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# We Are Not Macroprudentialists

## *A Skeptical View of Prudential Regulation to Deal with Systemic Externalities*

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**T**he aftermath of the 2008 global financial crisis has brought a revision of economic ideas, in particular a new wave of skepticism concerning financial markets' ability to function smoothly.<sup>1</sup> At the core of this skepticism is the idea that because of systemic externalities, a free market is exposed to episodes of boom and bust. As this market-failure argument goes, only by chance are the social benefits and costs of financing and investment decisions equal. Rational investors and financial institutions typically value risk and liquidity risk from their own "private" perspective, ignoring the larger social benefits of liquidity and the aggregate dimension of risk. As one advocate of this perspective aptly puts it,

The current financial crisis is a clear example of systemic failure. It illustrates—once again—the vulnerability of market capitalism to spectacular boom and bust cycles that can devastate the real economy. After decades of

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1. "The crisis has undermined the widespread conviction that mature economies with sophisticated financial markets are naturally self-equilibrating" (Borio 2011, 5).

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complacency about the ability of markets to correct themselves and the resiliency of the economy to financial and other shocks, we have experienced another spectacle of irrational herd behavior producing rapid increases in asset values, lax lending standards and over-borrowing, excessive risk taking, and out-sized profits in the financial sector. The boom was followed by a dramatic crash that spread rapidly through world financial markets, causing plummeting asset values, rapid deleveraging, risk aversion, and huge losses. (Rivlin 2009, 2)

Immediately after the onset of the crisis, a widespread consensus emerged among policymakers and academics that a new “macro” approach to prudential regulation, aimed at containing these externalities, is needed to stabilize the economy in the future. The dictum “We are all (to some extent) macroprudentialists now,” coined by Claudio Borio (2003, 1), has gained momentum and justification in an avalanche of professional publications and public speeches.

In this article, we discuss the argument for prudential regulation from a skeptical perspective for two reasons. First, whereas readers can easily browse through a substantial body of literature justifying increased regulation, consistent critical works are considerably more difficult to find. We attempt to fill this gap and provide an opposing view. Second, troubled times give an inherent weight to state interventions and interventionist theories, as society asks or waits for the government to “do something.” Therefore, we believe that in the current economic, social, and political context it is too easy for interventionist arguments to overshoot in the realm of decision making.

Our central claim is to show that the case for prudential regulation, notwithstanding its new theoretical rationale, is no better at present than it was before the crisis. We critically examine the idea that borrowing creates systemic externalities that give rise to herd behavior, catching the economy in a trap of multiple equilibria from which it can escape only with the help of a countercyclical prudential policy.

## **Systemic Externalities, Systemic Risk, and Coordination Failures**

The concept of systemic externality purports to provide a solid ground for some sort of economic dirigisme.<sup>2</sup> Systemic externalities express the idea that individual behavior often entails a chain reaction or amplification effects that impact, positively or negatively, the whole market. Because of this phenomenon, the economy spirals up or down as investors’ buying or selling stimulates third parties to imitate their behavior.

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2. For a review of the various applications of this concept, see Hoff 2000 and Wagner 2010.

This idea's history can be traced back to the writings of authors such as Paul Rosenstein-Rodan (1943) and Ragnar Nurkse (1953), who explained underdevelopment as the natural result of a "vicious" network of interdependencies among economic agents and phenomena. After having fallen into oblivion for a while, the idea became fashionable again in the 1980s, when economists such as Douglas Diamond and Philip Dybvig (1983) and Kevin Murphy, Andrew Shleifer, and Robert Vishny (1989) began to use rational expectations models to elaborate multiple-equilibria theories in regard to bank runs, investment, and economic growth. Since then, economists have emphasized a number of situations in which the interdependence of private agents seems to produce welfare-inferior outcomes. In particular, since 2008 many theorists have appealed to systemic externalities in credit markets in connection with their considerations of policy responses to what they perceive as a clear market failure.

In relation to financial markets, the market-failure argument centers on the notion of systemic risk, a reflection of negative systemic externalities, which can be explained as follows. When deciding how much to borrow, private agents take into account only some of the benefits and costs of their financing and investment decisions, and they consider aggregate prices as given. But individual decisions concerning the magnitude of borrowing also have social effects. On the one hand, the more one borrows, the more one can invest and bid up asset prices. And the more asset prices increase, the more one can use the same collateral to obtain additional credit. On the other hand, increasing leverage comes at the price of increasing risk exposure. If all individuals pursue the same strategy and increase borrowing, then the overall situation will be worse for everybody. When market conditions turn negative, asset prices decline, so debtors will be forced to spend less, thereby depressing prices further and increasing the burden of debt for everybody.

The situation can be contemplated similarly from a lender's perspective. When judging the risk of an investment project, each individual lender takes asset prices as given. But asset prices are determined by lenders' aggregate behavior. When all banks increase lending, the effect is asset-price inflation and increased financial fragility. Each bank becomes more exposed to the systemic risk. If an adverse shock occurs, banks will be forced to liquidate their investments, which will deflate prices, thereby leading banks to liquidate further. "Hence, fire-sales by some institutions spill over, and adversely affect the balance sheet of others, causing a negative externality" (Brunnermeier et al. 2009, 22).

