Social orderings rely upon the ability of individuals to make extended commitments to one another. A complex legal architecture exists to support commitments, but many important relationships continue to rely upon extra-legal modes of commitment. An understanding of the commitment choices that individuals make is key to the understanding of social orders. We categorise commitments that arise in the context of relationships along a hierarchy that runs from the most extra-legal to the most legally intensive devices. The situation of a relationship on the commitment hierarchy reflects the social, legal, and technological context in which it arises. Changes to any of these factors alter commitment choices and, hence, the social ordering that emerges from them. In extremis, such changes can cause significant social dislocation.

Investment banks have experienced such a dislocation, and its effects are still playing out. Steady advances in information technology have had a direct effect upon the codifiability of information in financial markets and, as a result, have rendered it easier to write contracts in some investment banking markets. Relationships in those markets have moved towards the more legalistic end of the commitment hierarchy. At the same time, investment banking businesses that continue to rely upon relationships and tacit information maintain a reliance upon extra-legal commitment. As a result, investment banks now have a wider spectrum of commitment devices than ever before.

The public policy questions raised by these changes are complex. Regulators can now choose between, on the one hand, information technology-intensive tools that open the door to formal regulatory contracts and, on the other, more judgement-based modes of oversight. It is important that the devices used by regulators match those that investment bankers and their clients adopt. If the regulatory move down the commitment hierarchy precedes that of the regulated then the benefits of extra-legal contracting will likely be lost; if the regulatory move lags the banks then commitment in the financial markets will be impaired.
I. Introduction

Social orderings are seldom designed: they arise from the independent decisions that agents make when making cooperative arrangements with one another. Nevertheless, those arrangements are influenced by the institutional arrangements in whose shadow they occur, and those arrangements can, in turn, be affected by formal rules. The design and evaluation of legislation and social policy therefore hinges upon an understanding of the channels by which rule-making affects formal and informal institutions, and the social orders that emerge from them.

In attempting to advance this understanding the scholar rapidly runs up against the limits of what can be known about social interactions. Social orderings are immensely complex webs of interactions between individual agents. We cannot hope to understand the details of, and the relationships between, those interactions in sufficient detail to control their effect. Indeed, given our epistemological limitations, it is unlikely that any attempt to do would fail, run aground by the law of unintended consequences. The best we can hope for may be to understand the general approaches that individuals adopt in dealing with one another, and, hence, to appreciate the impact that formal rules have upon those dealings.

1"It would be no exaggeration to say that social theory begins with – and has an object only because of – the discovery that there exist orderly structures which are the product of the action of many men but are not the result of human design." Friedrich A. Hayek, Law, Legislation and Liberty. Volume 1: Rules and Order 37 (1973).

2Our inability to generate sufficient information to control economic activity is a common theme in Austrian school economics. This School contends, first, that no central intelligence can hope to gather and to assimilate all of the situation-specific information to manage individual economic interactions, and, second, that policy should be guided by market outcomes, rather than attempt radically to alter those outcomes. See Friedrich A. Hayek, The Use of Knowledge in Society, 35 Am. Econ. Rev. 519 (1945); Friedrich A. Hayek, Competition as a Discovery Procedure, in New Studies in Philosophy, Politics, Economics and the History of Ideas 179 (1978).
The belief that social orderings can be best explained in terms of the choices of, and transactions between, individuals, is sometimes characterised as “methododological individualism.”\(^3\) It is the position that we adopt in this Article. It is an approach that has been criticised for a variety of reasons, some of which relate to a different interpretation of the term to ours. For example, methodological individualists have been accused of attempting to reason about individuals abstracted from any social context.\(^4\) That is certainly not the approach that we take: while we view individual actions as the basis of any satisfactory explanation of social phenomena, we do not purport to suggest that sociological and historical context are irrelevant; individuals are of course shaped by their experiences and the societies in which they grew up. Indeed, we will point to the importance of these factors in explaining a variety of extra-legal commitment devices. Nevertheless, sociological forces operate through individual agency and, if we want to understand the impact of those forces, we must understand the choices that individuals make, and the ways that they deal with one another.

Most modern social orderings rely upon the ability of their members to make extended commitments. For example, such commitments underpin marriage, political careers, and the care of the very young and the very old. And, of course, they lie at the heart of commercial life. Such commitments could be general (“vote for me and I will underwrite medical insurance for the poor”), or relationship-specific (“if you give me seeds in the spring then I will give you produce in the fall”). This Article studies commitment in relationships.

