

## Daniel Tarullo: Pedagogy and scholarship in a post-crisis world

Speech by Mr Daniel K Tarullo, Member of the Board of Governors of the Federal Reserve System, at the Conference on the New Pedagogy of Financial Regulation, Columbia Law School, New York City, 21 October 2016.

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Let me begin with the most prosaic of observations: The events of 2007–09 will be remembered not as a banking crisis, but as a financial crisis. Neither the origins nor the transmission of stress were limited to the traditional banking system of commercial banks and thrifts. While Wachovia and Washington Mutual failed, and other large depository institutions survived only because of government support, the more spectacular failures were those of nonbank financial firms—including American International Group (AIG), Bear Stearns, Lehman Brothers, and the government-sponsored enterprises Fannie Mae and Freddie Mac. Repurchase agreement (repo) and commercial paper markets depended on government liquidity to continue operating, as did money market funds.

It is thus unsurprising that, in approaching regulatory reform after the crisis, both the official sector and academics have focused more on the financial system as a whole. The shift is apparent in the very diction of post-crisis regulatory initiatives. The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) refers dozens of times to “financial stability” and “systemic risk.” A special regulatory structure has been developed for “G-SIBs”—that is, banks of global systemic importance—and a new category of designated systemically important nonbank financial companies has been created. This shift is also reflected in the titles and intellectual approaches of the two books that were discussed at this conference earlier this morning—that is, *financial* regulation. The authors of both books have eschewed the traditional concentration on banking or securities law alone, and have even moved beyond the more innovative pre-crisis casebooks that focused on the differential regulation of various forms of financial institutions.<sup>1</sup>

This broader category of “financial regulation” as the relevant delineation of an academic subject area seems right to me. For one thing, different forms of financial intermediation are—if not equally attractive for the preferences of specific investors and users of capital—at least significantly overlapping in the roles they can play. Beginning in the 1970s these overlaps multiplied, as the traditional separation of lending and capital market activities—which had been reinforced by the Glass-Steagall Act—began to break down under the weight of macroeconomic turbulence, technological and business innovation, and competition. In the 30 years that followed, these activities were progressively integrated further, both within bank holding companies and beyond, ultimately producing the explosive growth of money market, securitization, and derivative instruments.

More fundamentally, the broader category of “financial regulation” reflects the importance of a macroprudential, or systemic, perspective on the financial system. This means taking account of the relationships among the circumstances and activities of significant financial actors through such channels as funding dependencies and correlated assets. The financial crisis has made what was formerly a minority view—the need to incorporate systemic considerations into the regulatory regime—into something approaching a consensus.

But this shift of perspective—whether in pedagogy or in policy—raises as many questions as it answers. My remarks this morning will detail some of the questions that have recurred in regulatory deliberations in recent years, which I believe to be salient for policy, scholarship, and pedagogy. Then, more briefly, I will make a few observations about teaching and scholarship from the broadened perspective of financial regulation. I should note at the outset that, in the interest of time, I will confine myself to the prudential aspects of financial regulation.

## Thinking Through a More Integrated Approach to Financial Regulation

It is only moderately reductionist to say that, from the New Deal through the crisis, the nature and scope of regulation was determined by the categorization of financial actors. If an entity was classified as a bank or a broker-dealer or an investment company, it was subject to a regulatory regime fashioned to deal with the risks associated with that form of intermediation or, perhaps more precisely, the risks that were *perceived* to be so associated. Such an approach always provided for some interesting legal discussions, since forms of intermediation that served similar purposes and carried broadly similar risks might be subject to quite different regulatory constraints.