Financial fragility can be understood alternatively not as the consequence of a gap between private and social costs of borrowing, but as the effect of a wedge between private and social benefits of liquidity. Thus, the negative externalities of borrowing can be replaced in argumentation by "the other side of the coin"—namely, the positive externalities of holding cash.<sup>3</sup> In the boom, as asset values rise

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3. Anton Korinek explains: "Since individual market participants do not internalize these externalities, they generally undervalue the social benefits of holding net worth when financial amplification effects are at

and mark-to-market risk is minor, investors underestimate the benefits of liquidity. Profit maximization consequently requires financial institutions to expand their balance sheets and increase leverage, often using short-term funding from the money markets. In the bust, market participants symmetrically rush to hoard liquid assets, deleveraging and reducing their exposure to (now overestimated) risky assets. Yet what seems reasonable from a single bank's perspective is bad in the aggregate: if many banks try to deleverage at the same time, they may cause a downward spiral of asset prices and a financial meltdown.

Theorists of systemic externalities claim that aggregate risk cannot be conceived as the sum of individual risk. Aggregate risk is endogenous, deriving from the banks' individually rational but collectively irrational behavior. Its magnitude depends on the size, degree of leverage, and interconnectedness of financial institutions. Thus, the proponents of macroprudential regulation provide an organic perspective on risk that is strongly anchored in the tradition of coordination-economics literature.

The economy is like an ecosystem, and Darwin was implicitly recognizing that ecosystems have multiple equilibria. Far more important in determining the evolution of the system than the fundamentals (the weather and geography) are the endogenous variables, the ecological environment (Hoff, 2000, 153). . . . In an ecosystem, a key factor determining how any individual will behave is his environment. One of the most important aspects of that environment is the behavior of others. Under some conditions, ecosystems have multiple equilibria, and individuals may fail to "coordinate" on the equilibrium that is preferred by everyone. . . . The basic mechanics of coordination failure are simple: An individual's behavior—for example, to produce or to prey on the production of others—creates externalities. The externalities affect not only the *welfare* of others, but also their *decisions*. The interaction of the slightly distorted behaviors of many different agents may produce very large distortions and can lead to the existence of multiple equilibria, some very good for every member of the economy, and some very undesirable. (Bowles, Durlauf, and Hoff 2006, 6–7)

From this mismatch between private and social valuations of liquidity results specifically a number of distortions: overborrowing, excessive risk taking, and excessive

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work. In an economy without financial imperfections, the private and the social valuation of liquid net worth always coincide, as both decentralized agents and a social planner value an additional unit of liquidity and an additional unit of consumption or investment equally. When balance sheet effects are at work and create financial amplification, decentralized agents only recognize that additional liquidity would relax the private constraints on their balance sheets and allow them to access more finance at the given level of the exchange rate. They fail to account for the social benefits of additional liquidity, which consist of these private benefits plus the fact that an improvement in balance sheets across the economy raises aggregate demand, which appreciates the exchange rate and leads to positive financial amplification effects" (2010a, 11).

short-term debt, which may be seen as unintended harmful consequences of individual, fully rational behavior—a sort of tragedy of the commons. To put it differently, we confront a classical coordination problem<sup>4</sup> or “fallacy of composition”<sup>5</sup> (den Butter 2010). The situation is, in Anton Korinek’s opinion, similar to the problem of air pollution:

Financial fragility is an uninternalized by-product of external financing just as air pollution is an uninternalized by-product of driving. It is privately optimal for the drivers of cars to enjoy the benefits of their mobility while disregarding the pollution that they impose on the rest of society, since each driver knows that her individual contribution to air pollution is minuscule. In aggregate, however, there will be excessive pollution if all drivers act accordingly. In other words, clean air is a public good and will be subject to a “tragedy of the commons” in the free market equilibrium. . . .

In a similar manner, external financing “pollutes” emerging market economies with financial fragility, i.e. it makes such economies more fragile and reinforces the financial amplification effects that arise in response to adverse shocks. Private agents do not internalize this—they take the aggregate level of financial fragility or stability as given, even though they jointly determine the fragility/stability of the economy. (2010a, 3)

The systemic-externalities argument has obvious normative implications. If the social rate of return of prudence is higher than individual market participants expect, then it may be argued that institutional constraints should be changed to align the private and public costs of risk.

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4. Korinek provides a good explanation of this coordination failure in relation to the undervaluation of systemic risk: “One way of viewing externalities is as a coordination problem: if decentralized agents could coordinate their actions, they would collectively decide to take on a lower level of systemic risk, limiting the adverse exchange rate movements and the damage to balance sheets in crisis states. All agents would be better off from such action, but there is a free-rider problem: every individual agent has incentives to enjoy the greater macroeconomic stability resulting from the prudent behavior of other agents and—in the meantime—take on more risk himself so as to reach his private optimum. A similar way of capturing our argument is that healthy balance sheets in the economy have the character of a public good since they lead to greater macroeconomic stability. Regulators who reduce the level of systemic risk in the economy provide a public good” (2010a, 12–13).

