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# Principles of Financial Regulation

Law Working Paper N° 277/2014
Revised June 2016

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## Abstract

Inadequate regulation of the financial system is widely thought to have contributed to the financial crisis. The purpose of the book is to articulate a framework within which financial regulation can be analysed in a coherent and comprehensive fashion. The book's approach is distinctive in several respects. First, it views the subject from a multidisciplinary perspective of economics, finance and law. Second, it takes a holistic approach, starting from the premise that financial regulation is best understood in the context of an appreciation of the entire financial system. Third it is international and comparative in nature, contrasting approaches, in particular in the EU and US. The book focuses on underlying policies and the objectives of regulation, using specific regulatory measures as examples. This allows the reader to compare choices in respect of the same policy issue in different regulatory frameworks. This introductory chapter sets out the motivation for the project and outlines the book's analytic framework and contents.

Keywords: Financial regulation, Financial crisis, Banking regulation, Securities Regulation, Financial markets, Shadow Banking, Macro-Prudential Regulation, Principles of Financial Regulation

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# Principles of Financial Regulation

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# 1
# Introduction

> Over the course of this crisis, we as an industry caused a lot of damage. Never has it been clearer how mistakes made by financial companies can affect Main Street, and we need to learn the lessons of the past few years.
>
> Brian T. Moynihan, CEO and President, Bank of America
> (Testimony to Financial Crisis Inquiry Commission)

The financial crisis of 2007–9 was the most serious economic disturbance in the post Second World War era. It caused a major contraction in economic activity in developed countries around the world with estimated losses of more than $15 trillion—approximately one-fifth of the value of total world annual production.[1] Firms cut investment and laid off workers, causing substantial increases in unemployment and significant economic hardship from which many economies are only just now beginning to recover. National efforts to mitigate the financial crisis triggered a follow-on sovereign debt crisis in the Eurozone, which even now is a source of economic instability.

The questions that many people have been thinking about since the crisis are why it happened, and what can be done to prevent it happening again. One of the underlying causes is widely thought to have been a failure of financial regulation—a failure to control the misconduct and excesses in which financial institutions were indulging prior to the crisis. Financial regulation was comprehensively outmanoeuvred by financial markets and institutions, leaving it exposed to the failures and contagion that occurred in 2008. While this book is about financial regulation, rather than the financial crisis itself, the fact that there was a serious failure of prevailing wisdom provides a strong motivation for writing it. A reconsideration of the nature and conduct of financial regulation is required, which is what this book seeks to do. Its goal is to articulate a framework within which financial regulation can be analysed in a coherent and comprehensive fashion.

## 1.1 The Changing Financial System

Traditionally financial regulation has distinguished between banks and securities markets. *Bank regulation* has a long history, and in many countries developed out of informal central bank oversight. Its development was rather more explicit in the US, reflecting political compromises in a large federal system. Three key steps were: first,

[1] See eg A Yoon, 'Total Global Losses from Financial Crisis: $15 Trillion', *Wall Street Journal*, *Real Time Economics Blog*, 1 October 2012; World Bank, *The World at a Glance*, http://data.worldbank.org (World GDP estimate $77.87 trillion) (accessed 18 August 2015).

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the national bank chartering and regulation that arose as a by-product of the Civil War; second, the establishment of the Federal Reserve System in 1913; and third, the New Deal reforms in response to the banking crises of the Great Depression. In particular, the Banking Act of 1933 created federal deposit insurance and the Federal Deposit Insurance Corporation ('FDIC') to resolve failed banks, and the contemporaneous Glass–Steagall Act separated commercial from investment banking.

This separation of 'banking' and 'market' activity was accompanied by the advent of securities regulation as a separate field. The Wall Street Crash of 1929 prompted the Securities Act of 1933 and the Securities Exchange of 1934, which regulated the interstate sale and trading of securities, respectively, and created the Securities and Exchange Commission ('SEC') to implement and enforce the regulatory scheme. So from the 1930s onward, there was a clear partition between the two fields in the US.

The intellectual framework of these discrete categories of regulation has been very influential internationally. At the end of the twentieth century, another group of states embarking on a project of building a single market—the European Union (EU)—likewise produced distinct streams of banking regulation and securities regulation, although there was never—at least not yet—any formal separation of banking and securities activity.

Securities law and banking regulation have undergone significant reform over the subsequent eighty years (not least with the repeal in 1999 of the Glass–Steagall Act's separation requirements), but the fundamental regulatory divide between securities markets and banking remains intact and is the basis of modern financial regulation in the US and many countries around the world.[2] Yet while the conceptual framing of financial regulation has remained the same, the financial system has not. There have been profound changes, most significantly over the last few decades.

First, there has been a significant shift in the way funds are channelled from suppliers to users of capital. Commercial banks have been and remain a fundamental route through which this occurs via the channelling of bank deposits from savers to borrowers. Banks remain a particularly important source of finance for small and medium-sized firms[3] and for the funding of certain types of activities, most notably large projects. But developed securities markets allow investors to enjoy the liquidity of bank deposits (ie the ability to convert their investments rapidly into cash) through selling their securities to other investors rather than through repayments of deposits from banks. While the relative size and significance of banks versus securities markets

[2] The UK sought to make a far-reaching change to the structure of its financial regulation at the turn of the century, by creating a single 'super-regulator' with responsibility for all aspects of financial regulation—the Financial Services Authority ('FSA'). This was done in explicit recognition of the increasing level of interconnection in the financial system. Unfortunately, while the regulators were merged, the intellectual frameworks of banking and securities regulation were not. See text to nn 17–18. The case of the FSA is discussed further in Chapter 27, section 27.2.3.

[3] See AM Robb and DT Robinson, 'The Capital Structure Decisions of New Firms' (2014) 27 *Review of Financial Studies* 153. See also Chapter 2.

