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Responding to Systemic Risk[1]

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THE NEED TO CREATE A SYSTEMIC RISK REGULATOR HAS BEEN ACTIVELY DISCUSSED IN RECENT MONTHS. The need is obvious, but a workable problem definition has yet to emerge. What system led to these losses; who controls it; and what exactly can be done about it?

If international financial markets are a single market system, then no single regulator has complete control. This simple statement implies that systemic risk regulation poses a serious boundary-management problem because systems without boundaries are potentially unstable.

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From a policy perspective, recognizing this problem requires that regulators move from a static to a dynamic concept of regulation and understand trade implications. Unlike a static market system where regulators make the rules and control the boundaries, a dynamic system is constantly adjusting to shocks that can either be dampened or amplified by regulatory intervention. Regulators face an inherently more complex task than traditional financial regulation of markets isolated within autonomous administrative jurisdictions.[3] The most obvious trade implication is that all aspects of market policy need to be roughly in synch with our trading partners to avoid setting off disequilibria.

Much remains to be done in preparing to meet this challenge.

PUTTING THE SYSTEM BACK IN SYSTEMIC RISK

A fairly typical, technical definition of systemic risk is the probability that large numbers of firms, especially financial firms, could fail during a given time period. This definition is helpful in identifying systemic losses after the fact that presumably might be modeled. This definition is less helpful in identifying systemic losses before the event because systemic events tend to be historical anomalies.

What is the system in view in financial markets?

One view is to picture financial markets with a sports analogy.[4] Picture three sports games being played in a park: baseball, basketball, and soccer. Each ball-field is separate. On each field, players compete and a referee officiates. Even if the fields overlap slightly, everyone knows their role and the games proceed in a fairly predictable manner.[5] This analogy might suitably depict the U.S. financial markets before 1980 for thrifts, insurance, banking, and securities (see chart, left side). At that point, firms were mostly small relative to their markets, market overlap existed but was minimal, and regulators managed market boundaries in a fairly orderly manner from the 1930s on.

This framework began to change in the 1980s with interest-rate deregulation, changes in the tax code in 1986, and a number of crises—in banking, international lending, thrifts, farm credit, and stock market trading. In the 1990s, we further dismantled the firewalls between investment and commercial banking, interstate banking, thrifts, and insurance.[6] Enterprise risk management (ERM) became

FOOTNOTES:

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[3] To employ an agricultural metaphor, static regulation is like managing cattle with fences, while dynamic regulation is a cattle herding problem.

FOOTNOTES:

[4] Friedman (2002, 15) also likes this analogy.

[5] The objective of the game is to test the skills of the teams and players holding the rules constant. Likewise for capitalist firms, the objective of the competitive market is to assure that the highest rate of return accrues to the most efficient producer.

[6] The U.S. moved to adopt the Japanese model of universal banking in the 1980s. For a taste of the policy discussion, see: (Wellons, 1985).

popular in the late 1990s as firm size rose and the need for more disciplined management strategies became obvious.

Large, interconnected firms now dominate many financial markets and are regular players in international markets. As depicted in the chart (right side), a large bank may be subject to a number of regulators—the Federal Reserve at the holding company level, one or more bank chartering agencies (the Office of Thrift Supervision, the Office of the Comptroller of the Currency, a state comptroller), one or more insurance regulators, the Securities and Exchange Commission, and even the Commodity Futures Trading Commission. In good times, overlapping regulation leads to regulatory specialization and prudential management. In bad times, it may be unclear who has ultimate authority for firm supervision.

Returning to our sports analogy, what would happen if we tried to play soccer, basketball, and baseball on the same field at the same time? What if one of the players looked like the Jolly Green Giant and was able to change the rules of the game?[7] This analogy is not far off because increasing world financial markets behave as a single, integrated market, but with different rules for different players and some players are large enough to influence the rules in multiple counties.