5. As den Butter explains, “The ‘fallacy of composition’ is the phenomenon that behaviour at the micro level that aims to increase the individual welfare, does not necessarily do so at the macro level, or may even destroy welfare at the macro level. The famous example is a football stadium where all spectators are seated. When the first rows of spectators stand up in order to see more, indeed it gives them a better view. However, the result is that now everyone has to stand up so that the entire stadium has the same view as before, but everyone is now standing instead of being seated so that the overall ‘welfare’ has decreased” (2010, 7).

## Systemic Externalities and Macroprudential Regulation

Financial regulators have traditionally approached risk through the lens of microeconomics, ignoring the spillover effects of investors' actions.<sup>6</sup> As Markus Brunnermeier and his colleagues write in the eleventh *Geneva Report*, "The current approach to systemic regulation implicitly assumes that we can make the system as a whole safe by simply trying to make sure that individual banks are safe. This sounds like a truism, but in practice it represents a fallacy of composition. In trying to make themselves safer, banks, and other highly leveraged financial intermediaries, can behave in a way that collectively undermines the system" (2009, xi).

The understanding that private behavior has externalities that ultimately influence the market's overall outcome has challenged public authorities to change their definition of prudential policy. According to the new view, regulators have to a large extent wasted their time approaching risk from an exogenous perspective and regulating banks individually. Macroprudential regulation should seek to rein in coordination externalities to moderate lending and leverage during periods of asset-price increases and correspondingly to alleviate pressure to deleverage during recessions. As Frank den Butter puts it, "[T]he main (or even only) aim of regulation, and hence of banking supervision, is to internalize externalities. So, in order to become a trustworthy regulator again, banking supervisors should analyze which externalities were the cause of the systemic crisis" (2010, 2).

What are the solutions then? According to this reasoning, the government should alter incentives so that people take account of the external effects of their actions. Just as in the case of any other negative externalities, there are two ways to solve this market failure.

1. *Bank regulation.* The first policy tool is the prudential regulation of banks—an application of the more general set of command-and-control policies. For example, supervising authorities can stipulate increases in capital requirements, together with countercyclical capital buffers, minimum haircuts and margins, maximum loan-to-value ratios, liquidity coverage ratios, and so forth. Yet this kind of regulation may prove far from satisfactory because the banking sector is accountable for only part of the total credit, and so a large share of financial intermediation will remain unregulated.
2. *Taxation.* Public authorities can internalize systemic externalities by imposing a countercyclical tax on debt to reduce borrowing to the socially desirable level: "It goes with debt as with other sources of negative externality: if it pollutes, it should be taxed. And it should be taxed more in credit booms, when the

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6. As Hyung Song Shin puts it, "The traditional capital buffer view of financial regulation misses the importance of externalities generated by actions of one financial institution that impacts on the interests of others. In particular, the balance sheet maturity mismatch, when embedded in a system context, generates stresses that result as a consequence of unintended actions" (2010, 7).

systemic risk is higher. Put in very general terms, the solution would be a counter-cyclical tax on debt. I am calling this approach ‘prudential taxation’ because it borrows elements from both prudential regulation and tax policy” (Jeanne 2008, 3; see also Bianchi 2011).

However, as we maintain here, this case for a new version of prudential policy cannot be taken for granted in spite of its popularity among economists and policymakers. In particular, both the idea that interdependencies among market participants prevent an optimal functioning of financial markets and the policy recommendation based on it should be considered carefully.

## **Systemic Externalities and Macroprudential Regulation**

Several issues make us think twice about the new case for prudential policy. To begin with, market-failure models are biased in their analysis of systemic externalities because they consider problematic only private—not public—borrowing. Second, their arguments use a mechanistic understanding of risk and consequently cannot offer a proper understanding of the financial distortions commonly associated with macroeconomic fluctuations. Moreover, they fail to acknowledge that any subestimation of systemic risk as expressed by overborrowing or keeping a lower cash reserve is reflected in the price level and, as such, can be influenced by monetary policy. Finally, overborrowing and herd behavior are themselves the result of prudential policy, so that market failure models ultimately cannot yield precise conclusions. We proceed now to analyze these weaknesses more closely.

### *Systemic Externalities and Macrofailure: A Public Rather Than a Private “Bad”*

Advocates of macroprudential regulation are biased in their analysis of market failure and systemic externalities. As can be easily seen, they are not interested in analyzing systemic risk per se. Systemic externalities flow naturally from a variety of private actions and macroeconomic policies; they are a reality in the realms of both private and public action. What is of interest to the advocates of regulation, however, is not systemic risk in general, but only private systemic risk—and for purely ideological reasons. Herd behavior among entrepreneurs who rely imprudently on too much external finance is considered a real threat for macrostability, whereas public coordination failures in promoting financial stability are completely overlooked. In neoclassical jargon, market-failure models come with the hidden supposition that government is risk neutral or risk averse, ignoring the possibility that it might be a risk-loving agent. As Carmen Reinhart and Kenneth Rogoff (2009) explain, this possibility is widely supported by historical experience, sovereign serial defaults being quite frequent in modern times.