We make two contributions. First, we categorise and analyse modes of commitment. We explain the choice of commitment device, and we discuss the relationship between social mores, the technological environment, and the choice of commitment device. Second, we discuss the source of commitment in a specific industry: investment banking. Investment banks provide a particularly fertile environment for the study of commitment for at least two reasons. First, as we demonstrate in this Article, modes of commitment have undergone a clear change in recent years. Second, because investment banks are critically engaged in the allocation of resources in developed economies, they are the focus of intense regulatory attention.

Our discussion of commitment starts from the observation that, even in modern societies with sophisticated legal structures and institutions, cooperation frequently relies upon informal interaction and arrangements that lie outside the law. This statement is as true of business relationships as it is of marital partnerships: cooperation in business life relies upon commitments that extend beyond, and are frequently more subtle than, those embedded in black-letter contracts and corporate law. A rich literature examines the ability of such commitments to support private orderings in situations where formal contracts cannot be written. Many rest upon the threat of exclusion from tight-knit business or social groups: the mediaeval merchant guild evolved to render such threats credible,\(^5\) and the Maghribi, Jewish Mediterranean traders operating in the Muslim world before the development of effective courts, relied upon the threat of exclusion from their trading network to induce payment

---


\(^4\)See, e.g., Steven Lukes, Individualism 140 (1973).

from their customers.⁶ The nineteenth century New York Stock and Exchange Board, which in 1863 became the New York Stock Exchange, used the threat of exclusion from its trading floor to ensure compliance with its rules.⁷ Stewart Macaulay’s seminal study of agreements between Wisconsin companies found that many were non-contractual, with no legal force: they were honoured because the parties involved wanted to sustain their business relationship.⁸ Farmers and ranchers in close-knit communities in Shasta County, California, use social sanctions and informal norms in preference to formal legal actions when they experience disputes.⁹ Professional bodies in the modern diamond and cotton industries use the threat of expulsion to ensure compliance with their rules.¹⁰

We start by asking what distinguishes relationships like these, that have little if any reliance upon the formal law, from those whose success rests upon the machinery of the modern legal state. We present our answer using a hierarchy of commitment devices, which runs from the supremely extra-legal commitment mode of trust through reputation, contract, and fiduciary law to the highly legalistic state regulation of relationships. We discuss each of these modes, and we provide a detailed discussion of reputational commitment, which we argue was historically the central mode of commitment for investment bankers.

Our commitment hierarchy is a useful taxonomic device. Devices that sit lower in the hierarchy require sophisticated legal systems, and, hence, are characteristic of more developed economies and of more complicated social orderings. They facilitate more impersonal, arm’s-length, dealings and, hence, facilitate commitment between agents who have had little or no prior dealings and, possibly, have no social connection.¹¹ But, precisely because these devices rest upon a sophisticated legal system, they are subject to third party intervention through the offices of the state. That intervention may reflect deontological moral reasoning or a consequentialist desire to alter outcomes in pursuit of economic efficiency, distributive fairness, pork barrelling, or some other purpose. Either rationale results in an attenuation of the freedom of individuals to commit themselves as they see fit and, hence, alters the social ordering that emerges from individual commitments. In some circumstances that alteration might foster specific moral goals, or improve social outcomes. But, in light of our opening remarks upon knowledge problems in social orderings, we argue that such a positive outcome is more likely to obtain when intervention alters the general application of commitment modes, rather than when it attempts to alter their use for specific purposes.

Individuals rely upon the extra-legal devices at the top of the commitment hierarchy when devices lower down the hierarchy are inappropriate. That could occur when the legal system

---


¹¹For Maine, this was the defining characteristic of social progression: “[T]he movement of the progressive societies has hitherto been a movement from status to contract.” Henry Sumner Maine, Ancient Law 174 (10th ed., John Murray, 1920) (1861).
is insufficiently developed, or when the commitment required is too complex and too subtle to be enforced by a court; it could also be the consequence of excessively heavy-handed state intervention. And the trade-off between commitment at the top and the bottom of the hierarchy also reflects the sociological environment: a society with well-developed social networks of private individuals is better-equipped to operate at the top of the commitment hierarchy that one whose members tend to meet only in state-sponsored fora.

