Principles of Financial Regulation

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John Armour
University of Oxford and ECGI

Daniel Awrey
University of Oxford

Paul Davies
University of Oxford

Jeffrey Gordon,
Columbia Law School and ECGI

Colin Mayer
University of Oxford, CEPR and ECGI

Jennifer Payne
University of Oxford

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We thank Luca Enriques for helpful comments on an earlier draft of this chapter.

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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John Armour*
Hogan Lovells Professor of Law and Finance
University of Oxford, Faculty of Law
Oriel College
Oxford, OX1 4EW, United Kingdom
phone: +44 1865-286544
e-mail: john.armour@law.ox.ac.uk

Dan Awrey
Associate Professor of Law and Finance
University of Oxford, Faculty of Law
St. Cross Road
Oxford, OX1 3UJ, United Kingdom
e-mail: daniel.awrey@law.ox.ac.uk

Paul Davies
Allen & Overy Professor of Corporate Law Emeritus
University of Oxford, Faculty of Law
Harris Manchester College
Oxford, OX1 3TD, United Kingdom
e-mail: paul.davies@law.ox.ac.uk

Jeffrey Gordon
Richard Paul Richman Professor of Law
Columbia University, Columbia Law School
435 West 116th Street
Ctr. for Law and Economic Studies
New York, NY 10027, United States
phone: +1 212-854-2316, fax: +1 212-854-7946
e-mail: jgordon@law.columbia.edu

Colin Mayer
Peter Moores Professor of Management Studies
University of Oxford, Said Business School
Park End Street
Oxford, OX1 1HP, United Kingdom
phone: +44 1865-288112, fax: +44 1865-288805
e-mail: colin.mayer@sbs.ox.ac.uk

Jennifer Payne
Professor of Corporate Finance Law
University of Oxford, Faculty of Law
Merton Street
Oxford, OX1 4JD, United Kingdom
e-mail: jennifer.payne@law.ox.ac.uk

*Corresponding Author

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John Armour, Daniel Awrey, Paul Davies, Jeffrey Gordon, Colin Mayer and Jennifer Payne[*]

Chapter 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 WW2 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 which many people have been addressing since the crisis first broke are why it happened and what can be done to prevent its recurrence. One of the underlying causes is widely thought to have been a failure of financial regulation – a failure to control the excesses in which financial institutions were indulging prior to the crisis. Financial regulation was comprehensively outmanoeuvred by the changing nature of financial markets and institutions, leaving it exposed to

[*] Armour is Hogan Lovells Professor of Law and Finance, Awrey is Associate Professor of Law and Finance, Davies is Allen & Overy Professor of Corporate Law Emeritus and Payne is Professor of Corporate Finance Law, at Oxford University Faculty of Law. Mayer is Peter Moores Professor of Management Studies at Oxford University Saïd Business School and Gordon is Richard Paul Richman Professor of Law at Columbia Law School.
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[1] See e.g. A Yoon, 'Total Global Losses from Financial Crisis: $15 Trillion', *Wall Street Journal*, *Real Time Economics Blog,* October 1, 2012; CIA, *World Factbook*.

the failures and contagion that occurred in 2008. While this book is not about the financial crisis, the fact that there was such a serious failure of prevailing wisdom before the crisis is a strong motivation for writing it. A reconsideration of the nature and conduct of financial regulation is required and this book is an attempt to provide exactly that. 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 securities markets and bank regulation. Securities regulation has its origins in the US in the Wall Street Crash of 1929 and the Securities Act of 1933 and the Securities Exchange of 1934, which regulated interstate sale and trading of securities respectively and created the Securities and Exchange Commission (SEC) to enforce them. Bank regulation dates back to the earliest days of the US with the chartering of the first banks but the current system of regulation in the US was a product of the Great Depression and the New Deal reforms. The Banking Act of 1933 created federal deposit insurance and the Federal Deposit Insurance Corporation (FDIC) to regulate banks, and it separated commercial from investment banking in the Glass-Steagall Act. The intellectual framework of these discrete categories of regulation has been very influential internationally, including in the EU, where distinct streams of banking and securities regulation have been produced in the project to develop the single market.