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varies appreciably across countries,[4] many countries have witnessed a substantial growth in the proportion of market-based finance over the last twenty years.[5]

This secular growth in the importance of financial markets has been driven by several factors. The first is demography. People have been living longer—average life expectancy at birth today in the developed world is 80,[6] as compared with 68 in 1950.[7] When state retirement provision was introduced in the UK, it was typically paying for just a few years of retirement; now, it must cover on average more than a decade. At the same time, with people having fewer children, the capacity to maintain or improve retirement payouts from traditional state-run pension schemes funded out of current taxes has been undermined. Instead, people have increasingly turned to the private sector for pension provision through collective savings vehicles offered by pension funds and insurance companies and, especially in the US, mutual funds. These financial intermediaries substitute for banks in the provision of credit to the real economy. Instead of 'bank loans', they purchase debt securities issued by borrowers. Thus the demand for pension provision has created both a new class of financial intermediaries that operate through securities markets and a new supply of funds available to market-based finance.

Second, for most of the twentieth century, investments in equities (shares) greatly outperformed investments in debt (bank deposits and bonds).[8] There are several reasons for this, one of which was the erosion of the value of fixed interest investments in periods of high inflation during the twentieth century and the high real returns earned on corporate investments during a period of rapid (re)industrialization and the introduction of mass production.[9] The higher returns on equity encouraged a shift from saving via bank deposits into equity markets, which in turn further fuelled the increase in equity values.

Third, there have been substantial technological advances that have reduced the costs of financial transactions. In particular, the development of computers and new communications media has dramatically enhanced the power and speed with which investors can trade on financial markets. In many cases, these developments have also improved the transparency of market trading and increased information flows to market participants. However, there are concerns that the private benefits that institutions derive from trading (sometimes milli- or nano-seconds) faster than others may exceed the benefits to society as a whole from the increasing speed of trades.

Fourth, globalization has had a transformative impact on finance. Thirty years ago 'the financial system' would have been interpreted by most readers as relating to domestic

[4] See F Allen and D Gale, *Comparing Financial Systems* (Cambridge, MA: MIT Press, 2000).

[5] See L Gambacorta, K Tsatsaronis, and J Yang, 'Financial Structure and Growth', *BIS Quarterly Review*, March 2014.

[6] OECD, *Health: Key Tables from OECD*, Table 1.1, Life Expectancy at Birth, Total Population.

[7] Office for National Statistics (UK), *Mortality, 2010-based NPP Reference Volume* (2012), 2 (UK life expectancy at birth 68 in 1950); US Census Bureau, *Statistical Abstract of the United States: 1999*, Table 1421, Expectation of Life at Birth (US life expectancy at birth 68 in 1950).

[8] For example, $1 invested in a deposit account in 1926 was worth $22 in 2012; $1 invested in investment grade bonds was worth $84; $1 in large market capitalization US stocks was worth $3,189; and $1 in small market capitalization US stocks was worth $14,370—653 times the investment in a deposit account!

[9] See eg B Eichengreen, *The European Economy Since 1945: Coordinated Capitalism and Beyond* (Princeton, NJ: Princeton University Press, 2006).

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institutions and markets; today it is typically regarded as referring to a global network. Relaxation of national capital controls has contributed to this process but so too have ambitious programmes of economic integration, such as those undertaken by the EU. The result has been larger financial systems, greater competition, and accelerated processes of change with wider potential ramifications for national and international economies.

International capital flows have encouraged the emergence of new markets for managing associated risks in currencies and interest rates. Firms are now able to raise capital on markets around the world, which has promoted new instruments and institutions for managing risks and raising finance on a global basis. Differential growth rates have generated global imbalances, with some countries having large surpluses and others large deficits that have contributed to substantial capital flows.

Globalization has also created particular regulatory challenges because global spill-overs and linkages mean that states can no longer authoritatively regulate even their own financial system, let alone the global financial system as a whole. International financial regulation depends upon a unique set of agreements and understandings among governments, central banks, and financial regulators that, with some exceptions (for example, within the EU), are legally unenforceable.

We argue in this book that these changes in the nature of financial systems—the growth of markets in relation to financial intermediaries and the internationalization of markets—have had profound effects on the risks inherent in these systems. These changes in risks in turn require a different structure of financial regulation from that which was established in the first half of the twentieth century and, in particular, a rethink of the historical separation between securities markets and banking regulation and between the domestic activities of national regulators.

## 1.2 The Genesis of the Financial Crisis

The growth in international financial markets meant that globalization fostered an appearance of greater diversification in risk bearing. Alan Greenspan, then Chairman of the Board of Governors of the US Federal Reserve, opined in 2004 that:

> [n]ot only have individual financial institutions become less vulnerable to shocks from underlying risk factors, but also the financial system as a whole has become more resilient.[10]

Such sentiments were widely shared at the time. When Raghuram Rajan, then a Professor of Finance at Chicago's Booth Business School (and currently Governor of the Reserve Bank of India) suggested at a central bankers' conference in 2005 that financial globalization might have entailed costs as well as benefits, his presentation was ridiculed.[11]

As we now know, the complacency was misplaced. The changes in the global financial system sowed the seeds of a number of problems. First, the consolidation, and global

[10] A Greenspan, Remarks at American Bankers Association Annual Convention, New York, 5 October 2004 (available at http://www.federalreserve.gov/BOARDDOCS/Speeches/2004/20041005/default.htm).

[11] RG Rajan, 'Has Financial Development Made the World Riskier?' (2005) *Proceedings, Federal Bank of Kansas City* 313.

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reach, of large financial institutions meant that their individual stability became more important for the global system as a whole. Second, financial institutions' response to competition from markets was to refocus their business on market activities, in particular, the provision of underwriting services to firms accessing capital markets, the maintenance of inventories of financial assets to provide market-making (dealer) services, and engaging in trading on their own account ('proprietary' trading). Third, the development of new markets for risk failed to go hand in hand with any market or regulatory mechanism to identify the ultimate risk bearers within the system. Policymakers assumed that market finance implied diversification. But fourth, although these new interactions were market-based, they operated quite differently from the stock markets that policymakers understood. Stock markets transfer securities to investors who value them most highly and, in the process, aggregate information about their value. The new markets, such as over-the-counter (OTC) derivatives, did not work in the same way, because they were characterized by incomplete transfer of risk. In periods of extreme stress, these incomplete risk transfers operated to link the fortunes of significant participants. As a consequence, global financial institutions not only failed to disperse risk through the financial system, but also aggregated it amongst themselves. Fifth, the scale of conflicts of interest, manipulation, and outright deceit far exceeded what anyone had thought conceivable in institutions and markets that previously had been held in high regard.