The position of relationship commitment on the hierarchy therefore depends upon the nature of the legal system and the sociological and political environments. It also reflects the state of information technology. However much two agents wish to structure their relationship around contract, they will be unable to do so if it is impossible for them to record the details of their relationship in a form that the courts can use to adjudicate disputes. Changes to legal technology, social and political upheaval, and advances in information technology will each serve to alter the position of relationships on the commitment hierarchy and, hence, to alter the social ordering that emerges from individual commitments.

A sufficiently aggressive state can profoundly alter individuals’ choice of commitment device or even, in extremis, can render them unwilling to make commitments at all. But when a state is governed by a presumption in favour of private choice and free markets, its regulatory interventions can follow, rather than lead, the commitment choices of individuals. Interventions that are effective in relationships governed by contract may be inappropriate when reputation is the basis of a relationship. Indeed, we argue that the unthinking application of regulations that work at one level of the commitment hierarchy to relationships at another level can undermine, and possibly destroy, those relationships.

Extra-legal commitments have a long history in financial markets. For example, commercial bankers use non-contractible and frequently entirely tacit information about the good character of an entrepreneur when deciding whether or not to lend to her. Similarly, it is probably impossible formally to contract over the information that underpins security market transactions; nevertheless, investment banks facilitate the exchange of that information when they take a company to market for the first time. In short, and notwithstanding the extent and the complexity of banking and security market law, financial markets could not function if their participants were unable to rely one another to honour extra-legal agreements. That trust is reflected in the reputations of financial market participants.

Some commentators have argued that the financial crisis of 2007-09 was precipitated in part by a loss of concern amongst financiers for their reputations. That loss of concern has been ascribed in places to a lowering of moral standards. Some have argued that the public policy response to the financial crisis should foster a renewed concern in financial markets for reputation, and so restore trust and raise moral standards in those markets.

Commitment in investment banks is therefore a current focus of public policy. But the issues involved are complex. Historically, investment banks were particularly reliant upon

---

12 See also Robert D. Cooter, Decentralised Law for a Complex Economy: The Structural Approach to Adjudicating the New Law Merchant, 144 I. Pa. L. REV. 1643, 1655-1657 (arguing that lawmakers should enforce community norms that embody efficient incentive structures).

commitment devices at the top of the hierarchy. They emerged from the trans-Atlantic commodity trade of the early nineteenth century, and later focused on financing first the commodities trade, and, later, the industrialisation of the United States. Contract and commercial law were ineffective in these markets, and, hence, financial intermediaries relied heavily upon higher forms of commitment.

We contend that investment banking relationships have slipped down the commitment hierarchy in recent years. This commitment is explicable in terms of our theory: financial markets have been transformed in the last half century by developments in information technology and financial engineering that have rendered previously some tacit financial information codifiable; as a result, investment banking activities that rely upon that information have moved down the commitment hierarchy. We present new evidence in support of this claim.

For the first time in their history, today’s investment banks span a range of positions in the commitment hierarchy. Their traditional underwriting and advisory businesses continue to sit towards the top of the hierarchy. As a consequence of information technological advances, other businesses have been codified and have moved into the dealing rooms; at the same time, they have shifted down the hierarchy.

These changes have important implications for the regulation of investment banks. Our theory suggests that effective rule-making over commitment differs according to the hierarchical level at which the commitment occurs. Hence, in investment banking, one size regulation cannot fit all: the appropriate mode of regulation varies according to the form of commitment with which it is concerned. We suggest that the general thrust of regulatory policy currently fails fully to reflect this fact. Computerisation and advances in financial engineering have served to change the capabilities of regulators and, in particular, they have rendered more intrusive regulation of many businesses feasible. Such regulation is probably more effective for businesses whose natural place in the commitment hierarchy is near the bottom than for those nearer the top. But this distinction is not clear in current regulations. We illustrate the policy challenges in a discussion of a recent difficult case: Goldman Sachs’ ABACUS securitization.

II. THE COMMITMENT HIERARCHY

Many social phenomena rest upon transactions that extend over a significant time interval: indeed, it is impossible to imagine an effective society in which such transactions did not occur all the time. Such a transaction is the purchase today of a ticket for a concert that will occur in the future. This simple example highlights at least three important features of this type of interaction. First, the transaction enables both of the parties to it to plan for the future: the ticket buyer is guaranteed a seat at the concert, and the seller is assured in advance of an audience. Second, the proceeds of the sale can be used by the ticket seller to defray the costs of staging a performance; indeed, without them the performance might be impossible. Third, the ticket buyer is exposed to the ticket seller: absent some mechanism that guarantees her presence in the concert theatre the seller might simply abscond with the ticket price.