But when, as noted earlier, nonbank forms of intermediation began to threaten traditional bank intermediation and when, in what was at least partly an effort to maintain the franchise value of commercial banks, strictures on bank activities and affiliations were significantly relaxed, the foundation of the New Deal regime was substantially eroded. With the notable exception of an increased emphasis on capital, which itself was decidedly microprudential in focus, the prudential regime was not shored up or extended to other kinds of intermediaries, much less replaced—a signal failure that contributed to the severity of the crisis. This may be a good point at which to note in passing that the pre-crisis failures were not limited to the underappreciation of systemic or macroprudential risks. Even from a purely microprudential perspective, for example, the Basel II changes to the capital requirements for large banks were ill-conceived.<sup>2</sup>

A natural reaction to this legacy might be to shift from a regime based predominantly on the form of an intermediary to one built predominantly on its functions. As a practical matter, though, much post-crisis regulatory reform has been directed at strengthening the traditional form-based foundation, though perhaps to a somewhat greater degree in the United States than in some other financially important jurisdictions. And, at a conceptual level, some features of particular forms of intermediaries—such as being an insured depository institution rather than a money market fund—remain rightly important for regulatory purposes. So we will probably continue to build on a form-based regulatory regime, though the potential range of complementary function-based measures could be quite extensive. And, at the very least, analyses based on function rather than form can be valuable heuristic exercises for identifying inconsistencies and lacunae in the financial regulatory system.

A first set of questions follows from just such an identification of gaps in the regulatory system, which are arguably most troubling when they relate to systemic considerations—that is, when a financial intermediary or activity may contribute to risk in the financial system because of the related positions or activities of others. Two critical gaps highlighted by the crisis were the inadequate prudential regulation of the most systemically important financial institutions (SIFIs) and the sometimes nonexistent prudential regulation of the many activities now denominated as “shadow banking.”

The SIFI issue has received the most public attention, often in the context of too-big-to-fail concerns. It was at the center of some of the most notable provisions of the Dodd-Frank Act, many of which follow from the important principle enunciated in section 165 that prudential regulation should become increasingly stringent for institutions of greater systemic importance. Precisely because a satisfactory treatment of this topic would require at least one lengthy speech on its own, it seems reasonably clear that teaching and scholarship should highlight the SIFI problem, appraise the regulatory approach toward such institutions since the crisis, and consider alternatives.

An appraisal of whether more or, as some would have it, fewer measures are needed under the approach taken in the Dodd-Frank Act and related regulatory actions will, I admit, be a little challenging. Some measures—including stress testing, capital requirements, and resolution planning—are still in train, and others may be forthcoming as a result of the research program

the Federal Reserve is launching to consider the potential for additional explicitly macroprudential features in capital and liquidity stress testing.<sup>3</sup> Still, I think it is feasible to teach and assess the general approach of using multiple regulatory tools that impose requirements that force systemically important firms to internalize the costs their distress or failure would impose on the financial system, and then leaving the regulated firms to make decisions as to how to alter their size and activities in order to make themselves most profitable within the stricter regulatory constraints. This approach can be usefully compared to structural or other approaches to the SIFI issue, such as caps on overall size or reimposition of the Glass-Steagall separation of commercial and investment banking.

In addressing this topic, I have found it useful to try to specify as clearly as possible the adverse systemic consequences that may be feared by public authorities confronting the possible failure of a systemically important institution. This exercise helps identify the regulatory measures that would be most effective in promoting the resiliency and orderly resolvability of such institutions. On virtually any short list of concerns would be reliance on short-term wholesale funding sources, which may dry up quickly under stressed conditions. A firm with inadequate sources of liquidity may then be forced into responses with systemic implications, such as fire sales of assets and termination of credit extensions to their own counterparties.

The other major vulnerability revealed by the financial crisis was systemic risk that may be created through so-called shadow banking activities—that is, credit intermediation outside the prudentially regulated banking system. Here is where the integration of traditional lending and capital markets is most clearly in evidence, albeit in quite different ways. In truth, many shadow banking channels passed through prudentially regulated institutions, as with the notorious structured investment vehicles and asset-backed commercial paper conduits. Changes in accounting and in bank capital and liquidity requirements have done a great deal to guard against a recurrence of such patterns in the future, though continued monitoring will be needed to prevent the development of other forms of support that elude these regulatory measures.

Of greater interest for financial regulation going forward will be the constantly changing, and largely unrelated, set of intermediation activities pursued by very different types of financial market actors. While the extent of shadow banking has significantly diminished since the crisis, there is good reason to believe that it will grow in the future. Indeed, the very rigor of new regulations applicable to firms within the prudential perimeter may well incentivize more innovation outside that perimeter. It will be essential to disaggregate all the activities that might be characterized as shadow banking in order to regulate those that pose risks to the financial system while not unduly burdening forms of credit extension that may more or less benignly help meet the savings and investment needs of households and businesses. This task is perhaps summed up by the fact that activities which in one context are called “shadow banking” are in other contexts called “market-based financing.”