Matters were further compounded by the influx of capital triggered by both global demographics and trade imbalances. Together, these created a powerful demand for high yielding but safe assets. To meet demand, financial and legal innovation delivered new types of financial contract. Amongst these, the best known was 'securitization': the transfer of packages of bank loans, especially mortgages, to free-standing 'special investment vehicles', which issued securities that were then sold to investors.

In principle, the parcelling together of a diversified portfolio of loan assets helped to lower investment risk; but the really important innovation lay in the marketing of a series of different 'tranches' of securities in the relevant entities, each carrying a different priority. Cash flows received from all the loans in the portfolio could be rearranged to give structural priority to payments owed to the senior tranche, creating a 'waterfall' that shifted the default risks within the portfolio to the junior tranches. These techniques permitted financial alchemy: the transformation of high-risk loan assets into low-risk senior securities.[12]

Reliance on financial innovations that promise much, through mechanisms that no one understands, has a history of ending badly. Securitization massively increased the complexity involved in calculating the risk profiles of ultimate securities.[13] This meant that even sophisticated investors were unable to undertake meaningful risk assessments. Instead, they relied on specialist risk assessors—the credit rating agencies (CRAs)—whose ratings turned out in many cases to be seriously in error.

[12] E Benmelech and J Dlugosz, 'The Alchemy of CDO Credit Ratings' (2009) 56 *Journal of Monetary Economics* 617.

[13] See R Bartlett, 'Inefficiencies in the Information Thicket: A Case Study of Derivatives Disclosure During the Financial Crisis' (2010) 36 *Journal of Corporation Law* 1; K Judge, 'Fragmentation Nodes: A Study in Financial Innovation, Complexity, and Systemic Risk' (2012) 64 *Stanford Law Review* 657.

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In part this was due to conflicts of interest: credit rating agencies were paid by the very firms—the underwriters—that packaged and promoted the securitizations. The business of rating such securitizations was lucrative and the underwriters could shop among the rating agencies for the best rating.[14] Moreover, the banks setting up securitized portfolios had incentives to offload loans that were of lower quality than those they retained on their own balance sheets.[15]

One of the reasons securitization played a major role in the financial crisis was the unanticipated feedback effects of an influx of capital on underlying real estate markets.[16] Alongside a US Government policy of seeking to extend home ownership to previously excluded individuals, securitization facilitated a significant increase in mortgage lending, especially to riskier borrowers. This was because the 'alchemy' meant that even investors seeking safe investments could nevertheless supply funds to risky markets.

The influx of funds stimulated a historically unparalleled nationwide rise in housing prices.[17] By shifting mortgages from regional to national markets, securitization changed property price movements from being local to being national. As a consequence, the conventional wisdom that geographical distributions of residential real estate investments were an effective way of lowering overall risk proved inaccurate. But investors did not appreciate this, with the result that risk in securitized real estate transactions was significantly mispriced. In short, securitization, which purported to add stability through diversification, instead *intensified* risk by creating a new source of correlation. Moreover, the securities were bought by yield-hungry, safety-seeking investors around the world, especially in Europe, which elevated the significance of problems in this market to a global level.

It was a fall in US real estate that put a spark to this combustible mixture. At the end of 2006, investors began to realize that the scale of defaults on US subprime mortgages greatly exceeded expectations. For several months, everything proceeded in a state of suspended animation, rather like Wile E Coyote, the children's cartoon character who runs off a cliff but continues to spin his legs mid-air—until, that is, he looks down. Market participants began to appreciate the gravity of their situation in July 2007, when bank stock prices fell dramatically as Bear Stearns, the US investment bank, announced it was closing two funds it had promoted, which had invested heavily in subprime assets.[18] In August 2007 the French Bank BNP Paribas halted withdrawals from three

[14] See generally LJ White, 'Markets: The Credit Rating Agencies' (2010) 24 *Journal of Economic Perspectives* 211.

[15] BJ Keys, T Mukherjee, A Seru, and V Vig, 'Did Securitization Lead to Lax Screening? Evidence from Subprime Loans' (2010) 125 *Quarterly Journal of Economics* 307. Interestingly, this problem appears to have been avoided in relation to securitizations of corporate loans (so-called 'CLOs'): E Benmelech, J Dlugosz, and V Ivashina, 'Securitization without Adverse Selection: The Case of CLOs' (2012) 106 *Journal of Financial Economics* 91.

[16] See BS Black, CK Whitehead, and JM Coupland, 'The Nonprime Mortgage Crisis and Positive Feedback Lending', Working Paper, Northwestern University School of Law/Cornell Law School (2015).

[17] See R Shiller, *The Subprime Solution* (Princeton, NJ: Princeton University Press, 2008).

[18] Highly readable accounts of the events surrounding the financial crisis include T Geithner, *Stress Test* (New York, NY: Crown Publishers, 2014); N Irwin, *The Alchemists* (New York, NY: Penguin, 2013); M Lewis, *The Big Short* (New York, NY: Norton, 2010); H Paulson, *On the Brink* (New York, NY: Business Plus, 2010); and AR Sorkin, *Too Big to Fail* (New York, NY: Penguin, 2010).

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investment funds because various securitized assets could not be priced, which brought investors to the sudden realization that the fall in subprime values could have global dimensions.

At this point, many financial institutions that had developed close ties to financial markets found themselves in difficulty. Securitization markets froze when the credit ratings attached to mortgage-backed securities were cast into doubt. This stranded the vendor banks that held large inventories of freshly originated subprime mortgages 'warehoused' pending securitization. The supposedly 'off balance sheet' entities used in the securitizations ran into trouble: they relied on short-term capital market financing to meet short-term liquidity needs arising from mismatches between cash flows from the underlying mortgage borrowers and cash flows promised to investors. Short-term debt investors, such as money market funds, now refused to 'roll over' their loans. Major underwriting banks were called upon to prop up troubled securitization vehicles, either under explicit or implicit guarantees. Such overt action brought the special investment vehicles onto visibly damaged bank balance sheets.

The trouble spread far beyond those underwriting the securitizations. Many banks and other financial institutions, both in the US and elsewhere around the world, held substantial volumes of mortgage-related securities, the values of which were compromised. This triggered large balance sheet write-downs, although no one knew whether they were sufficient. Doubtful valuations meant that a bank that had financed large holdings substantially through wholesale short-term markets now faced the risk of a 'run'. British bank Northern Rock fell to such a run in September 2007.