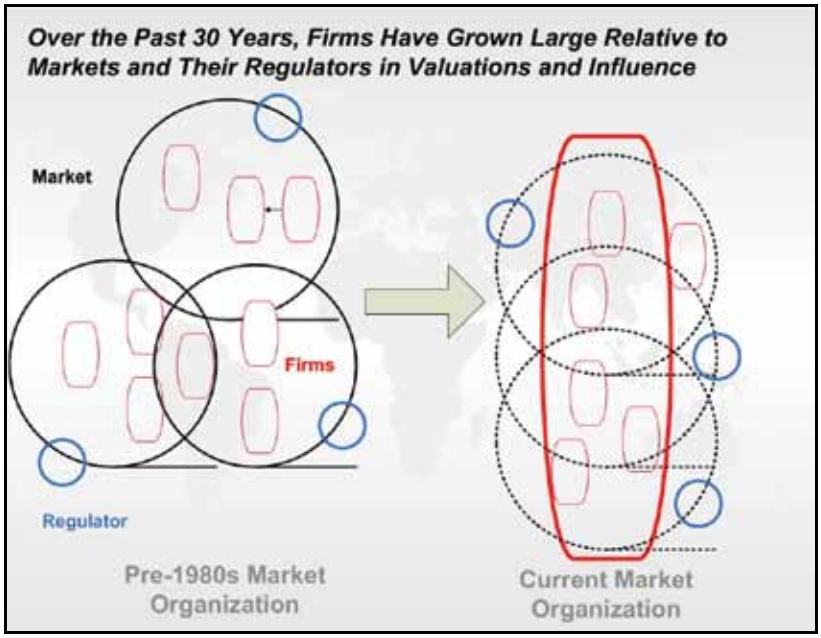
WHAT IS THE SYSTEM?

Financial markets can be pictured as a single, world-wide system.

An important condition for financial system stability is that regulators have effective control over the entire market system. If they do not because the market extends beyond their administrative control or it includes products that they do not understand, then the boundaries of the market system are unclear and stability is not easily assured. In an open, international market, no national government can maintain the boundaries on the market as required in conventional regulation.

FOOTNOTES:

[7] Size is not the only issue, but it is easier to picture. Modern corporations are typically organized as conglomerates and span many markets. AIG was not a big firm so much as a complex and interconnected firm.



In this sense, market instability can be described as a boundary-management problem.

WHAT IS SYSTEMIC RISK?

Systemic risk is the probability of a future loss due to instability in system boundaries which results in large numbers of firm insolvencies.

This definition of the problem poses an implicit measurement problem. Because boundaries in an open system are hard to define, systemic risk cannot be easily measured. Losses would have to be measured by drawing concentric circles of influence around triggering events—an inherently difficult task both conceptually and empirically.

The current market poses increased systemic risk because financial markets can no longer be characterized as stable, well-defined, and easy to supervise. Instead, markets are subject to firms that are large relative to national markets and their regulators, to products that are highly complex, to policy processes that are dynamic, and to world market influences that are mostly unregulated. Open-ended systems are inherently more dynamic (less stable) than closed systems.

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NEED TO DAMPEN PERTURBATIONS

If the objective is to make sure that systems are dynamically stable, then regulators constantly need to dampen perturbations that they do not control. Slowing portfolio turnover rates, for example, would allow regulators more time to respond to perturbations that they observe. How then can a financial system become unstable?

Three mechanisms can lead to system instability.

First, the best-known systemic problem occurs when normally random behaviors are suddenly correlated. The classic case is the run on the bank.[8] Fear leads depositors to run to the bank and withdraw accounts resulting in a liquidity crisis. Unexpected micro-behavior leads to system instability.

Second, the central bank can print too much money leading to inflation or market bubbles. This can lead to instability by masking the true financial position of firms practicing book value accounting and undermining prudent management decision-making. Boundaries between markets become less obvious because weak and strong market players may perceive the same financial results even when the quality of their management is vastly different.

Third, weak policy decisions can lead to boundary management problems. Over-reliance on currency pegs, for example, has frequently led developing countries to pursue trading policies that proved unsustainable and have collapsed unexpectedly. Domestic analogies frequently resolve around weakening of prudential standards—especially loan underwriting policies—which amplify credit cycles.

FOOTNOTES:

[8] Interestingly, financial modeling can also lead to this result because most modelers employ similar methods. Think of a model as a tool for forming market expectations. If everyone has homogeneous expectations, any shock to the system has the potential to generate herd behavior. The 1987 stock market panic is the classic example of this problem.