Securities markets and banking regulation have undergone significant reform over the subsequent 80 years (not least the repeal of the Glass-Steagall Act by the Gramm-Leach-Bliley Act of 1999) but the fundamental distinction between securities and banking regulation introduced in the 1930s remains intact and is the basis of modern financial regulation in the US and many countries around the world.[2] But while the framing of financial regulation has remained the same, the

[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

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 (i.e. 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 varies appreciably across countries,[4] many countries have witnessed a substantial growth in the proportion of market-based finance over the last 20 years.

This secular growth in the importance of financial markets has been driven by several factors. This first is demography. People have been living longer - average life expectancy at birth today in the developed world is 80,[5] as compared with 68 in 1950.[6] So when state retirement provision was introduced in the UK, it was typically paying for just a few years of retirement; now, it is on average more than a decade. At the same time, with people having fewer children, the viability in many

interconnection in the financial system. Unfortunately, whilst the regulators were merged, the intellectual frameworks of banking and securities regulation were not. See below, text to nn 17-18.

[3] See AM Robb and DT Robinson, 'The Capital Structure Decisions of New Firms' (2012) *Review of Financial Studies* online advance access doi: 10.1093/rfs/hhs072 (observing that principal source of outside finance for newly-formed firms in the US is bank debt).

[4] See F Allen and D Gale, *Comparing Financial Systems* (MIT Press, 2001).

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

[6] 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).

countries of 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 a new class of financial intermediaries that operate through securities markets and also 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).[7] 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 industrialization and the introduction of mass production. 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 trading in markets. In particular the development of computers and new forms of communication have dramatically enhanced the power and speed with which investors can trade on financial markets. In many cases, they have also improved the transparency of market trading and increased information flows to participants in markets.

Fourth, globalisation has had a transformative impact on finance, the size of which is difficult to overstate. It is revealing that, whereas 30 years ago 'the financial system' would to most listeners have referred to a set of domestic institutions and markets, today it is typically used to refer to a

[7] 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!

global network. Whilst the relaxation of national capital controls has permitted this process in many countries around the world, the EU's ambitious programme of economic integration has actively fostered it between Member States. These processes increased the overall scale of the financial system and increased competition within it. This has led to changes happening more quickly, and having a bigger impact.

International capital flows have triggered the development 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 led to the development of new instruments and institutions for managing risks and raising financing on a global basis. This in turn has generated 'global imbalances' by which some countries have generated large net surpluses that have added to the stock of global funds for investment. Globalisation has also created particular regulatory challenges because no single state can authoritatively regulate even its own financial system because of global spillovers and linkages. International financial regulation depends upon a unique set of agreements and understandings among governments, central banks, and financial regulators that, for the most part (the EU being a notable exception), 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, reform of the historical separation between securities markets and bank regulation.

1.2 The genesis of the financial crisis

The growth in international financial markets meant that globalisation 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.' [8] Such sentiments were widely shared at the time. When Raghuram Rajan, then a Professor of Finance at Chicago's Booth Business School (and now 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 attracted great scepticism.[9]

However, this appearance was deceptive. The changes in the global financial system have sowed the seeds of a number of problems. First, the consolidation, and global reach, of large financial institutions meant that their individual stability became more important for the global system as a whole. Second, the development of new markets for risk meant that the ultimate allocation of risk within the system became less transparent. Third, financial institutions' response to competition from markets was essentially, 'if you can't beat them, join them'. That is, traditional commercial banking institutions refocused a number of their business lines on activities that were related to, and supported, markets. 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 actually engaging in trading on their own account ('proprietary' trading), all became more common.