Other financial institutions financed their holdings of mortgage-related and other exotic securities with short-term funding that was often collateralized by these very same instruments. The funders—concerned about risks to their own viability from these counterparty exposures—insisted on more collateral and/or higher-quality, less exotic collateral. Thus financial institutions found themselves under pressure to sell exotic securities to obtain more prosaic assets, such as cash. Yet because of the uncertainty surrounding the value of the exotic securities, no one wanted to buy them.[19]

Markets simply dried up, leaving the financial institutions facing a squeeze that was terminal in some cases. Bear Stearns narrowly survived failure in March 2008 when a rescue merger was facilitated through a loan from the Federal Reserve. When the far larger Lehman Brothers reached crisis point in September 2008, potential merger partners were unwilling to take on the much greater risks given the limits on the Fed's capacity (or willingness) to backstop losses. Lehman's subsequent bankruptcy became the defining moment of the financial crisis.

One of the striking features of the mechanics of securitization is the extent to which the process operated outside the regulated arena, or at least outside the regulatory provisions designed to respond to the kinds of risks it created. A central goal of banking regulation is to ensure the stability of financial institutions. To this end it imposes prudential constraints on the balance sheets of banks intended to ensure that these

[19] GB Gorton, *Slapped by the Invisible Hand: The Panic of 2007* (New York, NY: OUP, 2010).

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firms are able to withstand an unexpected slump in the value of their assets. However, during the go-go years of financial globalization, it had widely been thought that the encroachment of markets onto banking terrain would lessen the need for such regulation. It was thought that where assets were marketable or 'liquid', a troubled institution could extricate itself from problems by converting the assets into cash. Consequently, institutions such as investment banks—whether stand-alone or part of a larger financial conglomerate—which held assets in the form of marketable securities were subject to far less stringent capital regulation than traditional commercial banks, which held assets in the form of loans. The widespread freezing of wholesale markets demonstrated that this policy was based on a misapprehension: just when the ability to sell marketable securities was needed most, it evaporated.

## 1.3 The Intellectual Framework

Why were these problems not spotted previously? The changes we have sketched here transformed financial sectors into more market-oriented, and more international, arenas than they had previously been. Part of the problem, though, was that thinking about financial regulation remained largely within the same intellectual silos it had inhabited for three-quarters of a century. The intellectual division between the regulation of securities markets and the regulation of banks introduced in the 1930s as part of the New Deal had made sense at that time, because of the structural separation of the two sectors. Moreover, there were always sound pragmatic reasons for focusing on a limited set of issues in order to gain more analytic traction. The resulting intellectual partition has continued to frame debates in US law schools and policy circles ever since. Not only that, but other jurisdictions, seeking to implement reforms to stimulate securities markets, looked to the well-developed institutions and scholarship in the US for guidance. Consequently, the idea of the partition was exported to frame the structure of financial regulation in the EU and elsewhere, and continues to do so even post-crisis.

The scope of these regimes is incomplete. Banking issues are covered by 'banking regulation', the domain of which is determined by the question, 'what is a bank?'. And securities-related issues are covered by 'securities regulation', the domain of which is determined by the question, 'what is a security?'. Moreover, the goals of these sectoral regulatory regimes are parochial. Banking regulation is concerned with the protection of bank deposits and the stability of banks, in part because bank depositors are not expected to monitor the quality of bank assets. Securities regulation is concerned with the facilitation of trading markets and the protection of investors via mandatory disclosure that enables investors to fend for themselves in assessing the risks of particular securities. Safety-and-soundness oversight of institutions in securities markets was traditionally far more limited than for banking institutions, which became problematic when such institutions took on bank-like functions, just as banks' use of securities markets (through securitization most notably) to substitute for traditional means of credit extension had been an afterthought for bank regulation.

The financial crisis highlighted the costs of these limitations. Even in terms of their own parochial goals, the scope of such regimes does not make sense unless defined in

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functional terms. The appropriate question is therefore not, 'what does the applicable legislation cover?', but rather, 'what sorts of organizations give rise to the problems regulation is seeking to address?'. That is, the question is not so much, 'what is a bank?' but, 'what ought to be regulated as a bank?'. Likewise, what activities can be left to disclosure regimes on the grounds that the relevant actors can knowledgeably evaluate and manage risks themselves and what activities require active intervention because they cannot?

More fundamentally, however, the parochial goals of sectoral regulation are limited and incomplete from the perspective of the stability of the system as a whole, and quite often in tension with one another. This was illustrated all too painfully by the case of the UK's FSA. The FSA, which was inaugurated at the turn of the century with great fanfare, operated as a unified financial regulator, encompassing securities, banking, insurance, and pensions. The idea was that the problems of sectoral regulatory incompleteness would be avoided by putting responsibility for all regulation under the same roof. The effect of this was to push the challenge onto the way in which the FSA was organized internally and the organization's priorities were defined.[20] The FSA's objectives were articulated as a list under the Financial Services and Markets Act 2000, most of which were derived from the pre-existing goals of institutional regulators. Unfortunately, the list was incomplete, because it did not include 'financial stability'.[21] Moreover, it left the FSA substantial discretion as to how to prioritize amongst the goals. Of the goals that were included, the FSA arguably over-invested in promoting consumer protection, seemingly at the expense of other goals.

## 1.4 This Book's Foundations

The rest of Part A sets out the foundations for the book's analysis, developing the key building blocks. The first of these is where we begin our account of financial regulation: not with regulatory instruments, but with the financial system. We ask first, what the financial system does, and second, how regulation can help it to function better. The enquiry as to the scope of regulation is therefore as much a normative as a positive exercise. In so doing, we consider a series of substantive topics in financial regulation in a comparative way, explaining differences in how the rules are structured in the EU and the US. These provide the opportunity to compare different policy solutions to a series of common underlying problems.