As the present crisis has shown, in the early 2000s governments also fell into the trap of systemic externalities and coordination failures, moving the economy into a bad global equilibrium: they incurred until very recently chronic budgetary deficits simultaneously, increased public debt to unsustainable levels, and expanded the money supply in concert, propelling a worldwide boom. From a historical perspective, countercyclical macroeconomic (“stop and go”) policy illustrates the dynamic inconsistency of political attempts to level off economic fluctuations.<sup>7</sup> Historical experience shows that it is very difficult for a social planner to refrain from increasing public expenditures during booms and thus neglect to create budgetary buffers useful in periods of economic decline. Governments usually kept expanding public works and social programs both in good times and in bad times. The same unhealthy coordination occurred when policymakers acted in unison to bail out the banking industry in several episodes during the past few decades, which has created moral hazard and a debt-dependent entrepreneurial culture. Thus, social planners, far from being able to correct the supposed lending externalities reflected in excessive borrowing and risk taking, have systematically underestimated the utility of budgetary buffers and cash reserves.

### *Entrepreneurship, Interconnectedness, and Systemic Risk*

Leaving these issues aside, the market-failure argument suffers from a more serious problem. Systemic instability supposedly derives from the relations among financial intermediaries and the growing web of linkages across assets, companies, and regions (Borio 2011). Interconnectedness is considered a latent source of systemic risk in modern finance (Babus 2006; International Monetary Fund 2011). But this view of systemic risk may be considered simply a truism. Economic agents become inevitably interrelated in the market process of deepening the division of labor and increasing specialization. However, the growing complexity of exchanges and trade patterns does not inherently increase the likelihood of systemic crisis. Mere economic development and rising sophistication of investment do not make the banking sector or the economy more susceptible to systemic risk—that is, they do not increase the probability of widespread failure. Linkages and complementarities among economic agents spring from entrepreneurs’ undertakings. In other words, the characteristics of the production structure in general and of the financial market in particular are the outcome of speculative actions. Further, as Jeffrey Lacker explains, “those interconnections are all the result of mutually agreed-upon contracts. Creditors have

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7. Michael Bordo and his colleagues showed even before the most recent crises that crisis frequency has increased since the definitive collapse of the gold standard—that “there is something different and disturbing about our age” (2001, 72). Charles Calomiris holds a similar opinion: “[T]he last thirty years have seen worse banking system instability worldwide than any other period of human history, and the consensus of research about the sources of this unprecedented banking system instability clearly points to the deadly combination of new governmental protections for banks and failed prudential regulation” (2011, 3).



voluntarily chosen their counterparties, and they have no inherent reason to neglect the implied exposure to their counterparties' counterparties. Similarly, financial asset owners have voluntarily agreed to a range of potential returns, and they have no inherent reason to neglect any particular possibilities. Interconnectedness, by itself, is not a market failure" (2010, 2).

To say that interconnectedness unconditionally increases systemic risk is to treat human actions mechanistically. It is true that interconnectedness implies some costs because investors have to deal with more difficulties in processing information and assessing the magnitude of exposures and liabilities. But following the same reasoning in reverse, isolating economic agents by making their balance sheets less correlated will reduce systemic risk. If interrelations among economic agents make the economy contagion prone and increase systemic risk, then one can easily imagine a solution that would avoid completely all these network externalities: a return to autarchy at a national, regional, or individual level. But such a solution is hardly a desirable policy. In other words, "the optimal level of systemic risk is not zero. A regulator, in principle, could eliminate all systemic risk by imposing sufficiently stringent limits on leverage or balance sheet linkages, or by imposing severe operating restrictions on key financial intermediaries, but this would unduly curtail the efficient activities of the financial sector and would be suboptimal from a social perspective" (Kambhu, Schuermann, and Stiroh 2007, 6).

From this perspective, the market-failure argument proves too much. If it is absurd to claim that economic disintegration and autarchy desirably promote macrostability because they reduce systemic externalities by delinking economic agents, it is equally senseless to assume that economic integration and an expansion and deepening of financial flows undesirably increase the volatility and fragility of financial markets. Given that a certain correlation among investors' balance sheets is a natural outcome of the operation of the principle of division of labor and specialization, it follows that only in a free market with internalization of costs and benefits would it be possible to discover the optimal interconnectedness among firms or assets. There is no way to discover an optimal level of exposure or interlinkages other than to observe that level arising spontaneously from investors' plans.

The emphasis put on externalities and the subsequent policy recommendation concerning the strengthening of prudential regulation also overlook other important economic insights. Even if interlinkages create a situation in which investment decisions spiral around each other, this outcome does not suffice to provide a ground for government intervention because the economic significance of this process is unknown. More precisely put, self-reinforcing processes can increase the speed of resource reallocation and improve welfare. If "news that one firm has failed can be genuinely informative about fundamental prospects at other firms with similar exposures" (Lacker 2010, 2), then policy to prevent such information from being used has undesirable effects.