Together, these three factors meant that global financial institutions came not to disperse risk throughout the system, but to aggregate it within themselves. Matters were compounded by the influx of capital for investment triggered by global demographics and trade imbalances. This created a powerful demand for high yielding but safe assets. To meet demand, financial and legal innovation produced new types of financial contract. Amongst the best-known of these was

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

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

'securitization': the transfer of packages of bank loans, especially mortgages, to free-standing 'special purpose entities', the securities in which were then sold to investors. 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 underlying loan assets into low-risk senior securities. [10]

Reliance on financial innovations that promise much, through mechanisms that are not fully understood, has a history of ending badly. Securitization had an exponential effect on the complexity of factors affecting the risk profiles of the ultimate securities.[11] This meant that even sophisticated investors were unable to perform meaningful assessments. Instead, they relied on specialist risk assessors, the credit rating agencies. These agencies' ratings turned out not to be very good. In part this was due to conflicts of interest: credit rating agencies were paid by the very firms that packaged and promoted these securitizations, namely the 'underwriters.' The business of rating such securitizations was lucrative and the underwriters could shop among the rating agencies for the best rating. [12] 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.[13]

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

[11] See K Judge, 'Fragmentation Nodes: A Study in Financial Innovation, Complexity, and Systemic Risk' (2012) 64 *Stanford Law Review* 657.

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

[13] 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

Securitization played a major role in the financial crisis because of the unanticipated feedback effects of an influx of capital onto underlying real estate markets. Alongside by a US government policy of seeking to extend home ownership to previously excluded individuals, securitization facilitated a significant increase in mortgage lending in the United States, especially to riskier borrowers. This was because the 'alchemy' meant that investors seeking safety could supply funds to this risky market. This influx of funds stimulated a historically unparalleled nationwide rise in housing prices.[14] In changing the nature of residential mortgage finance from regional to national, securitization also confounded seventy years' experience of the US property market—that property price movements were local, rather than national. Thus the conventional wisdom, that geographical distribution of residential real estate investments was an effective way to lower overall risk, proved inaccurate. But investors did not appreciate this, with the result that risk in securitized real estate transactions was mispriced significantly. In short, securitization, which purported to add stability through diversification, instead added risk because it created a new source of correlation. Moreover, the securities issued by this process were bought by yield-hungry investors around the world, especially in Europe. This helped ensure the global significance of problems in this market.

It was a fall in US real estate that ignited a spark to this combustible mixture. In 2006-7, investors began to realise that the scale of defaults on US subprime mortgages greatly exceeded what had been modelled in their expected returns. For several months, everything proceeded in state of suspended animation, rather like the cartoon character that has run off a cliff but still continues to spin its legs for an instant before it appreciates the effects of gravity. Then in July 2007, bank stock prices fell dramatically as Bear Stearns, the US investment bank, announced it was closing

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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.

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

two funds it had promoted, which had invested heavily in subprime assets.[15] In August 2007, the French Bank BNP Paribas halted withdrawals from three investment funds because various securitized assets could not be priced, which brought investors into the shocked 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 that had been 'warehoused' pending securitization. The supposedly 'off balance sheet' special purpose 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 investors, such as money market funds, now refused to 'roll over' these short-term obligations. Major underwriting banks were called upon to prop up troubled securitization vehicles, either under explicit or implicit guarantees. Such overt action brought the special purpose entities onto bank balance sheets and immediately undercut their balance sheets.

The trouble spread far beyond those undertaking 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 meant large balance sheet write-downs, although no-one knew whether they were sufficient. Doubtful valuations meant that a bank that had financed such 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.

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

Other financial institutions financed their holdings of mortgage-related and other exotic securities with short-term funding that were 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.[16]

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, and the 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 firms are able to withstand an unexpected slump in the value of their assets. However, during the go-go years of financial globalisation, 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 controls than

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

loan assets held by traditional commercial banks. The widespread freezing of wholesale markets demonstrated that this policy was based on a misapprehension: just when the ability to sell assets was needed most, it evaporated.

1.3 The intellectual framework

Why were these problems not spotted previously? The changes we have sketched above transformed financial sectors into more market-oriented, and more international, arenas than they had previously been. Yet thinking about financial regulation remained largely within the same intellectual silos it had inhabited for three quarters of a century. The intellectual division between securities markets and bank regulation 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 regulated 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 that provide bank-like functions has been an afterthought in securities regulation; just as how banks use securities markets to substitute for traditional means of credit extension (such as securitization) has been an afterthought for bank regulation.