One might fairly characterize the current regulatory approach to shadow banking as one that examines, in turn, significant forms of credit intermediation outside the banking system and determines whether some type of prudential regulation is needed. In the terms I introduced a moment ago, regulators look at a particular form, such as money market funds. If no significant risks to financial stability are identified, or if some regulation to counteract those risks is implemented, the form of intermediation may then be thought of as relatively safe (at least from a systemic perspective) market-based finance. The virtue of this approach is that it allows for a very tailored regulatory response. But, as you can imagine, this approach necessarily involves a good bit of active oversight on an ongoing basis, both of measures previously taken and of new channels of nonbank intermediation as they arise.

An alternative approach would be to define shadow banking in broadly applicable terms, with specified regulatory consequences that ensue more or less automatically, regardless of whether the entity conducting the shadow banking is otherwise subject to prudential regulation. To date,

the attempts I have seen along these lines look likely to entail substantial overinclusion, substantial underinclusion, or regulatory consequences that are inappropriately uniform. And, in the United States and other jurisdictions, it is not clear that authority exists to take this approach, either by an individual regulatory agency or even collectively. But, as with hypothesizing a functionally-based regulatory system more generally, hypothesizing a broadly applicable regulatory definition can usefully inform the direction of the current regulatory approach of activity-by-activity scrutiny.

Of course, while the current approach allows for an ad hoc consideration of the particulars of each activity, it still requires at least a general filter for identifying sources of systemic risk. My own sense is that the greatest risks to financial stability lie in activities with vulnerability to funding runs and asset fire sales. These may be associated either with some of the same kinds of short-term funding found in systemically important banking organizations or in the potential for rapid and substantial investor redemptions of their holdings in certain investment funds. Where substantial leverage—either nominal or synthetic—is also present, the risks are only greater. Efforts to calibrate these, and possibly other, risks will remain an important feature of shadow banking regulation, along with refining ways in which such risks may be mitigated.

Before turning to another, though related, set of questions, let me digress a bit to note another implication of a regime in which regulation is developed with a view to risks to the financial system as a whole. The motivation both for more stringent regulation of systemically important firms and for regulation of shadow banking arises in large part from the potential contribution of each to systemwide contagion. A complementary motivation for some macroprudential measures is the importance of maintaining effective financial intermediation even during a period of severe recession or financial stress. But this reasoning should, I think, move us toward less regulatory stringency for some parts of the financial system, as well as greater stringency in other parts. For example, as banking regulation is strengthened to take account of the progressively more systemic significance of larger or more complicated institutions, there is a good argument for a less demanding regime for smaller institutions whose contribution to systemic contagion would almost surely be somewhere between modest and inconsequential. This observation raises the issue, which I have discussed previously, as to whether even within a particular form-based area of financial regulation we should be moving toward quite different regimes.<sup>4</sup>

The next set of questions raised by a systemwide perspective on financial regulation can be described much more briefly. It pertains to the appropriate target once a need for regulation has been established. The selection among, and mix of targets for, systemically-motivated regulation will be an important determinant of the character of financial regulation in the years ahead.

The relevant choices here are frequently identified in binary terms—that is, the regulation may be directed either at financial institutions or financial activities. This leads to confusion because, for example, what has been described as an “activities-based” approach to dealing with the potential risks posed by certain asset management activities actually involves regulation of the firms involved in those activities, such as through liquidity and risk management requirements. I suspect this confusion has arisen because, in the minds of some, “institution-based” regulation has become close to synonymous with banking regulation. Thus those opposed to, say, capital requirements for a particular kind of intermediary will advocate for activities-based regulation.

My own sense is that it is useful to distinguish three possible targets of regulation—specific financial institutions, financial business models, and financial transactions. Most financial regulation, historically and contemporaneously, falls within what I would describe as business model regulation. So, for example, any entity engaged in the “business of banking” is subject to the panoply of requirements found in Title 12 of the U.S. Code. Similarly, the requirements imposed on money market funds by the Securities and Exchange Commission (SEC), and being considered for application to asset management activities, are also targeted at a business

model, even though the kind of regulation is quite different from that applicable to insured depository institutions.