In regard to our subject, interconnectedness, portfolio correlation, and trade patterns cannot be considered exogenous to government policy. State intervention is the object of individuals' anticipations, so it changes economic agents' behavior. If market participants expect a change in government policy, they will act to capture all the benefits and minimize the losses arising from that policy. For example, if a bailout policy is embedded in the institutional framework that governs financial markets, banks will become too interconnected to (be permitted to) fail. Therefore, far from being exogenous variables, interconnectedness and balance-sheet correlations should be considered as dependent on the political institutions that govern the market process.

### *The Risk of Liquidity*

Another weakness in the argumentation of market-failure theorists is a very simple and mechanistic treatment of risk and the resulting dichotomy safe versus risky investments. Thus, Olivier Jeanne and Anton Korinek maintain: "Investment decisions are not socially optimal. . . . They undervalue the social benefits of liquidity in crisis. . . . Consequently, they take a socially excessive level of risk. . . . A financial institution that limits its risk-taking bears all the costs in terms of foregone profits, but society at large benefits from the mitigation of amplification effects and greater financial stability" (2010, 3).

The first point to make is that this view ignores the fact that there is no such a thing as zero-risk assets. A theoretical distinction between two classes of assets—risky and nonrisky—has no ground in reality. Put differently, any human action, including hoarding of cash reserves and other liquid assets, is speculative by definition. Not only are risk perceptions subjective, but they also depend on the institutional setting, especially on how public agencies define risk. It is worth recalling that at the beginning of the financial crisis, for example, European (highly rated) sovereign debt was considered a safe investment, and financial institutions were encouraged to increase their holdings of public bonds to the point that they eventually became trapped in them. The very "liquid" and "safe" securities that banks were supposed to buy as a means of preserving their capital bases are the same assets that have subsequently caused significant losses.

Moreover, holding money or liquid assets is not inherently a safe investment, as Jeanne and Korinek's reasoning seems to assume. When investors avoid holding liquidity, they do so because of the higher profit they expect to obtain elsewhere. Indeed, holding liquidity may prove to be a very risky choice. If investors fear a decline in the purchasing power of money, they will attempt to reduce their "exposure" to liquidity and to increase borrowing. Expectations of higher inflation reduce the real interest rate and make borrowing attractive, inducing investors to increase leverage and take more risk as they chase yield. This kind of anticipation was arguably the reason for debt accumulation in the stages that paved the way for the recent

financial turmoil. In other words, the combination of variation in monetary policy and expected inflation provides a simpler and more natural explanation of the boom–bust cycle than do systemic-risk theories.

### *Systemic Risk as a Result of Imprudent Monetary Policy*

At this point, let us spell out the further implications of the hypothesis that private decisions about how much money to hold have external effects. As Lawrence White explains, the proposition that people undervalue the benefits of liquidity can be reformulated as saying that the real demand for money balances is too small. But the real demand for money balances depends on the expected inflation rate, which is under the monetary authorities' direct control. An interesting observation can be deduced: the systemic risk associated with overborrowing in credit markets is not so much a matter of fiscal or prudential policy as it is of monetary policy. Central banks have the instruments to control the price level's path, and therefore they can also indirectly change the incentives for holding liquid assets. By restricting the growth of the money supply, central banks change the relative value of liquid and illiquid assets, encouraging people to hold more money and refraining from increasing leverage.<sup>8</sup> In the inverse, with an expansionary monetary policy, the interest rate declines, credit is stimulated, and market participants are encouraged to embark on a spending binge. In fact, as many economists<sup>9</sup> have maintained, the roots of the present financial crisis lie precisely in the easy-money policy that the monetary authorities pursued, which pushed assets prices higher and higher and set an artificially low return on liquid assets.

Thus, instead of reasoning in terms of “market failure” to be remedied by government, it is time to realize that government policy itself is in practice a substantive source of systemic risk. Such policy affects the economy not only through monetary policy, but also through prudential policy. We focus on the latter because it is of utmost concern from the perspective of the present discussion.

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8. Thus, an alternative solution for the prudential taxation of borrowing identified would be a subsidy for holding liquidity. In fact, Korinek verges on such an idea when he writes: “If a parent company injects additional liquidity into its emerging market subsidiary during crises, then the resulting capital inflows entail positive externalities that would call for a subsidy, since they raise aggregate demand and mitigate financial amplification” (2010b, 33 n. 28). A more conservative monetary policy would achieve exactly this result. With no expansion in the money supply and no artificially reduced interest rates, investors will have incentives to hold more liquidity and to save more.

9. See Taylor 2010 for a standard mainstream exposition of the determinants of the 2008 financial crisis. See Bagus 2011 for an explanation of how externalities arising from public production of money led to the European debt crisis. At a more fundamental level, a strand of thinking within the Austrian school of economics has argued that the roots of financial panics and economic recessions go beyond the weaknesses of monetary policy. According to this view, modern fractional-reserve banking is inherently unstable and prone to systemic collapse. See, for example, Rothbard 1962; de Soto 1998; and Hoppe, Hulsmann, and Block 1998.