The financial crisis demonstrated 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 functional terms. The appropriate question is therefore not, 'what does the applicable legislation cover?', but rather 'what sorts of organisations give rise to problems of the regulation is seeking to address?' That 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 Financial Services Authority ('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's priorities were defined. Unfortunately, these were structured simply as an amalgamation of the pre-existing parochial ordering of institutional regulators, without appreciating the need for a holistic approach to the articulation of goals and their hierarchy. Thus the Financial Services Act 2000, which set up the legislative framework for the FSA, articulated a list of goals that did not include 'financial stability'.[17] Of the goals that were included, the FSA arguably over-invested in promoting consumer protection, seemingly at the expense of other goals.[18]

1.4 This book's agenda

The rest of Section A sets out the foundations for the book's analysis, developing seven key ideas. The first idea is that we aim to provide an account of financial regulation that begins not with regulatory instruments but with the financial system. We ask first, what does the financial system do, and second, how can regulation help it to function better? This is therefore principally a normative rather than a positive exercise. 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 underlying problems.

To this end, the next chapter, 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.[19] It then describes the principal institutional components that perform these various functions. In so doing, it describes how the significance of finance that has been intermediated via banks has declined relative to that which has been intermediated via markets. This trend has not, however, resulted in a lessening of the significance of financial institutions within the sector. Rather, their role has 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.

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[17] This was added by the Financial Services Act 2010.

[18] See Chapter 4.

[19] The account is therefore functional in orientation: see R Merton and Z Bodie, 'A Conceptual Framework for Analyzing the Financial Environment', in DB Crane et al (eds.), *The Global Financial System: A Functional Perspective* (Cambridge, MA: Harvard Business School Press, 1995), 3.

The functioning of the financial system is an economic matter. The second idea on which the book is premised is that in our view, it makes most sense to think about the goals of financial regulation 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. The chapter 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—primarily mandatory rules. Consequently, private agreements between parties are not regulation on this view, except insofar law mandates their terms.[20] This means the book does not generally consider the private law of finance. Whilst 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. In particular, since not all varieties of mandatory rules are the same, the final part of Chapter 3 offers a taxonomy that categorizes different types of regulatory strategies used in relation to the market failures of the financial system.

Three further important ideas may be seen as corollaries of the first two. They are so important, and so frequently overlooked, that we set them out here as distinct ideas. 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 idea informing the book, namely that our analysis of the financial system should be *functional* in orientation. This means we are not so much concerned with 'what is a bank', but 'what functions do banks perform'. The latter question emphasizes that the firms performing these functions are not necessarily limited

[20] For a more expansive view of the regulatory nature of private law, see H Collins, *Regulating Contracts* (OUP, 1999).

to the set of firms categorised 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 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 in how it is organised. The fourth idea we build upon is that the financial system is *dynamic*—that is continuously changing—in the way it operates, in part in response to changes 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.

Another oft-overlooked aspect of financial regulation is that the goals it seeks to further sometimes come into conflict. We suspect that the fragmentation 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 ideas we have articulated helps us to avoid that kind of mistake. A functional account implies that particular market failures do not neatly match up to particular types of institution, but that the picture is rather messier. Consequently there is a need to prioritize which failures are to be addressed and the fifth idea is to prioritize on the basis of the scale of damages that the failures can inflict and minimization of the costs of regulation itself. As we discuss below that places particular significance on systemic risks.[21]

To identify the economic problems to which financial regulation can, or should, respond is not the same thing as solving them. For a variety of reasons, real-world regulation and regulators fall short of their goals, even where these goals are appropriately set. In particular, the pervasive

[21] E Posner, ‘Benefit-Cost Analysis for Financial Regulation’ (2013) 103 *American Economic Review* 393 argues for a more formal system of cost-benefit analysis than we employ in this book and we believe to be readily implementable.

complexity and dynamism of the financial system means that it forms a fleeting target for regulatory intervention. It is hard for regulators to keep abreast of developments.[22] 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: whilst perfection is not possible, there are many feasible opportunities for improvement of financial regulation simply through better understanding of what its function and how it interacts with the financial system. Our two final underlying ideas also provide examples of how this has already taken place since the financial crisis.