We are concerned in this Article with the mechanisms that financial market participants use to resolve the last of these risks: specifically, that they use to commit themselves to honour their side of the bargain in a temporally extended transaction. Legal devices clearly have an important role to play. However, we contend that, historically, extra-legal commitment
devices were more important, and that such devices remain crucial today. In this Part we study a hierarchy of commitment devices, which we later relate to the investment banking industry.

In general, commitment need not be the conscious product of a bilateral relationship. For example, agent X might believe that agent Z, whom he has never met, will perform some action because not to do so would be tortious. Agent X's belief is well-founded, and is an important element of a social ordering, but, because X and Z have no relationship, it falls outside the scope of our discussion. We are concerned with situations in which agents X and Y have a relationship, in the course of which agent Y has made a conscious commitment to agent X to perform action A in the future. In such a situation, there are several reasons why X might have a well-founded belief that Y will honour this commitment.

First, X might simply trust Y. We provide a detailed discussion of this term below: \(^{14}\) for us, it refers to situations where Y performs A even in the absence of any extrinsic penalties for failing to do so. Trust exists in close relationships, and trust-based agreements have particularly weak enforcement requirements. Second, X might expect Y to perform A in order to protect a valuable reputation. In this case, Y is concerned to avoid an extrinsic cost, but Y nevertheless suffers no legal sanctions from a failure to perform A. Third, Y might be required to perform A by an enforceable contract. The contract is a relational device: its terms are directly negotiated by X and Y, and the enforcement decision is X’s. But the enforcement mechanism in this instance is legal, and the extrinsic costs that Y faces upon a failure to perform are imposed by the courts. Fourth, Y might be required to perform A by virtue of a fiduciary relationship with X. Fiduciary responsibility is embedded in the relationship that X and Y have, and the fiduciary relationship is willingly adopted by both X and Y. Nevertheless, the definition and the scope of the fiduciary responsibility are in practice subject to a higher degree of court interpretation than are the terms of a purely contractual relationship. Fifth, Y might be required to perform A by a regulation. Such regulations can be relational, in that they may be predicated upon the existence of a relationship between X and Y, but their terms are imposed from outside the relationship and their enforcement is the responsibility of a third party agent that will most likely consult neither concerned party before acting.

The previous paragraph identifies a commitment hierarchy, running from trust down to regulation. The further up the hierarchy a commitment devices lies the more closely its design and enforcement are embedded in the relationship between the parties to the commitment, and the less it relies upon the formal law for its definition and enforcement. Conversely, the lower down the hierarchy a device lies, the more it is embedded in the public sphere, and the more it relies upon courts and upon the legal state.

Any commitment that arises in the context of a bilateral agreement rests upon one of the devices in the hierarchy. Our goal in this Part is to understand the choice of device. That requires us first to develop our understanding of each level of the hierarchy in greater detail. The remainder of this Part is therefore devoted to a discussion of the hierarchy, and of the reasons for situating specific agreements at a specific hierarchical levels.

\(^{14}\)See infra Section II.A.
Trust has been studied extensively by philosophers, sociologists, and legal scholars, and we do not attempt in this Article to provide a comprehensive summary of that work. Nevertheless, if we are to make progress we need to cover enough ground to define “Trust”, and to distinguish it from the other elements in our hierarchy.

Suppose that, absent other considerations Joe would prefer to cook with nuts. Can we say that Sue, who has a mild nut allergy, trusts Joe if she believes that he will not use nuts when cooking for her? More formally, suppose that agent Y would prefer action B to action A if he had no relationship with agent X. If X believes that, because she has a relationship with Y, Y will select action A, can we say that X trusts Y? Much of the published work on trust appears to suggest that we can, although formal definitions of trust are surprisingly rare in academic treatments of the subject.

While the definition of trust discussed in the previous paragraph encompasses ours, we believe that it is too broad. If Joe believes that he will go to jail if he cooks with nuts then can we really say that Sue’s belief that he will not is founded upon trust? We think not; while Joe has a choice, his decision is calculative, and reflects the extrinsic incentive that the law provides. Suppose instead that Joe anticipates that a decision to cook with nuts will result in his exclusion from a social circle that he values highly. Is Sue’s belief that he will work to avoid social exclusion a trusting belief? Again, we think not; Joe’s incentives in this case are not provided by the law, but they are real enough, and his actions are once again calculative, and reflect the extrinsic costs of social exclusion.

