned above, these events are typical of financial markets, but they are of a general nature and affect physical, biological, environmental, socio-economic etc. phenomena.
- A well-known example used for referring to endogenous risk outside economics and finance is that of the pedestrian Millennium Bridge in London (Danielsson and Shin 2003).
- The resonance phenomena related to a common factor (e.g. strong wind and the onset of swaying) can determine completely homogeneous behavior on the part of all crossers, and potentially catastrophic resonance.
- The first oscillations, caused by the wind (exogenous) induce/force pedestrians to walk in a manner synchronized with the swaying, creating the endogenous phenomenon of resonance.
- This forced the closure of the bridge only two days after its opening. The problem was solved only by the installation of new fluid viscous dampers.

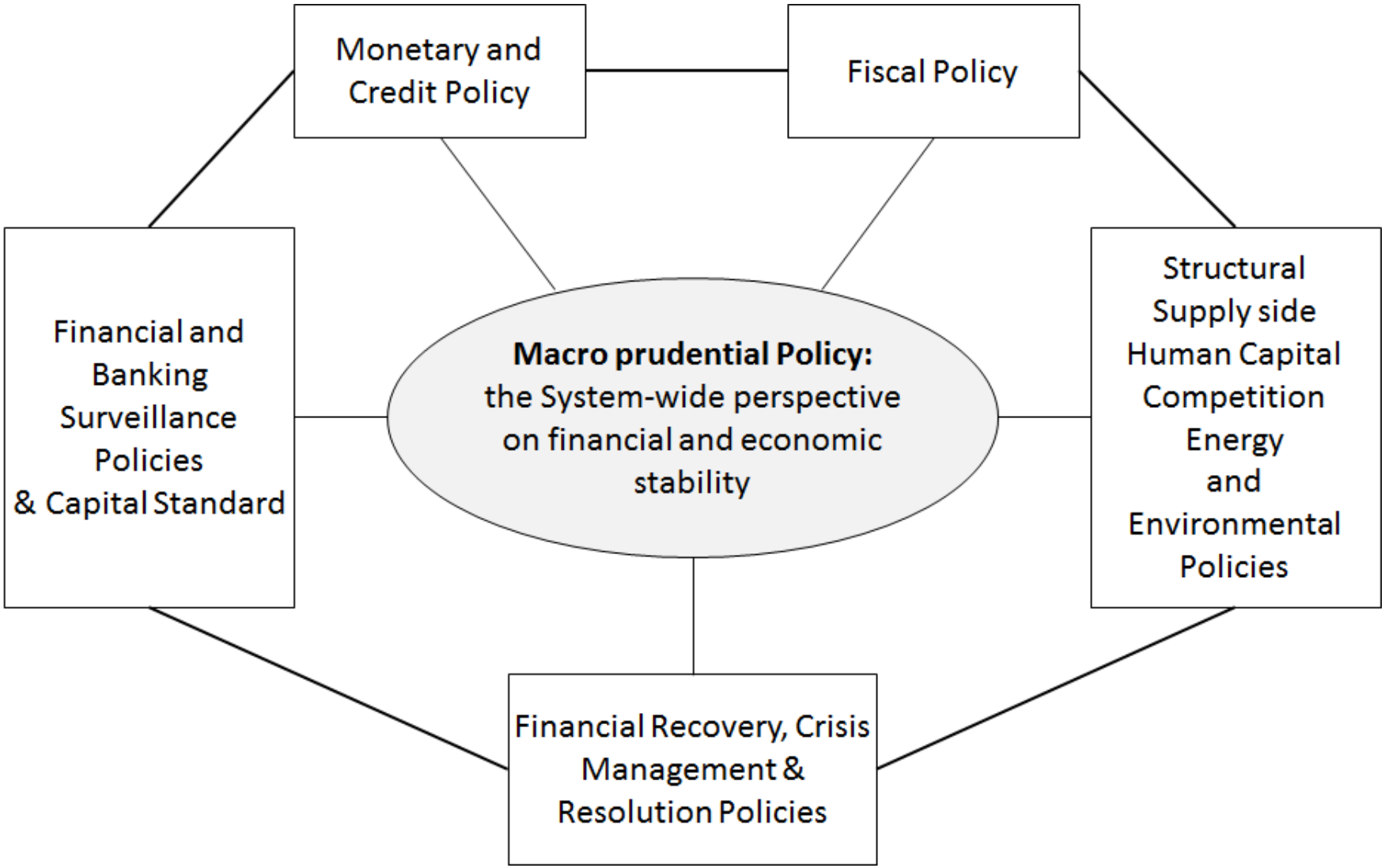
- The endogenous risk in financial systems has an important difference compared to physical, biological, etc., risk. Participants' expectations can influence future events, pushing towards self-fulfilling prophecies, so causing overshooting/market failure, with systemic repercussions.
- The problem can be illustrated by comparing models and forecasts in meteorological and financial contexts.
- In both cases, when stress conditions are forecast, precautionary and prudential safety measures are necessary. However, in the first case the predictions and the security measures taken ex ante to improve and strengthen the resilience of the system do not influence the weather outcome.
- Vice versa, in the financial context, the traditional models of financial forecasting (VaR) and micro prudential standards can increase the total risk, beyond the levels indicated by the fundamental analysis.
- This is a result of an incorrect modeling of the volatility and non-stationarity of the underlying stochastic models, the homogenization of risk aversion and buying/selling strategies on the markets (Danielsson et al., 2011).