To this end, Chapter 2 gives an overview of the way in which the financial system functions. It explains the role the sector as a whole performs in mediating between suppliers and users of capital in the economy, and why this matters for economic growth. It then describes the principal components within the sector. In so doing, it describes how the significance of finance that has been intermediated via firms—that is, banks and other financial institutions—has declined over time, relative to that which has been allocated via markets. This trend has not, however, resulted in a lessening of the significance of financial institutions within the sector. Rather, their role has

[20] See further Chapter 4, section 4.4 and Chapter 27, section 27.2.3.
[21] This was added, after the crisis, by the Financial Services Act 2010.

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evolved such that their functions in relation to the operation of financial markets—underwriting, market-making, and proprietary trading—have grown to be at least as significant as the traditional roles of deposit-taking and lending.

The functioning of the financial system is an economic matter. The second building block on which the book is premised is that the goals of financial regulation have to be considered from a perspective grounded in economics. In Chapter 3, we present an account of the goals of financial regulation in economic terms, namely to improve the functioning of institutions and markets. Economists have a well-developed understanding of the circumstances and ways in which regulatory intervention can do this. Chapter 3 maps these onto the self-styled goals of legislative instruments underpinning financial regulation.

Our understanding of 'regulation' is also grounded in this economic approach. We conceive of financial regulation as measures imposed by government on the financial sector. Consequently, private agreements between parties are not regulation on this view, except insofar as regulators mandate their terms.[22] While outcomes may doubtless be shaped by private law—in particular, the degree to which property law facilitates the partitioning of assets—the focus of this book is on the mandatory rules of regulation. This means we do not generally consider the private law of finance per se, but rather to the extent that it interacts with, or is shaped by, mandatory rules, such as when private parties voluntarily create groups or networks for the purpose of resolving common problems and, in some instances, often supported by public regulation, establish more formal self-regulatory frameworks.

Three further building blocks may be seen as corollaries of the first two. They are so important, and so frequently overlooked, that we set them out here separately. Applying an economic analysis of market failure to the financial system presupposes that we think about the financial system in functional rather than institutional terms. This is the third building block informing the book, namely that our analysis of the financial system will be functional in orientation. This means we are not so much concerned with the question, 'what is a bank?', but rather with, 'what functions do banks perform?'. The latter question emphasizes that the set of firms performing these functions are not necessarily limited to those firms categorized by current regulation as 'banks'. The way in which securitization performed many of the same economic functions as conventional banks while residing outside the ambit of bank prudential regulation is a good case in point.

The way in which the financial system performs its functions is not static. As the account in Chapter 2 makes clear, the system is subject to continuous change. Our fourth building block is that the financial system is dynamic—that is, continuously changing—in the way it operates, in response to changes in markets and in regulation itself, and that regulatory responses should be calibrated accordingly. A failure to recognize this was an important underlying cause of the inadequacy of financial regulation in the run-up to the financial crisis.

[22] For a more expansive view of the regulatory nature of private law, see H Collins, *Regulating Contracts* (Oxford: OUP, 1999). We consider 'enforced self-regulation' in Chapter 24, section 24.4.

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One of the drivers of financial systems' dynamism is market players' continuous effort to find and exploit the best regulatory environment available to them. In other words, whenever there is scope for market players' choice with regard to regulations, they can be expected to make use of it and engage in regulatory arbitrage. Within a given jurisdiction, regulatory arbitrage is a possibility whenever the regulatory system provides for two different regimes of two formally different products or services that perform the same economic function (for example, a bank deposit and units in a money market mutual fund): market players may then choose, and in fact often create *ex novo*, the contractual form allowing them to gain the highest profits. Financial firms may choose or devise the less-regulated or unregulated product because compliance costs are lower or, more generally, because it makes it easier for them to exploit market failures to their advantage. But they may do so also because existing rules for the more heavily regulated product are just inefficient and make both financial firms and their clients worse off than if they use the unregulated or less-regulated product.

Another oft-overlooked aspect of financial regulation is that the goals it seeks to further sometimes come into conflict. We suspect that the partition of regulation fostered a false sense of security about this issue. If one focuses only on a particular sector of the financial system, one likely fails to see the costs a particular regulatory intervention may have on other sectors. Making use of the first four building blocks helps to avoid that kind of mistake. A functional account implies that particular market failures do not neatly match up to particular types of institution, instead, rather that the picture is somewhat messier. Consequently, there is a need to prioritize which failures are to be addressed. Our fifth building block, which follows from this, is a normative claim: one should prioritize according to the scale of losses that particular failures can inflict, while at the same time aiming to minimize the costs of regulation itself. A theme we develop throughout the book is that this places particular significance on systemic risks.

Simply identifying the economic problems to which financial regulation can—or should—respond is, of course, not the same as solving them. For a variety of reasons, real-world regulation and regulators fall short of their goals, even if these goals are appropriately set. In particular, the inherent dynamism of the financial system, coupled with its complexity, means that it forms a fleeting target for regulatory intervention. It is hard for regulators to keep abreast of developments. Matters are not helped by the fact that inside the system are players who stand to profit from working around whatever structures are put in place, and who—in particular, the global financial behemoths—have vastly greater resources to throw at undermining the rules than regulators do at designing them.

What is more, the relationship between politicians and regulation is often unhelpful: electorates are only interested in financial regulation in times of crisis. This gives politicians incentives to be too lax in good times, and too interventionist in bad times. Chapter 4 considers these problems in the round. The goal is to ground policy discussion within a realistic sense of what is possible: we should be under no illusions that perfect regulation can be implemented. At the same time, we should be careful not to allow ourselves to become defeatist: while perfection is not possible, there are many feasible opportunities for improvement of financial regulation simply through better understanding of its functions and how it interacts with the financial system. Our two

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final 'building blocks' also provide examples of how this has already taken place since the financial crisis.

The sixth building block for the book's analysis is that the effects of the actions of financial firms and regulators in one jurisdiction may spill over to others and that firms may engage in cross-border regulatory arbitrage—that is, deliberately choose to relocate in order to achieve more favourable regulatory treatment.[23] Such phenomena have become more salient after financial systems have become ever more interconnected due both to globalization and international agreements, including EU regulations, which have allowed financial firms to conduct their activities across borders.

Interjurisdictional spillovers have long been understood by economists to be problematic.[24] What has proved truly difficult has been making progress on their resolution through international cooperation. Yet the post-crisis era has seen a remarkable impetus for multilateral engagement with this challenge, as exemplified by the establishment of the G20's agenda-setting organization for international financial regulation, the Financial Stability Board ('FSB').

