Systemic risk in banking: It is complex but not that complicated

A response to Andrew G. Haldane & Robert M. May, Neil Johnson and Thomas Lux

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The ongoing financial crises since 2007 painfully reminded us that systems can develop so-called "emergent" dynamics that are fundamentally different to what can be expected by studying their parts. The assumption that the economy as a whole can be understood by solely focusing on the equilibria resulting from utility optimization of its economic agents constitutes one of the major shortcomings of economics. A mantra in academic circles, exploited by bankers and policy makers to excuse their failures masterly exposed by the founder of the Vanguard group[1], is that with the rise of recent technological and financial innovations societal and economic networks have never been more complex and that this complexity has reached unmanageable levels within the current understanding and methodologies. Summarizing the message of Haldane and May[2], complemented by those of Johnson[3] and of Lux[4], one should invest seriously in understanding the dynamics of the financial and economic system, using a transdisciplinary approach adding system theory from various branches of the natural sciences, network analysis, and out-of-equilibrium agent-based models to traditional economics.

We cannot be more in tune with this message... for the medium and long term. However, we claim that concrete operational solutions on the short term might not lie so much in developing new and highly complex models. Rather than putting our hope in tackling the super complexity with super high tech solutions, we should remember simple truths that

demonstrated their value in the past but have been by and large forgotten. Academic and institutional memory loss includes the role of banks in credit creation, the benefits of certain (lost) forms of regulations, and the crucial role of central banks as fighters (rather than promoters) of bubbles.

In macro-economic models such as the class of Dynamic Stochastic General Equilibrium (DSGE) models used by central banks, the banks as separate agents directly influencing the economy are conspicuously absent, apart from their influence through interest rates. Why should then taxpayers' money bail them out if they are just transparent economic conduits? In contrast, stressing the role of banking in the wider context of economic systems was central to Austrian economists and scholars such as Hayek and Schumpeter. While not without weaknesses, the Austrian economic school emphasised correctly the role of banks and their creation of credit through the fractional reserve system. Too much credit, encouraged by artificially low interest rates set by central banks for instance, can lead to an unsustainable boom and the creation of economic and financial bubbles. This is exactly what happened in the run up to the current financial crises[5]. The concept that banks are in large part responsible for credit creation was well understood 30 years ago and discussed and taught in major economic textbooks. This knowledge seems to have been forgotten in mainstream macroeconomics[6]. This is a fundamental loss. Indeed, the forgotten problem is the misaligned interests between the credit creation chosen by banks in order to maximize their utility versus the amount of credit required by the real economy. Schumpeter also emphasised the crucial role of banks and credit markets through their function of active allocators of capital to entrepreneurs and hence fostering economic development. The reason for this memory loss may have been the inability and even resistance to apply these concepts in mathematical models. It seems, though, that much wisdom can be derived from revisiting these ideas, which carry valuable lessons on the role of banks within the financial and economic system.

In the spirit of the Haldane and May's analogy with ecosystems[2], what we are currently witnessing could be described as an ecosystem that has become unstable because some of its constituents act as auto-catalytic destabilizers through positive feedback loops. That banks serve their own interests on the one hand and play a key role in lubricating the economy, thus serving as public good entities, on the other hand has been widely recognized in recent debates. Many discussions, with different emphasis across the Atlantic, focus of what kind of regulations should therefore be imposed to align the private interests of banks with the public interests. The recent Dodd-Frank act (2010) can be seen as a rather timid step towards a working solution, if not just because many of the changes implied by its implementation are not expected to be fully enacted until 2015 (five years is really like eternity for financial markets!). Consider in contrast that the fifty years following WWII have constituted arguably the most stable economic period in the history of the United States and of Europe. Most scholars attribute a key role for this stability to the Glass-Steagall Act of 1932, which successfully prevented the occurrence of "super-spreader" instabilities, by separating by law investment banking, commercial banking, retail banking and insurance. This disaggregation provided completely separated waterproof compartments to prevent any Titanic like event of crisis spreading. Only with deregulation that started taking place in the 1980s culminating in the repelling of the Glass-Steagall act by the Gramm–Leach–Bliley Act of 1999, banking mutated into a new highly interconnected form that recovered basically its pre-1929 role within the ecosystem. Much of the risks that we currently face both in Europe and in the US originate from too much leverage and uncontrolled indebtedness spreading across all networks that build on the incorrect belief that transfers of debts to bigger and bigger entities will solve the problem.

We cannot afford and do not need to wait another decade or more until new super high tech models are developed. Faster solutions are possible by revisiting policies that worked in the past and by relearning and expanding some of the old wisdom in economics, specifically related to the role of banks. These theories should be anchored on rigorous analyses of empirical evidence and enhanced by fertilization with various branches of the natural sciences, network analysis, and out-of-equilibrium agent-based models.

The main bottleneck is not technical but political due to the control exerted by an oligarchy of bankers in effective control of the economy[7]. But this essential truth is hidden in the smoke of complexity and loss of memory of past solutions. It is also convenient to foster the belief of an illusion of the "perpetual money machine", promising unending economic growth from expanding leverage and indebtedness[5]. It is due time that we stop being lulled by these sirens and used either as scapegoats or future prophets. Only then might a genuine science of out-of-equilibrium system economics[2-4] become credible and useful.

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