In contrast, my taxonomy would categorize regulation as targeted at a specific institution when it applies because of the particular characteristics of that institution, not simply because of its business model (or models). Thus, the designation of a nonbanking firm as systemically important by the Financial Stability Oversight Council (FSOC) under the authority of the Dodd-Frank Act is made because the size, portfolios, activities, and other characteristics of the specific firm are found on an individualized basis to meet the statutory standard of nonbank systemic importance. Similarly, the determination of the capital surcharge applicable to SIFIs is made on the basis of the particular “systemic footprint” of the firm.

Finally, a transaction-based requirement is one that would be binding on anyone involved in such a transaction (with perhaps some de minimis exceptions), regardless of their status as a particular kind of financial intermediary. An example would be the minimum margining requirements on securities financing transactions that have been agreed to at the Financial Stability Board (FSB), which the Federal Reserve will be proposing through a rulemaking next year.

Of course, a particular firm may be a target under two, or possibly all three, approaches. But it is important to identify clearly why a regulation is deemed necessary and, accordingly, how it should be targeted. In the framework I have set forth, for example, institution-specific measures may be thought of as those needed to protect financial stability even though a firm is already subject to business model regulation. And a transaction-based measure may be thought of as one needed to protect financial stability regardless of whether all entities that might engage in such a transaction need to be regulated because of the risks associated with their business models.

My third set of questions pertains to the scope and allocation of government authority for financial regulation. With some relatively modest exceptions, authority in the New Deal regime was determined based on the distinct regulatory aims established for different kinds of financial intermediaries, the oversight of which was assigned to different agencies. The allocation basically followed the Glass-Steagall Act’s separation of commercial and investment banking. But, over time, both markets and regulatory change complicated this fairly simple picture: markets complicated this as both banks and broker-dealers invented new ways of doing business that allowed each to take on risks previously reserved for the other, and regulatory changes saw shifts in the relationship of the Federal Reserve’s authority as holding company regulator and that of the SEC or Commodity Futures Trading Commission as primary regulator of important nonbank holding company subsidiaries.

The additional regulatory authorities and mandates in the Dodd-Frank Act have created a quite different landscape from the pre-crisis regulatory terrain. Many of these authorities and mandates are explicitly tied to financial stability goals—a sharp departure from pre-crisis circumstances. Many must be exercised jointly by two or more agencies—in rulemakings, implementation, or both. And, of course, the Dodd-Frank Act created the FSOC—an unusual entity in U.S. administrative law.

Appreciating this new configuration of authorities is important as a positive matter for understanding how regulation will be shaped over time and identifying possible remaining gaps in regulatory authority. It is also important as a normative matter in considering whether the allocation of authorities proves optimal over time. Here one would want to look at factors of efficacy, expertise, and excessive concentrations of authority, among others. In this regard, I would suggest that a comparison of the reconfigured financial regulatory system in the United Kingdom serves as an instructive counterpoint to the U.S. system.

## Some Thoughts on Post-Crisis Scholarship Topics and Pedagogy

### *Scholarship*

Insofar as I have succeeded in identifying questions that will be central to the further development and refinement of a regulatory system that takes account of the financial system as a whole, all of what I have already said should be fertile ground for legal and economic scholarship. However, not every important topic for research fits neatly into one of these cross-cutting issues, so let me mention some policy issues that may especially benefit from academic work.

First is the issue of measures and standards for evaluating systemic risk. Numerous financial economists have done very useful work in creating metrics for the systemic importance of financial institutions—a literature that has already informed regulatory efforts to designate and categorize such institutions and, as it develops further, will surely continue to do so.<sup>5</sup> But there are also specific legal standards, such as the financial stability factor now mandated in the review of proposed bank and holding company mergers, that could also benefit from academic work.<sup>6</sup>

Second is the set of issues associated with corporate governance in a prudentially regulated institution. John Armour, Lucien Bebchuk, Jeff Gordon, Jon Macey, and others have already tackled some of these issues—such as incentive compensation arrangements, the appropriate duties for boards of directors in such institutions, and the appropriate scope of supervisory expectations for boards.<sup>7</sup> These issues remain worthy of discussion. The preceding questions and others, such as the advisability of a requirement for a non-executive chair of the board, have only grown in significance since I spoke to this topic a couple of years ago.<sup>8</sup>