A final corollary, and our seventh building block, is that while the dichotomy between securities markets and bank regulation might once have served a valuable purpose, it is becoming increasingly untenable as securities markets and their associated institutions progressively perform banking functions and banks embrace securities markets activities. Instead of thinking in compartmentalized forms, we should adopt a holistic approach. The interface between banks and markets has become so complex that an approach to maintaining systemic stability at the level of the system as a whole is required. So-called macroprudential policy is intended to do just this. The key insights of Parts D and E, which are reflected throughout the rest of the book, are that measures seeking to protect the integrity of the system as a whole generally must be targeted at that level. The establishment of macroprudential authorities, endowed with extensive powers to intervene in the functioning of the financial sector, has been one of the major intellectual achievements, and its practical implementation one of the major intellectual challenges, of the post-crisis era.

While this holistic approach is an underlying theme of the book, we have sought to embed it and the other ideas in a more conventional framework, which starts from the traditional view of the financial system in which securities markets, consumers, and banks are the basic building blocks. We then explain the regulation of each of these areas in Parts B, C, and D, respectively, before turning in Part E to consider how the reframing of the financial system through interactions between markets and banks poses new challenges for regulation. We have chosen to present things in this way, rather than through a series of new categories derived directly from functions of the financial system, for two reasons. First, it makes the structure easier to navigate for those already familiar with the subject. Second, it creates a dynamic aspect to the

[23] Note that, as in the case of domestic regulatory arbitrage, firms may relocate because the chosen jurisdiction allows them to reap higher profits by failing to control externalities and address market failures or because the rules and their enforcement in that jurisdiction are better (from private parties' as well as society's perspectives) than in their country of origin.

[24] For example, see J Eatwell and L Taylor, *Global Finance at Risk: The Case for International Regulation* (New York, NY: New Press, 2000).

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treatment, as we see how the constituent components are regulated, before examining how well these measures fare—or do not fare—in relation to their combination.

## 1.5 An Overview of the Rest of the Book

Parts B to E of the book present a series of topics in substantive financial regulation. These are discussed first from a policy perspective, then with an overview of the relevant regulatory provisions as implemented in the US and EU. In Parts B and D, we consider the regulation, respectively, of financial markets (primarily securities markets) and of bank-based credit intermediation. These two sections perhaps most closely track the scope of traditional law school courses, in securities regulation and banking regulation, respectively. Rather than abandon these well-understood and widely used categories, we have chosen to present material falling squarely within them accordingly. However, the treatment involves significantly less coverage of legal detail, and rather more coverage of policy underpinnings, than would be the case in a standard law course. This makes it feasible to cover both sets of topics in the same book or course. The advantage of this approach is that readers who have understood the basic issues in relation both to markets and credit intermediation are then able to understand better the distinct issues raised in Part E, which deals with 'crossover' issues spanning both markets and banks. More specifically, Part E deals with the regulation of the new intersection between banks and financial markets described here and in Chapter 2. We take a central lesson of the financial crisis to be the importance of better understanding, and regulation, of this intersection.

We discuss the regulation of consumer finance in Part C. This comes immediately after the consideration of securities markets in Part B, because consumers buying financial products or advice are subject to similar information asymmetries as are purchasers of securities. However, there is an important difference. Securities market mechanisms, in particular mandatory disclosure, do not work nearly as well for consumer financial products. Stock prices on well-developed secondary markets trade at 'fair' prices; financial products issued by a financial institution typically come without that assurance. Part C in turn comes *before* our consideration of banks—in Part D—because the most effective techniques for regulating financial products—which focus on controlling the behaviour of financial firms—are precursors for the way in which bank regulation controls the behaviour of these institutions in relation to depositors.

### 1.5.1 Financial markets

Part B, 'Financial Markets', begins with an account—in Chapter 5—of the economic theory of financial markets. Financial markets function both to mobilize savings and to allocate capital to firms. More than this, they serve to aggregate information about the future prospects of issuers, which helps monitor the way in which firms use the funds they have raised, and also ensures that savers who want to exit their investments get the best available price. Markets which perform this aggregation function well are said to be *informationally efficient*—and assisting them to do this is the key regulatory goal for the law of financial markets. In considering how markets come to impound new

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information, we review where the information comes from. Regulation can help to stimulate the production and verification of new information. The next four chapters are, in essence, concerned with the regulation of a succession of such mechanisms.

Chapter 6 discusses *information intermediaries*: core market participants who specialize in conveying and/or processing information, such as underwriters, analysts, rating agencies, auditors, and lawyers. They share a general challenge: how to generate incentives to disseminate high-quality unbiased information. In Chapter 7, we turn to *market infrastructure*. This is concerned with the means by which the infrastructure of financial markets is organized—exchanges, market makers, counterparties, clearing and settlement, and the like. Two key themes emerge from the discussion: the impact of competition and the significance of the way in which pricing information is disclosed.

In Chapter 8, we discuss the regulation of *issuer disclosure*—that is, by firms that have raised capital from public markets. Central questions here concern the scope and timing of both initial disclosures surrounding an initial public offering (IPO) of shares (that is, the prospectus) and subsequent disclosures (for example, information having a material impact on pricing). This chapter explains why—and to what extent—mandating such disclosure may be desirable even if many investors do not actually read the announcements. Finally, Chapter 9 is concerned with regulation of the conduct of participants in the market—in particular, *market manipulation*, *insider trading*, and *short selling*. We see that a principal concern of these aspects of market regulation is to rule out types of conduct that may impede stock market efficiency, although this struggles to explain restrictions on short selling.

### 1.5.2 Consumers and the financial system

Part C, 'Consumers and the Financial System', begins, in Chapter 10, with a discussion of the theory of the regulation of consumer finance. This differs from the economic bases for regulation advanced elsewhere in the book, in that here we incorporate insights from behavioural economics. Chapter 10's central enquiry is the extent to which these behavioural considerations—bounded rationality and the like—justify more intensive regulatory intervention than in relation to other aspects of the financial system. The answer turns out to be a qualified yes, but more qualified than we might at first think. While the problems that behavioural biases introduce into consumer decision-making are very real, the extent to which regulatory intervention can actually succeed in ameliorating matters—as opposed simply to introducing an additional layer of costs that ultimately must be borne by consumers—is far from clear. We draw two clear conclusions about regulatory strategies: first, disclosure is much less effective at protecting consumers who deal with financial firms than is commonly thought to be the case. Second, controls on the behaviour of financial firms in dealing with consumers ('conduct regulation') are far more readily justifiable than are restrictions on the terms of consumer financial products ('product regulation').