Millennium Bridge, River Thames, London

- In these slides, **policies are defined as macroprudential if they use analytical models and policy tools to prevent/reduce systemic risks to the economy and in particular to pursue the goal of financial stability**.
- The definition developed here is broader than that which circumscribes macro prudential policy to the examination of financial and banking regulation; it also includes the examination of other economic policies affecting the economic system which, if mismanaged, can trigger systemic risk and financial instability.
- Evidently, the links between macro prudential and "traditional" economic policies are especially close and relevant with reference to the micro prudential and monetary policies.
- However, it is also necessary, in a complex system, to identify and analyse potentially destabilizing interrelationships with other economic policies: if neglected, the problems associated with the possible occurrence of systemic risk may arise.
- Analytical reference to macro prudential financial policies, which should accompany the rules at the level of individual banks/financial firms, was established within the BIS in Basel.

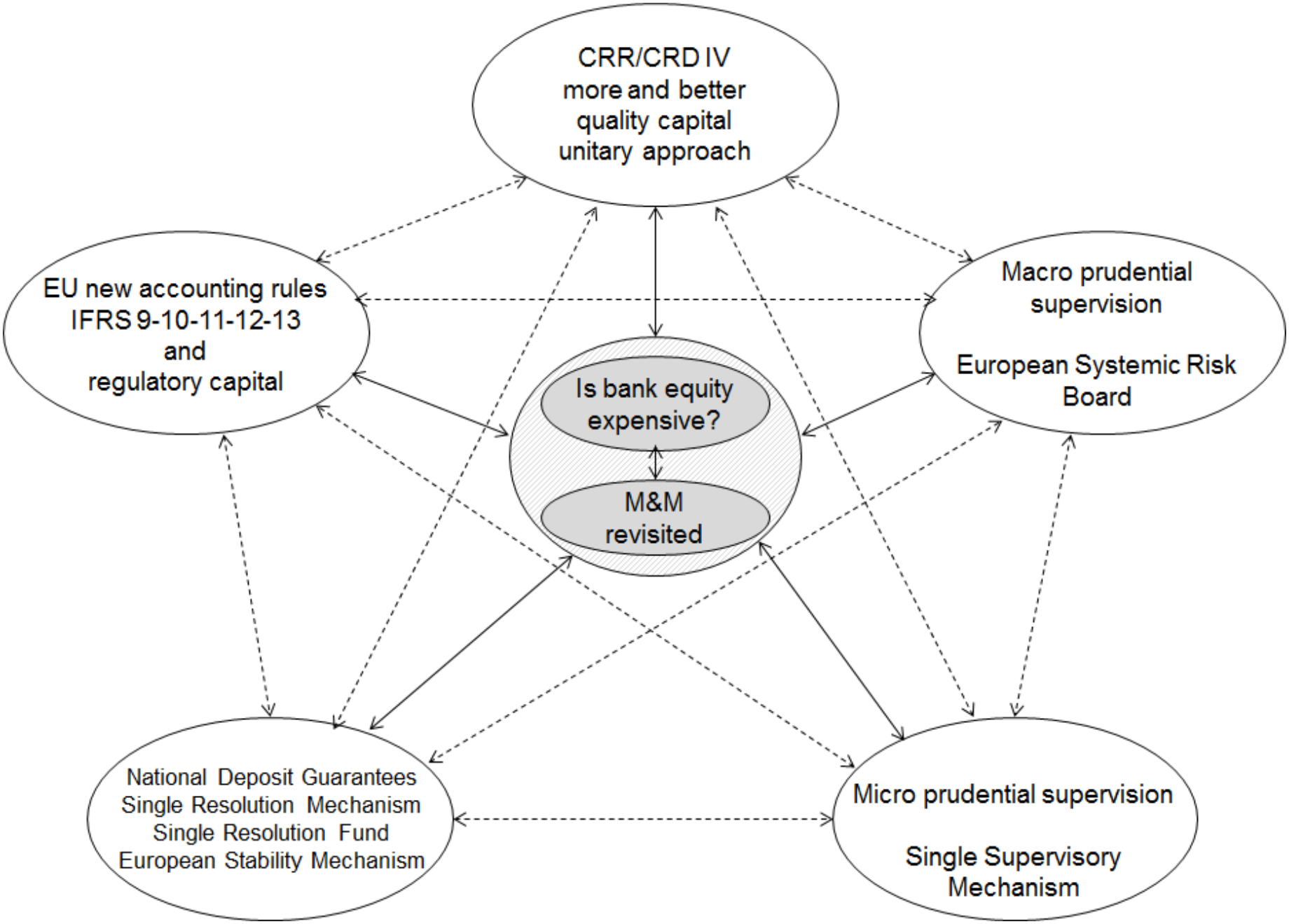
- At an “official European” level, the links between macroeconomic and regulatory policies were highlighted in the de Larosiére Report (2009), in which – as recalled – the connections between macroeconomic surveillance and crisis prevention were illustrated and the need to create a macro prudential supervisory authority at European level (ESRB) highlighted.