The sixth idea from which the book's analysis proceeds is that the effects of the actions of financial firms and regulators in one jurisdiction may spill over to others and that firms may deliberately choose to relocate in order to achieve more favourable regulatory treatment. These spillovers have long been understood by economists to be problematic.[23] 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 organisation for international financial regulation, the Financial Stability Board ('FSB').

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[22] For a thoughtful account of these problems, see JR Barth, G Caprio and R Levine, *Guardians of Finance: Making Regulators Work for Us* (Cambridge, MA: MIT Press, 2012).

[23] For a prescient example, see J Eatwell and L Taylor, *Global Finance at Risk: The Case for International Regulation* (New Press, 2001).

The final idea 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 which focuses at the level of the system as a whole is required. So-called macro-prudential regulation is intended to do just this. The key insights of section E, which are reflected throughout the rest of the book, are that measures which protect the integrity of the system as a whole generally must be targeted at that level. The establishment of macro-prudential oversight bodies, endowed with extensive powers to intervene in the functioning of the financial sector, has been one of the major intellectual achievements of the post-crisis era.

While this holistic approach is an underlying theme of the book, we have sought to embed it and all the other ideas in a more conventional framework that starts from the traditional view of the financial system as comprising securities markets and banks. We then adopt the purpose based, economic, functional, dynamic, cost minimizing, macro, international, holistic approach to regulation that underlies these ideas in each of sections B to F. We progressively move from the traditional structure in the early sections of the book to reflect this approach in the later sections. That way, we do not eschew the more conventional rule-based, legal, institutional, static, micro, domestic, segmented approach to regulation but instead demonstrate how it translates into the new framework. We can thereby provide a comprehensive and inclusive pedagogical approach to financial regulation, to which those who come from a traditional legal background and those with more economics training can both relate.

1.5 An Overview of the rest of the book

Sections 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 sections B and C, respectively, we consider the regulation, respectively, of financial markets and of 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 more coverage of policy underpinnings, than would be the case in a standard law school course. This makes it feasible to cover both sets of topics in the same book/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 sections D and E, which deal with 'crossover' issues spanning both markets and banks. Section D treats issues in relation to consumers and the financial system, and section E deals specifically with the regulation of the new intersection between banks and financial markets described above and in Chapter 2. We take a central lesson of the financial crisis to be the importance of better understanding, and regulation, of this sector.

Section B begins with an account, in Chapter 5, of the economic theory of financial markets. This covers key concepts for understanding regulatory goals in this area, such as the theory of market efficiency. Chapter 6 is concerned with market infrastructure. This is, in a sense, the institutional 'nuts and bolts' that together go to make up functioning financial markets. In particular, it is concerned with the means by which the infrastructure of financial markets are organised—exchanges, market makers, counterparties, clearing and settlement and the like. A premise of the discussion is that a certain configuration of this infrastructure is necessary for well-functioning markets. The chapter's discussion is concerned with the ways in which this infrastructure can be provided, and associated regulation.

The next three chapters cover issues at the core of the regulation of financial markets. In Chapter 7, we discuss the regulation of disclosure by issuers—that is, firms that have raised capital from public markets. Central questions here concern the scope and timing of both initial disclosures surrounding an IPO (that is, the prospectus) and subsequent disclosures (for example, information having a material impact on pricing). Chapter 8 is concerned with regulation of the conduct of participants in the market—in particular, market manipulation, insider trading, and short selling. We see that the principal concern of all these aspects of market regulation is with the informational efficiency and accuracy of stock market prices. This concern is also reflected in the regulation of information intermediaries who function to assist the market in pricing securities—analysts, underwriters and credit rating agencies, which is discussed in Chapter 9.

Section C, which is entitled 'Banks', is concerned with the traditional goals of banking regulation, namely the prudential regulation of institutions. The section begins with Chapter 10, which sets out the economic theory of banking. We explore the rationale for intermediation via banks, rather than directly via markets. Chapters 11 and 12 respectively deal with the prudential regulation of bank capital and liquidity. Chapters 13 and 14 reflect post-crisis innovations in the resolution of troubled banks and the governance of financial institutions. And Chapter 15 considers the regulation of payment and settlement systems.