Chapters 11 and 12 then consider applications of the theory to two of the most important contexts in which consumers accessing the financial system may need protection: the giving of financial advice (Chapter 11) and the purchase of financial products from financial institutions (Chapter 12). We see the difficulties regulators

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encounter in crafting effective disclosure techniques for consumers. We also consider the use of product regulation, using as an example the UK's recent introduction of a rate cap on short-term high-interest loans. A third approach, currently in vogue with regulators in Europe, focuses not on the outcomes in terms of disclosures or contract terms, but on the firm's internal processes regarding product design and testing. This technique, which is known as 'product governance', harnesses the superior information of financial services firms to help weed out problematic consumer financial products early in their development.

Finally, we consider the application of prudential regulation in relation to firms offering consumer investment products. These rules serve to control agency costs—to restrict financial firms from taking on increased risk in a way that benefits their owners but harms the interests of their investors. Such regulation is generally *micro*prudential, in that it is concerned with the protection of the interests of investors in particular firms through ensuring the soundness and viability of these firms. The idea of the prudential regulation as a consumer protection mechanism carries across into Part D, where we turn to banks.

### 1.5.3 Banks

Part D, 'Banks', addresses the goal of banking regulation, namely the prudential regulation of institutions, as it has come to be reinterpreted, post-crisis, as including maintenance of financial stability. Chapter 13 sets out the economic theory of banking. Banks perform a number of similar functions in the financial system to markets: they mobilize savings and allocate capital to projects. But they do so in a very different way. We explore the rationale for intermediation via banks, rather than directly via markets. Rather than the aggregation of information that characterizes markets, banks gather and analyse their own information. At the same time, they offer liquidity to depositors. However, in so doing, banks are exposed to potential runs. Because banks are connected to one another via the payments system and inter-bank lending, the failure of one bank may bring down others.

If bank managers and shareholders underprice the risks attached to the bank's business model, there is a potential role for regulation to address this market failure. Chapters 14 and 15, respectively, deal with the prudential regulation of bank capital and liquidity, noting the way in which the regulatory standards have been strengthened in light of financial stability concerns. The financial crisis also brought renewed attention to the safe 'resolution' of a troubled bank (Chapter 16) and the distinctive governance needs of financial institutions (Chapter 17). One response to the question, 'why are banks special?' is their role in the payment and settlement systems, the arteries of the real economy; thus Chapter 18 is devoted to the regulation of such systems.

In Chapter 19, 'The Macroprudential Approach', bank regulation is refocused and enlarged by the post-crisis lens. In contrast to a narrowly microprudential approach, aimed at safeguarding financial *firms* in order to protect depositors—rather like the consumer protection rules we saw in Part C—and through that, safeguard financial stability, the macroprudential approach focuses on how the dynamics of the overall financial *system*, with its interconnections, correlation of risks, and so on, affect its

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overall stability, sweeping away individual institutions that would look safe and sound in isolation. This brings an approach to regulation of bank balance sheets that emphasizes resiliency at times of systemic financial stress, that worries about financial activity occurring outside the regulatory perimeter of the traditional banking system, and that devises strategies to effect the macro-economic environment, as through the constraining of credit-fuelled asset bubbles.

### 1.5.4 Markets and banks

Macroprudential oversight is concerned with systemic risk not just within the banking system, but also outside it. This provides a natural segue to Part E, 'Markets and Banks', which forms the fulcrum of the book. It explores the challenges posed by the developments charted in the financial system, and what was revealed by the financial crisis, for regulation at the intersection of institutions and markets.

Because banks have fragile capital structures and can be a source of contagion, financial stability is an important goal of banking regulation. However, this was not traditionally a concern of market regulation. Market regulation instead focused on disclosure and the conduct of market participants, with a view to ensuring the speed and accuracy of the price formation process. Based on such thinking, regulators' initial response to the shift away from banks was to assume that overall systemic risk had reduced, because the work done by the banking sector—the perceived locus of systemic risk—had become smaller.

But the shift in the financial system did not so much reduce systemic risk as change the ways in which it arose. As a result, a regulatory framework that focused its search for systemic risk on 'banks' was not apt to spot, and still less control, emergent varieties of that risk. Regulators were stuck in a framework that did not contemplate the migration of systemic risk, and there was consequently no serious attempt to monitor this from a macroprudential perspective. As a result, the new sources of systemic risk slipped cleanly under the radar.

Understanding how the changes in the financial system brought with them new sources of systemic risk goes to the heart of current regulatory endeavours, and of this book's project. Obviously, it matters a great deal that we understand what happened in order to be sure we can prevent a recurrence. To preserve financial stability, regulators need to understand the new cross-section of systemic risk. The same is true for anyone who wants to evaluate, or even understand, the new strategies regulators have deployed in response. In Part E, we consider how the changes in the structure of the financial system altered the incidence of systemic risk and how regulators have responded.

The following four topics are considered. Chapter 20 discusses market-based credit intermediation—the rise of institutions that perform credit intermediation services functionally equivalent to traditional banks, but falling outside the ambit of traditional banking regulation. The central question of this chapter is to determine what is 'functionally equivalent' to a bank: that is, what should be the domain of banking regulation? Chapter 21 deals with 'Making Markets'. Market makers hold inventories of financial assets with a view to being able to meet demand for both sales and purchases. If the volume of trade is large enough, it may not be necessary to have

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market makers who hold inventory at all: order-driven markets simply provide a technological route to the connection of buyers and sellers. Where volumes of trade are low, having market makers hold inventories on their own balance sheets may be crucial for ensuring that trade can occur at all. However, this in turn depends on the ability of the market makers themselves to weather sudden swings in prices.