Third is the subject of overseeing the regulators, which includes such matters as the advisability of publicly releasing some or all supervisory ratings and informal enforcement actions. You may recall that our decision in 2009 to release the results of our stress test—a practice that we have continued in subsequent years—was quite controversial, but has proven to be enormously helpful both for giving investors in the firms and the public a better sense for how the Federal Reserve is conducting its capital regulation policies.

Fourth is the rather broad topic of the implications of technological innovation for financial services regulation and, indeed, for the competitive position of insured depository institutions. Many innovations now promising dramatic change in the way that credit is extended will probably end up having considerably less impact. But some could prove significant. I suspect that innovations in payments systems are quite likely to have far-reaching effects, including the growth of what might be termed the “shadow payment system” at the retail level. Here, by the way, I am departing a bit from my self-limitation to prudential issues, since consumer protection issues around alternative payments systems may be quite significant.

Fifth is the organization of the international system for financial regulation. The issues here are in some sense familiar from pre-crisis days: To what degree can host countries responsibly rely on home jurisdiction consolidated regulation and supervision of large and internationally active financial institutions? How should international cooperative efforts to set minimum prudential standards be brought together with domestic legal processes for financial regulation? These familiar questions have taken on new significance in light of the post-crisis emphasis on the financial system as a whole, including the varieties of shadow banking. So too the differing circumstances and legal systems of notable financial jurisdictions, which raise anew the question of how much international harmonization is ultimately desirable. The creation of the FSB, and greater emphasis on international standards in the International Organization of Securities Commissions and the International Association of Insurance Supervisors have substantially changed the relevant international organization chart from the days when only the Basel Committee on Banking Supervision produced such standards.

## **Pedagogy**

Having not taught financial regulation since the interesting months of the fall 2008 semester, I am probably at a comparative disadvantage to most of this audience in reflecting on the new pedagogy of financial regulation. However, that will not stop me from making a couple of comments—though only a couple—on the core topic of this conference.

First, I would urge everyone teaching in this area to place much more emphasis on the liability side of the balance sheets of financial institutions. Traditional banking law casebooks gave some treatment to deposits and deposit insurance, which provided a good point in a course to engage students on the subject of moral hazard. But the whole concept of runnable liabilities—whether uninsured deposits, repo, commercial paper, or other forms—was left largely untouched, even for commercial banks, much less for broker-dealers like Lehman Brothers or insurance holding companies like AIG. And, of course, in the pre-crisis period there was no quantitative liquidity regulation to include in a casebook.

Yet the financial crisis was, at least in its more virulent periods, as much a funding crisis as it was a solvency crisis. Indeed, the very fact that it may be difficult to distinguish clearly between the two is indicative of the primacy of funding to the crisis. Particularly in the context of systemic risk, funding and liquidity issues accordingly deserve something close to the attention devoted to capital if students are to understand the origins of the crisis, the regulatory response, and the challenges of regulation going forward. A focus on liabilities will help students understand why, for example, the Federal Reserve plans on setting capital standards differently for traditional insurance companies (that is, not the pre-crisis AIG) than for bank holding companies and their affiliates. An emphasis on runnable funding will help them see why systemic concerns extend beyond SIFIs as such. It also provides a good occasion for introducing students to the role of a lender of last resort, now perhaps more of a contested concept than had previously been assumed.

I have considerably less conviction regarding my second comment, but I offer it anyway, perhaps to contribute to the pedagogical discussions that will be bred by this conference. Let me preface the observation by noting that were I to teach financial regulation again, the course would have to differ markedly from that fall 2008 version. Still, I wonder whether students will acquire a strong enough foundation for understanding how a financial regulatory system works in a course that is taught essentially as a survey of financial regulatory issues, without some point of reference to which they can return as they proceed through the course (or, more probably, as they cram for the exam). I was always struck by how much of a conceptual anchor for a banking law course was provided by the famous Corrigan/Aspinwall debate on whether banks were “special.”<sup>9</sup> One could note, for example, that Aspinwall’s observation that banks were becoming less special might have suggested that other forms of intermediaries should be *more* regulated, rather than the implication that banks should be less regulated. Indeed, my rereading of the companion pieces suggests that despite—or maybe because of—the fact that the debate is now more than 30 years old, it might profitably introduce a course that ventures well beyond traditional banking regulation, by its invitation to consider why we regulate in the first place.