- In the US, the Dodd-Frank Act (2010) introduced macro prudential policies and indicated a third mandate to the Fed regulation of systemic risk and preservation of financial stability – to the traditional (1977) dual mandate (maximum sustainable employment and stable prices) – and introduced a resolution framework for banks.

A complex system (network) representation of macroprudential and other economic policies



- The network/holistic approach is used also in the following chart, where the focus is on the subset of the “Banking Union Package” in the EU.
- Macroprudential supervision is narrowly defined and makes explicit reference to the European Systemic Risk Board (ESRB).

EU Banking Union: a holistic network approach



Conclusions

- The first point is the need to avoid excessive microprudential constraints on the banking system in this delicate phase.
- The prospect of Basel IV should recede and, in any event, no new aggregate capital increase should be foreseen.
- The resolution framework should be reassessed with a view to avoiding macroprudential perverse loops.
- The issue of risk-weighting government debt in the Eurozone should be postponed/reconsidered.
- The adjustment for credit risk in respect of SMEs should be maintained.
- All in all, macroprudential concerns should acquire top priority, and the ECB SSM tower should not undo what monetary policy aims to achieve.
- More generally, the Eurozone economic policies should be reassessed, not in terms of objectives, but in terms of appropriate instruments.
- The speech of Presidente Draghi to the European Parliament (15 February 2016) is a welcome move in the right direction.