As has been discussed, the rise of institutional investors has been a key trend over the past thirty years. These investment vehicles are regulated in order to protect consumers, issues that have been treated in Chapter 12. But this regulation intended to protect consumers may have unintended consequences for the system as a whole. Chapter 22, 'Asset Managers and Stability', discusses these issues. In particular, many regulatory regimes place substantive restrictions on the types of asset into which institutional investors can put their funds, motivated by a desire to protect end-investors from excess risk. With the massive growth in funds invested through collective investment vehicles, such restrictions come to impose an artificial constraint on (or stimulus for) certain types of asset class. To the extent that there are no substantive restrictions, a related issue concerns the process by which managers of such collective investment vehicles go about selecting the types of asset class into which they will invest their funds.

Chapter 23, 'Structural Regulation', considers an important set of regulatory initiatives geared towards the preservation of the system as a whole. Specifically, the chapter is concerned with rules limiting the types of business activity that may be carried on by entities engaging in particular types of core services within the financial system. The nature and motivation for such restrictions are varied. Historically the best-known example was the Glass–Steagall Act of 1933, which mandated the separation of investment and commercial banks in the US. The original rationales were largely concerned with consumer protection and market integrity. In particular, during the 1920s, US banks had encouraged their depositors to invest in the stock market, with brokerage services supplied by the banks themselves. The concern was that they had aggressively supplied 'margin' lending to their customers, causing the latter to become over-indebted and the stock market prices to be driven up inappropriately. Structural separation, it was thought, would put an end to this. Only secondary was the concern that losses on margin lending could endanger the soundness of the commercial banks themselves. This latter concern has resurfaced in the more recent iteration of interest in structural regulation. Proposals in both Europe and the US are concerned with insulating 'safe' commercial banking from 'risky' investment banking activities, especially proprietary trading in financial markets. Unfortunately, the appropriate positioning of market-making activity within these frameworks is not obvious. There is therefore a close relationship between this material and Chapter 21.

### 1.5.5 The mix of institutions

This concludes the book's discussion of substantive topics. Part F then turns to what we term 'The Mix of Institutions': questions of the design of regulatory institutions themselves. Chapter 24 begins by presenting an overview of the terrain covered in

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Part F. These chapters then proceed as follows. Chapter 25 is about the political economy of regulation. It discusses the way in which regulators are appointed and appraised, and mechanisms of accountability to democratically elected politicians. It also discusses the tensions between electoral cycles, volatility of public interest in financial regulation, and technocratic expertise in agencies. It then goes on to consider the problems of interest group lobbying, in particular by financial sector firms. A range of mechanisms is considered that may serve to ameliorate these problems.

Chapter 26 discusses supervision and enforcement. Supervision is an ongoing dialogue with regulated firms; enforcement is action taken to punish (and deter) non-compliance. Perspectives differ on the appropriate allocation of resources as between the two activities, as techniques for eliciting good conduct. The chapter identifies the types of issues for which supervision-led and enforcement-led regulatory strategies, respectively, are likely to be successful.

Chapter 27 is concerned with the appropriate structure of regulatory agencies. The old 'institutional' structure, as practised in the US, was shown to be problematic for the reasons already discussed. Yet it is unfortunately not obvious what should be done instead.[25] The limitations of the institutional model are well known, and indeed underlay its abandonment in the UK at the turn of the century in favour of a single integrated regulator, the FSA. Yet the FSA too failed spectacularly in its role, apparently because its goals and priorities were, respectively, poorly defined and set.

The lesson seems to be that integrating regulation should simply shift attention from the structure of regulators to the process of goal and priority setting. Perhaps because of the loss of credibility of the integrated model, or perhaps because of political disagreement about where it should be based, the EU has simply proceeded to implement a 'new' federal regulatory structure of the 'old' institutional variety in the immediate aftermath to the financial crisis, with separate regulators for banks (the European Banking Authority), markets (the European Securities Market Authority) and insurance companies, and pension schemes (the European Insurance and Occupational Pensions Authority).

There is a third model for the structure of financial regulation, which has not been discredited by the crisis. This goal-oriented model posits that for each (functional) goal of financial regulation, there should be a regulatory champion. The best-known version of this approach is the so-called 'twin peaks' model, whereby there is a separate prudential and conduct regulator. This was in effect in Australia, which weathered the financial crisis very successfully, and has now been implemented in the UK. Post-crisis reform in the US, while not dismantling the old institutional structure of regulation, purports to create a financial stability champion through creation of the Financial Stability Oversight Council, a college of financial regulators that is tasked with responsibility to monitor systemic risk throughout the financial system.

Chapter 28 rounds off Part E with a discussion of the problems posed by the international context of financial regulation. The chapter discusses three techniques by which international cooperation has been furthered. The first is by legal multilateral

[25] See D Awrey, 'The FSA, Integrated Regulation and the Curious Case of OTC Derivatives' (2010) 12 *University of Pennsylvania Journal of Business Law* 101.

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binding agreements, such as the EU. The second is through 'soft law' multilateral agreements, such as the G20 and the guidance issued by the Financial Stability Board as well as international standard setting by agreement among bank supervisors, the work of the Basel Committee on Banking Supervision. And the third is through bilateral agreements between leading states. A cause for optimism, despite the limitations of financial regulation announced in Chapter 4 and echoed throughout Part F, is how much progress has been made in the direction of international cooperation since the financial crisis.

Chapter 29 concludes the book as a whole by reviewing and restating the core messages, along with providing the outlook for the future.

## 1.6 Conclusion

As will be clear, this book seeks to cover a vast amount of substantive terrain. To do this, it is necessary to fly at a higher altitude than is normally the case with a legal text. What we do might be termed macro, rather than micro, legal analysis. As should by now be clear, our aim in doing this is also different from a typical text. We are not seeking to give the reader a sufficient knowledge of the relevant rules so as to be able to give a client legal advice about compliance. This would require many thousands of pages. What is more, the pace of change in financial regulation is such that it would likely be out of date before it even hit the bookshelves.

Rather, our goal has been to present a set of principles with which readers can be equipped to understand better the detail of substantive regulation. Because they are cross cutting, these principles are rarely articulated in a general way; hence the benefit to our generalist approach. The shape of the financial system is subject to continual change, and technology may well be accelerating its pace. While we may not be able to predict all the ways in which these changes *will* affect the cross-section of systemic risk, having the analytic tools to understand how such changes *can* be linked will surely put us in a better position to do so.

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