## **Conclusion**

I began teaching in this area just as the Gramm-Leach-Bliley Act was culminating three decades of bank deregulation. At the time, I suggested to students that the regulation of banking organizations was in an unstable equilibrium. While I initially meant the adjective mostly to refer to doctrine, it became progressively more applicable to the financial system itself. The implementation of the regulatory aims established after the crisis, along with the inevitable refinements of what has already been done, will continue to play out for some time. The upshot, I think, is both an unusually important time to be researching and writing in this area and an unusually challenging time to be teaching it. This conference has been an excellent occasion for

helping to shape both a research agenda and a new pedagogy.

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- <sup>1</sup> Howell E. Jackson and Edward J. Symons, Jr. (1999), *Regulation of Financial Institutions* (St. Paul, MN: West Group).
  - <sup>2</sup> See Daniel K. Tarullo (2008), *Banking on Basel: The Future of International Financial Regulation* (Washington, DC: Peter G. Peterson Institute for International Economics), pp. 178–82.
  - <sup>3</sup> See Daniel K. Tarullo (2016), "[Next Steps in the Evolution of Stress Testing](#)," speech delivered at the Yale University School of Management Leaders Forum, New Haven, CT, September 26.
  - <sup>4</sup> See, e.g., Daniel K. Tarullo (2014), "[Rethinking the Aims of Prudential Regulation](#)," speech delivered at the Federal Reserve Bank of Chicago Bank Structure Conference, Chicago, IL, May 8.
  - <sup>5</sup> Tobias Adrian and Markus K. Brunnermeier (2016), "[CoVaR](#)," *American Economic Review*, vol. 106 (July), pp. 1705–41; Fernando Duarte and Thomas M. Eisenback (2013; revised 2015), "[Fire-Sale Spillovers and Systemic Risk](#)," *Federal Reserve Bank of New York Staff Report*, no. 645; and Christian T. Brownlees and Robert F. Engle (2016), "SRISK: A Conditional Capital Shortfall Measure of Systemic Risk," available at [ssrn.com/abstract=1611229](https://ssrn.com/abstract=1611229) or [dx.doi.org/10.2139/ssrn.1611229](https://dx.doi.org/10.2139/ssrn.1611229).
  - <sup>6</sup> Daniel K. Tarullo (2012), "[Financial Stability Regulation](#)," speech given at the University of Pennsylvania School of Law Distinguished Jurist Lecture, Philadelphia, PA, October 10.
  - <sup>7</sup> See, e.g., John Armour and Jeffrey Gordon (2014), "Systemic Harms and Shareholder Value," *Journal of Legal Analysis*, vol. 6, no. 1 (Spring), pp. 35–85; Lucian A. Bebchuk and Holger Spamann (2010), "Regulating Bankers' Pay," *Georgetown Law Journal*, vol. 98, no. 2, pp. 247–87; Jonathan Macey and Maureen O'Hara (2016), "[Bank Corporate Governance: A Proposal for the Post-Crisis World](#)," Federal Reserve Bank of New York, *Economic Policy Review*, vol. 22, no. 1 (August), pp. 85–105.
  - <sup>8</sup> Daniel K. Tarullo (2014), "[Corporate Governance and Prudential Regulation](#)," speech given at the Association of American Law Schools 2014 Midyear Meeting, Washington, DC, June 9.
  - <sup>9</sup> See E. Gerald Corrigan (1982), "Are Banks Special?" *Federal Reserve Bank of Minneapolis Annual Report*, available at [www.minneapolisfed.org/publications/annual-reports/are-banks-special](http://www.minneapolisfed.org/publications/annual-reports/are-banks-special); and Richard Aspinwall (1983), "On the 'Specialness' of Banking," *Issues in Banking Regulation*, vol. 7 (Autumn), pp. 16–22.