### *Prudential Policy, Herd Behavior, and Systemic Risk*

Systemic risk is to a large extent the *result* of antirisk policies that regulators implement worldwide under the umbrella of poorly defined prudential reasons.<sup>10</sup> A host of regulations issued by the national and international agreements—such as Basel I, II, and III—have constrained banks to abandon their independent policies and adopt the same standardized models of quantitative risk assessment.

In principle, banks are but one example of entrepreneurial initiative. As financial intermediaries, they seek new ways of attracting and pooling people's savings and lending them to interested borrowers; they search for profitable investment projects and provide them with the necessary funding. Because the economic environment is uncertain and the possible investments highly heterogeneous, the analysis of each funding proposal has a strong entrepreneurial feature and is speculative. Banks try to discover how to use their own and attracted capital to achieve the highest profit possible. Their mission is, from this perspective, no different from any other entrepreneurial venture; they know they can survive in the market only if they identify untapped business opportunities, innovate, and accurately anticipate market developments.

In recent decades, as a direct consequence of regulatory policy, the entrepreneurial dimension of banking has been replaced more and more with typical bureaucratic work. Mandatory procedures, state-imposed risk-assessment models, and technical standards issued by the banking supervisory authority have left less room for the exercise of productive entrepreneurial abilities and channeled banking activity into predetermined patterns.<sup>11</sup>

After the Asian crisis of 1997, it became noticeable that the homogenization of risk assessment leads to a homogenization of portfolios and, further, to similar trading acts—that is, to herd behavior.<sup>12</sup> The cause of herd behavior is not bounded rationality, stupidity, ignorance, informational asymmetry, or imitation, but “identical knowledge”: the fact that all market participants assess the risk of various investments similarly because

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10. Lacker explains: “I do think there is a fundamental deficiency in the way our financial markets have performed. And you could describe this deficiency as an externality that leads both to the overexposure to risks in the financial system and to contagious reactions of markets to problems at one institution. But this externality is the product of government policy – namely, the provision of government protection to creditors through an ambiguous, implicit financial safety net. The widespread belief that some financial firms are too big or too ‘systemically important’ to fail and [that] their creditors will benefit from government support increases those firms’ appetite for risk. In this setting, allowing a firm to fail creates contagion by forcing market participants to adjust their beliefs about the extent of future government protection” (2010, 2). See also Rodríguez 2003.

11. To be more precise, financial institutions were stimulated to pay less attention to the “productive” aspect of their venture and more attention to the legal framework. They shifted their entrepreneurial talent to the rather “unproductive” business of rent seeking and regulatory capture. See William Baumol's seminal article “Entrepreneurship: Productive, Unproductive, and Destructive” (1990).

12. In the current period, if a number of students have to solve an equation, they will reach the same solution. There is no other option. Students are featuring herd behavior because they all have traveled along similar reasoning to reach the equation's solution. The same is happening with financial institutions, which, facing market data and the requirement for prudential capital, must calculate the optimal portfolio according to approved methods. We cannot expect very different portfolios to result from these calculations—on the contrary. If so, then it is reasonable to expect market participants to follow similar paths as dictated by the legally imposed calculations.

of the uniform regulation. As Avinash Persaud concludes, “[A]ny system in which market participants have the same tastes (to reduce risk and regulatory capital) and use the same information (publicly available ratings, prices, and price-driven models) will lead banks to herd into and out of markets and will eventually cause systemic collapse” (2008, 32).

Further, regulations that increase transparency reinforce herd behavior. Each competitor traditionally was interested in keeping his business model confidential because being imitated would reduce profit. Just as each chocolate manufacturer competes for people’s money, constantly striving to offer original varieties and scrupulously keeping secret its recipes, so every investor is motivated to keep secret his “recipe for money.” But mandatory removal of secrecy, disclosing one’s business plans to third parties, virtually abolishes competition strategies.<sup>13</sup> The quest for new profit opportunities is seriously undermined if particular competitive strategies are visible to all. Good banks—and, in general, good entrepreneurs—are investing in projects their competitors commonly overlook. The more that banking secrecy and “opacity” of various investments are removed, the less entrepreneurial are the banks. In the end, financial institutions become merely state agencies charged with lending public savings—agencies whose bureaucratic operation has little to do with market criteria.

We are tempted to believe, incidentally, that the case for transparency has been fueled by taxpayers’ natural interest in knowing how the state distributes public funds. In the public sector, transparency is justified because citizens are entitled to know how their money is being spent. But in the private sector, transparency—understood as public disclosure of what a company undertakes—is not justified. The company is obliged to explain its approach only to its owners (shareholders) and creditors. To the extent that disclosure is imposed on the company, the shareholders’ ownership rights suffer. Thus, transparency is not a value in itself but only in relation to business owners’ private-property rights.

Far from saving us from alleged externalities that create instability, regulatory policy has itself created instability. State policy has exacerbated the coordination problem in the private sector, stimulating herd behavior through regulation.<sup>14</sup> This policy perspective is essentially identical to George Kaufman’s, offered more than a decade before the onset of the present financial crisis:

However, the bulk of the evidence suggests that the greatest danger of systemic risk comes not from the damage that may be imposed on the

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13. Transparency is normal, however, as an outcome of private-contract stipulations.