Once we exclude all calculative decisions of the type discussed in the preceding paragraph we are left with a relatively small set of truly trusting relationships. Trusting relationships have two components: first, they arise when one agent can be relied upon in some situations to choose a less-preferred option by virtue of its relationship with another party, and second, they occur only when that decision is instinctive: that is, when it reflects intrinsic, rather than an extrinsic, motivations. Only when both of these requirements is satisfied can the action-performing agent be said to be trustworthy and, hence, the relationship be characterised as one of trust.

A child can truly be said to trust that a parent will keep a promise to take it to the movie theatre; a failure to honour such a promise has no extrinsic cost, although the parent will most likely suffer an intrinsic, conscience-inspired, cost if the promise is broken. But trust need not be confined to close familial relationships. Professional athletes trust the other members of their teams to act in a selfless way, even though there may be strong financial incentives not to do. The military could not function without trust. That there are limits to such trust does not deny its existence: trust arises between two agents with respect to a

---

15Some significant conceptual treatments of the subject are Russel Hardin, Trust (2006); Piotr Sztompka, Trust: A Sociological Theory (1999); Francis Fukuyama, Trust: The Social Virtues and the Creation of Prosperity (1995); Martin Hollis, Trust Within Reason (1998).

16For a related perspective, see Oliver E. Williamson, Calculativeness, Trust, and Economic Organization, 36 J.L. & Econ. 453, 486 (1993) (arguing that the term “trust” should be reserved for “noncalculative personal relations.”) See also Margaret M. Blair & Lynn A. Stout, Trust, Trustworthiness, and the Behavioural Foundations of Corporate Law, 149 U. Pa. L. Rev. 1735, 1751 (2000-2001) (studying “internalised trust”, which is “driven by expectations of intrinsic trustworthiness” rather than on whether the trusted person “has external incentives to refrain from exploiting another.”); Larry E. Ribstein, Law v. Trust, 81 B.U.L. Rev. 553, 557 (2001) (arguing for a “strong-form” definition of trust, which arises “when the trustee is not bound by external constraints to honor his promise.”)
particular action; it need not arise with respect to another.

The sociological literature on trust suggests that it arises in close communities where agents have acquired the habits of trustworthiness through long association, and, usually, as children. But it is important to be clear as to the nature of those communities and the commitment they generate: trust in our hierarchy is not operational when performance is motivated by the extrinsic threat of exclusion from a social circle. This type of threat is encompassed in our discussion of reputation; some sociological and legal scholars define trust so as to encompass it.¹⁷

Trust in the sense we have defined it can arise in business relationships. Some people working in business are guided by an internal moral compass¹⁸ to turn down opportunities to engage in undetected fraud, whether minor (stealing pencils from the stationery cupboard) or more significant (claiming unincurred expenses). Of course, others seize such opportunities with alacrity. Similarly, some business people work harder than necessary because they experience guilt if they do not. Some business people trust others, in the sense that we use the term, because they share family or educational backgrounds. It is rather hard to measure the extent of this type of trust, however, and much of the literature on extra-legal “trust-based” agreements is really concerned with reputation, to which we turn next.

B. Reputation

Many commentators stress the importance of reputation in social and economic life but, in contrast to the other levels in our commitment hierarchy, the academic literature on reputation is rather thin. In particular, few commentators attempt to make a clear definition of the term. Moreover, as we have already noted, reputational enforcement is frequently conflated with trust-based commitments.¹⁹ As a result many arguments about reputation are imprecise, and one could argue that some disagreements stem from different conceptions of reputation. It is therefore necessary for us to give a deeper discussion of reputation than of the other levels in the commitment hierarchy, concerning which there is already a rich academic literature. We start this Section with a brief conceptual analysis of reputation; we then discuss some of the social and institutional features that support reputation formation.

Reputation is a social attribute. We can say that a person has brown hair without reference to her peer group, but if she has a reputation it reflects what other people expect or believe of her. So, for example, when we say that a “reputation” accrues to a person whose actions comply with our notion of virtue, we are not reporting merely on the past actions of that person, although those actions will inform our thinking; rather, we are making a statement about our belief that he or she will continue to behave in that way in the future. The past actions are useful as a guide to the future, but they do not constitute the person’s reputation.

It is common to refer to “corporate reputation,” and we will occasionally do so in this Article. This is a natural usage, but, in light of our emphasis upon methodological individualism,²⁰ it requires clarification: what does it mean for a reputation to attach to an

---

¹⁷ See, e.g., Hardin, supra note 15, at 17 (“To say we trust you means we believe you have the right intentions towards us and that you are competent to do what we trust you to do.”)