[9] Limited liability incorporation has always implied that society was willing to absorb systemic risk. This is because the existence of firms to provide products and services is a benefit to society and absorbing this risk as a society implies a preference for a higher rate of economic growth. At what point, however, does the systemic risk premium become large relative to the prospective benefit due to additional economic growth?see: (Wellons, 1985).

LAW OF ONE PRICE

Because financial markets are open to international trade, the law of one price applies. The law of one price comes from international trade theory and it simply states that there can only be one price for a product in the international market, adjusting for policy interventions and accounting for the cost of transportation. The implication is that domestic regulators can by their actions influence not only the variance of the price of a financial product, but also its price.

The original Basle agreement is a case in point. The Basle I agreement in 1988 was motivated by the United States' unhappiness with the lower cost of capital in Japan. International capital standards were imposed to reduce the competitiveness of Japanese banks and, by implication, to raise the competitiveness of U.S. banks. Tinkering with bank capital standards was accordingly motivated by factors having nothing to with prudential bank supervision.

The implication for systemic risk regulation is that each and every action taken by regulators in an open market has the potential to encourage or discourage international competitiveness. For this reason, the increasing importance of systemic risk motivates generally greater sophistication in supervisory oversight. The usual focus only on financial risk taking is no longer sufficient. Good financial supervision policy has to be informed by an understanding of implications for our trading partners.

PRINCIPLES OF PUBLIC REGULATION

In order to reduce systemic risk, we need to recognize that the boundary-management problem and look for ways to dampen perturbations. Reinstituting a static framework is not an option. We want dynamic and innovative financial markets because they contribute to growth in the economy and are necessary for efficient resource allocation in an open system.

To this end, let me propose some principles for public regulation, including:

- Risk taking and economic growth need to be balanced.[9]
- Regulations need to be drafted which encourage competitive markets and improve transparency to keep product costs low.

"In effect, large and complex firms are not too big to fail, but they may be too big to manage and supervise."

- Market power should not be allowed to translate into political power, especially relative to public regulation.
- While adjustment is necessary, the public has an interest in decelerating portfolio turnover rates and encouraging longer term investment.
- Building public confidence in markets, in the quality of financial disclosures, and in the integrity of financial supervision is important not only for domestic, but also international investors.

In the absence of competitive markets, regulation in the classic sense (left side of the flow chart) is almost undoable because of lags in the information and expertise available to the public sector. Competition forces markets to police themselves—a necessary condition when contracts are complex and change quickly. In this respect, the emergence of numerous firms considered to be too big to fail is a key policy problem affecting systemic risk management. In effect, *large and complex firms are not too big to fail, but they may be too big to manage and supervise.*

ROLE OF ENTERPRISE RISK MANAGEMENT

ERM is presumably a key strategy for offsetting aspects of systemic risk arising from undisciplined firm behavior. Legislators and regulators could, for example, require large firms to have a chief risk officer and to offer safe-harbor protections for whistle-blowers.[10] We presumably know how to do these things.

The current crisis has raised questions about whether ERM is a practical solution in view of problems with both the business and political culture. We seem unwilling or unable to impose the management and regulatory discipline required to mitigate systemic threats when profitability would suffer.[11] In theory at least it is possible to write rules that would dis-incent largeness beyond the point of market efficiency. Examples include:

- Require increasingly greater transparency, reporting, and capital.
- Impose additional governance and compensation restrictions on boards to discourage or remove unsound political feedback loops.
- Downsize firms receiving bailouts recognizing that they have proven themselves too big to manage.

However, the question—how big is big?—is unanswerable without setting off a political process even though in principle research could be used to devise an objective criteria.

In the absence of a willingness to answer the question and to impose discipline on these systems, we will continue to suffer systemic losses without much hope of mitigating their effects. ■

References

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FOOTNOTES:

[10] Similar watchdog requirements and safe-harbor protections are needed for other professions involved in managing the integrity of information and decision processes within firms. Promoting enterprise risk management requires safeguards for maintaining management discipline.

[11] In our sports analogy, the markets behaved in the subprime crisis like a soccer game populated with seven-year old players. What one observes is a ball being chased by 22 kids with no one practicing zonal or man-to-man defense. In such a game, referees are hopelessly overwhelmed and cannot provide the usual discipline expected in a soccer match.