14. “What makes matters even worse is that the potential prospect of a government bailout gives institutions the incentive to become too big to fail and too interconnected to fail. The larger an institution, or the more interconnected it is, the higher the probability that a financial institution will be bailed out in times of crisis. In short, the current system implicitly subsidizes institutions that cause negative externalities on others” (Brunnermeier et al. 2009, 41). Before advancing new proposals for regulation or building new reasons for it, economists should be concerned with erasing the norms that enhanced panic episodes and eliminating what seems to be the sufficient condition for every boom: negative real interest rates. According to a long intellectual tradition, whose foremost exponent is Hayek, artificially low interest rates are the main cause of business cycle. See O’Driscoll 2011 for a Hayekian perspective on the recent crisis.

economy from a series of bank failures, but from the damage that is imposed on the economy from the adverse effects of poor public policies adopted to prevent systemic risk. As a result, it can be argued that the poor performance of banking experienced in almost all countries in the last two decades reflects primarily regulatory or government failures, rather than market failures. Prevention of reoccurrences of the recent banking problems requires better developed and more incentive compatible and market assisted prudential regulation and reduced nonprudential regulations. (1996, 17)

In addition, we should not overlook that governments have herded banks into buying risky instruments by commission, not only by omission. As Charles Calomiris aptly maintains when referring to the cluster of errors that preceded the crisis, “[T]he risk-taking mistakes were not the result of random mass insanity; rather, they reflected a policy environment that strongly encouraged financial managers to underestimate risk in the subprime mortgage market. Risk taking was driven by government policies” (2009, 67).

In sum, we have good reason to suppose that in the absence of these policy-driven incentives to prefer debt and risky assets rather than equity and sound investments—that is, without the negative externalities that governments have imposed on the financial system—the social cost of economic fluctuations would be much lower.<sup>15</sup>

## Macroprudential Policy and the Uneasy Case for Paternalism

In spite of all efforts and a rich literature written so far, it remains unclear how the latest theoretical models support paternalistic policies.<sup>16</sup> Hence, there is a danger that governments will replace regulations that are poorly grounded in any theory<sup>17</sup> with

15. Overindebtedness is itself a consequence of moral hazard, which provides an implicit ex ante subsidy for bank debt. As Martin Hellwig explains, “[T]here is a bias in favour of debt finance if bank debt holders anticipate that the government will bail them out if the bank should become insolvent. Such anticipations reduce the rate of interest that the bank has to promise to debt holders; to the extent that debt holders are protected from the consequences of bank insolvency, there is less need for interest payments in normal states to compensate them for losses in insolvency states” (2010, 15).

16. See Glăvan 2008a and 2008b for a critique of coordination-failure arguments, with applications to industrial policy and development economics.

17. Franklin Allen and Elena Carletti conclude: “The main way in which banks have been regulated in recent years is through capital regulations. These regulations have mainly been laid down by the Basel agreements. One of the most surprising things about [them], perhaps, is that they are not based on theory. There is no position taken on the nature of the problem that they are trying to solve and there is no justification for the particular measures or the numbers in the regulations” (forthcoming). Brunnermeier and his colleagues also acknowledge this fundamental weakness of precrisis prudential regulation: “Regulation has been excessively focused on seeking to improve the behaviour and risk management practices of individual banks, too micro-prudential, for which we would assert that it has slight justification in the theory of regulation. By the same token it has been far too little focussed on wider systemic issues, insufficiently macro-prudential, where it does have a locus” (2009, 24).

regulations that are grounded in a poor theory. Three main arguments may be advanced against the quest for government intervention in general and financial regulation in particular.<sup>18</sup>

### *The Information Argument*

One major problem is the lack of knowledge. Friedrich Hayek (1937, 1945) argued that much knowledge about production methods exists only in a dispersed form among individuals. Individual economic agents, private or public, do not possess a clear picture of the overall system, but only specific knowledge of time and place. The crucial economic problem is to coordinate these bits of separate information, which is precisely what the price system can do. Given that policymakers are not omniscient, they cannot know *ex ante* the optimal pattern of investments and consequently cannot improve the market outcome.

It might be argued that macroprudential policy is more about regulating investors' behavior than about actually allocating investments. Policymakers' main objective ostensibly is to limit negative systemic externalities or to provide incentives for a particular kind of behavior (prudent). However, a number of specific problems need to be considered in this regard.

To start with, why should we believe that government agencies are better equipped to understand the economic conditions and therefore to predict the future? If history is a good teacher, we see that public forecasts have more often than not been overoptimistic and systematically biased (Corder 2005). Private (not government-sponsored) institutions seem to be better at predicting bubbles. Second, how can policymakers know that individuals' expectations are wrong and that people underestimate the risk in their businesses? Simple observations of the present economic malaise (bad equilibrium, lending freeze, nonperforming loans, and so forth) suggest that it is the result of past errors—actions based on wrong expectations—but they provide no information on the current state of expectations. Third, how can policymakers know what the situation would be in the absence of public intervention? Perhaps entrepreneurs have come to a more realistic understanding of borrowing interactions and have found a way to avoid overexposures, so that the allocation of resources will be improved even without government interference. Fourth, how can policymakers be sure that agents have not already incorporated the policy under consideration into their expectations about the future economic environment? All of these questions lack a serious answer or have been omitted completely in the literature on systemic risk.