Section D considers regulation of the relationships between consumers and the financial system. It begins, in Chapter 16, with a discussion of the theory of consumer financial regulation. This differs from the economic bases for regulation advanced elsewhere in the book in that we incorporate insights from behavioural economics. Chapter 16'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. Whilst 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.

Chapters 17 and 18 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 17) and the purchase of financial products from financial institutions (Chapter 18). There is no separate chapter regarding 'consumer' purchase of securities on secondary markets, however. Whilst some scholars articulate a dichotomy between the promotion of 'consumer protection' and of 'market efficiency' in relation to securities markets,[24] we do not see any such divide. Regulation that seeks to promote informational efficiency and price accuracy in secondary markets will necessarily protect consumers trading in those markets: by definition, the price will be 'fair' as it will reflect the best available estimate of the value of the securities. It is precisely because markets for financial advice and financial products are *not* secondary, but rather are transactions directly between the consumer and a financial institution, that additional protection may be needed.

Section E, entitled 'Markets and Banks', 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. The interpenetration of bank-based credit intermediation and market-based credit intermediation was not only at the core of the financial crisis but continues to create the most challenging financial regulatory problems for financial stability. The following five topics are considered. Chapter 19 discusses Shadow Banks—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 20 deals with Market Making. Market

[24] Z Goshen and G Parchomovsky, 'The Essential Role of Securities Regulation' (2006) 55 *Duke Law Journal* 711.

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 market makers who hold inventory at all: order-driven markets simply provide a technological route to 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 30 years. These investment vehicles are regulated in order to protect consumers, issues that have been treated in Chapter 18. But this regulation intended to protect consumers may have unintended consequences for the system as a whole. Chapter 21 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 (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.

Chapters 22 and 23 consider two regulatory initiatives geared towards the preservation of the system as a whole which have emerged as a response to the financial crisis. Chapter 22 deals with structural regulation of financial institutions. Specifically, it 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 overindebted 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 to insulate ‘safe’ commercial banking form ‘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 20.

Chapter 23 deals with macro-prudential regulation, the new regulatory discipline of looking at and governing the financial system as a whole. Making the case for such intervention is far easier than determining what this intervention should actually look like. The chapter discusses the theoretical background, the principal tools for intervention and their limitations. Globalisation poses a central challenge for regulation aimed at the level of the system as a whole, because regulation is national—or at most regional—whereas ‘the’ financial system is now global.

This concludes the book’s discussion of substantive topics. Section F then turns to what we term ‘Regulatory Architecture’: questions of the design of regulatory institutions themselves. Chapter 24 begins Section F with an overview of the terrain that follows in the following five chapters. These chapters then proceed as follows. Chapter 25 deals with the sources of financial regulation. We generally think of ‘regulation’ as supplied directly by the state, but it might alternatively be permitted by the state to be supplied by private actors. Private parties may have advantages in accessing and analysing information; public actors may have advantages in terms of credibility of enforcement. The appropriate balance between the two is a delicate one, the contours of which Chapter 25 details.

Chapter 26 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 discussed above. 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) and markets (the European Securities Market 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.[26] 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, whilst not dismantling the old institutional structure of regulation, purports to create a financial stability champion through creation of the

[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.

[26] M Taylor, '"Twin Peaks": A Regulatory Structure for the New Century', pamphlet, Centre for the Study of Financial Innovation (CSFI), London, December 1995.

Financial Stability Oversight Council, a college of financial regulators that is tasked with responsibility to monitor systemic risk throughout the financial system.

Chapter 27 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 28 discusses supervision and enforcement. Supervision is an on-going 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 29 rounds off Section 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 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 Section F, is how much progress has been made in the direction of international cooperation since the financial crisis.

Chapter 30 concludes the book as a whole by reviewing and restating the core messages, along with the outlook for the future.

1.6 Conclusion

As will be clear, the book seeks to cover a vast amount of substantive terrain. To make this possible, 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 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 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. And because these principles are not—or should not be—as transient as the detail of substantive regulation, we hope they will equip the reader to have a critical understanding of not just today's rules, but of tomorrow's as well.

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