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18. The first two arguments are generally well known from the literature on robust political economy (e.g., Boettke and Leeson 2004). And all three arguments are rooted in the intellectual tradition of the Austrian school of economics.

### *The Incentive Argument*

People's incentives change when government intervenes and prevents them from engaging in (what is expected to be) mutually beneficial exchange or when political authority punishes certain courses of action—by taxation, for example. For one thing, as Hayek emphasized, financial repression may lead to unintended consequences whose overall impact may be even worse than the original problem the regulation was to solve: “It has been well remarked by the most critical among the originators of the scheme that banking is a pervasive phenomenon and the question is whether, when we prevent it from appearing in its traditional form, we will not just drive it into other and less easily controllable forms” (1937b, 82). Imposing administrative controls on banks may have also nefarious direct consequences. A simple effect of the Basel I prudential agreement was the increase of interbank short-term lending because these loans carried a very low risk weight in the minimum-capital calculation. Moreover, perverse outcomes can easily result from government regulations as it becomes profitable for the private sector to withdraw resources from productive employment and employ them instead in the competition for political favors. Thus, such an institutional setting is itself a source of systemic externalities. In the financial sector, the main cause of the underestimation of risk and overborrowing is arguably the lack of a genuine competitive market. As long as the “too big and too interconnected to fail” consideration is the cornerstone principle of government policy in times of crisis, banks will be more interested in becoming “too big” and in synchronizing their investments than in challenging each other to gain market share.

### *The Calculation Argument*

One cannot save the case for macroprudential policy by assuming that government bureaucrats are both smarter (and better informed) than private entrepreneurs and well intended. Government intervention can be challenged and criticized even if one grants that policymakers are morally and intellectually the best members of society.

The problem with regulation and macroprudential policy is deeper than even most of its critics admit. Starting with Ludwig von Mises ([1920] 1990), contributors to a large Austrian literature have argued that in the absence of private-property rights, informative money prices cannot emerge, and hence meaningful economic calculation is impossible. As Joseph Salerno (1994) explains, the market process transforms various individuals' qualitative knowledge about particular market conditions into quantitative data—that is, market prices. Without such cardinal values, it is impossible to determine the relative profitability of different production processes, and so there is no guide for determining a superior pattern of resource allocation.

At the limit, in a socialist commonwealth the central planner has no rational way to decide whether to shift resources from project A to project B. The planner's intervention is arbitrary because it cannot be subjected to the profit-and-loss



test as private activities are. The problem is also gradual: any discrete decision to socialize investment introduces an island of calculational chaos into the market economy.

Macroprudential policy does not call for public investment, but it does seek to manipulate the risks and returns associated with private investment. For example, promises to bail out entrepreneurs in case they fail to operate profitably—widely considered the sort of prudent, albeit temporarily optimal policy reaction in times of crisis—amount to de facto socialization of losses from private investments. Taxation of credit flows, regulations imposing maximums or minimums on credit conditions, and prohibitions and quantitative restrictions have similar effects, distorting the allocation of resources. With more legislative constraints in an environment already heavily affected by disruptive monetary policy, it will be correspondingly more difficult to discover what the normal (market) values of assets are. As a consequence, long-term planning will be severely undermined as market participants must assume the burden of anticipating policymakers' next move.

## Conclusions

The systemic externality argument does not provide a solid theoretical foundation for a rehabilitation of prudential policy. It does not deal with the critical issue of systemic externalities in policymaking, and it overlooks the fact that what is seen as herd behavior in private markets is often a reflection of the unseen consequences of prudential regulation. The absence of a realistic account of government behavior means that the case for macroprudential government regulations rests not on comparing real markets and real governments, but only on finding that the real market's outcome falls short of a "Nirvana" standard of perfection. The mere existence of financial networks and linkages cannot ipso facto be a good reason for imposing a macroprudential policy because the (supposedly vicious) existing pattern of exchanges is itself the result of political institutions and previous interventions. The rationale for macroprudential regulation and public management of systemic risk fails to deal seriously with the information, incentive, and calculation problems that plague economic policymaking in general. Thus, economists need to revise their perspective on regulation and deal with the fundamental institutional factors that affect economic calculation and risk assessment leading to boom and bust cycles.

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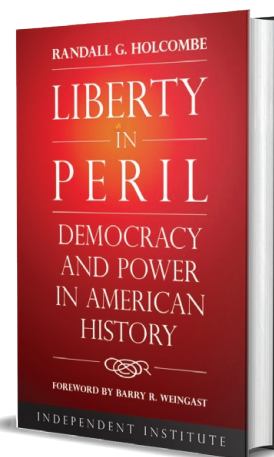
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