¹⁹ See, e.g., Hardin, supra note 15, at 23 (“Reputation is a centerpiece in many discussions of trust.”)

²⁰ See supra note 3 and accompanying text.
institution, rather than to a decision-making individual? We define institutional reputation by analogy with individual reputation: an institution has a reputation for a given behaviour if its representatives can be expected to take actions that accord with that reputation, even when they would not do so if operating independently of the institution.

If reputation is a social attribute then it is wrong to use the word to describe an attribute whose measurement is not a matter of social interaction and of individual judgement. Hence, for example, it would be wrong to describe a blue-eyed person as having a reputation for having blue eyes; this is a fact that can be independently and uncontroversially measured, and is not the basis of a social, and reputational, judgement. On the other hand, the traditional notion of a “good name” is inherently social: someone has a good name when her actions are judged to conform with a vision of the good that itself reflects current social norms. An international trading business can earn a good name today by treating indigenous cultures with respect; two hundred years ago it could not.

Reputation reflects individual judgements, but it has real consequences. Some doors are closed to a person whose reputation is “bad” in the sense that his peers believe that he does not conform to received moral standards; he is unlikely, for example, to be invited to join the board of a charity, to achieve public office, or to be invited to certain social events. A corporation with a reputation for customer service is more likely to attract business; a person with a reputation for competence and intelligence is more likely to be hired.

If a person’s reputation has such a profound effect upon her social and professional life, a robust social ordering demands that her reputation be as accurate as possible, and that she have the ability to contest accusations likely to tarnish her good name. Hence, the law has a natural connection to reputational concerns: effective defamation laws have the potential to reduce the volume of baseless accusations against public individuals and organisations, and so to alleviate the associated transactions costs. In practice, of course, the courts are not neutral arbiters of reputational facts: in identifying those facts that are libellous and, hence, can serve as the basis for an action, they apply majoritarian moral codes, either because they reflect received wisdom, or because they are handed down by legislatures.

The relationship between reputational effects and the law is concerned with more than the settlement of defamation cases, however. For example, a firm might wish to acquire a reputation for underhand competitive tactics in order to protect itself against new entrants to its markets. Most people would regard such a reputation as inconsistent with ethical business norms and, hence, it could not be protected with a defamation lawsuit. But this example goes deeper. “Underhand competitive tactics” are surely contrary to most conceptions of the Law, whether instrumental, moral or purely analytic. Why, then, does the law not prevent the creation of this type of reputation?

The problem with this example, of course, is that “underhand competitive tactics” are extremely hard to pin down in law. Indeed, it is precisely because they cannot easily be measured that a reputation for such tactics is valuable. In this instance, reputation is serving as the basis for a social ordering where problems of measurement and formal law preclude the use of the formal law.

We believe that this is the most important attribute of reputation: for us, reputation is useful because it tells social actors what to expect of one another in situations where key actions or attributes cannot be measured, and cannot form the basis of a legal agreement. In other words, and despite the existence of defamation laws, reputation exists apart from the formal law. It facilitates temporally extended social transactions that could not be supported
using purely legal arrangements. For example, The Body Shop is a British cosmetics firm that promises to behave ethically in its dealings with developing country suppliers, and that adheres to a strict ethical code that precludes animal testing of its products. It is probably impossible to check that it has kept some of its promises; others concern very hard-to-measure and highly contestible quantities. Nevertheless, its long trading history appears to convince its customers that the Body Shop will honour its ethical commitments. A new entrant to the cosmetics market without a track record would struggle to generate as much confidence. The Body Shop’s reputation is therefore a valuable business asset; it is able to charge customers who value ethical behaviour higher prices because its promises are uniquely credible. Both the Body Shop’s shareholders and its customers benefit from its ability to make reputationally enforced commitments. This is a relatively simple example: we study a number of more complex ones from the financial markets below.

Any firm could attempt to create the systems and procedures that underpin the Body Shop’s commitment to specific behavioural patterns. In other words, the Body Shop’s reputation appears largely to reflect behavioural choices, rather than specific and unusual attributes or talents. Economists have studied models in which reputation has this property; in their models reputable firms maintain their behaviour patterns so as to maintain their reputations and, hence, their superior income stream; firms without a reputation do not provide superior service because it is not expected and, hence, it is not reflected in the prices they can charge.\footnote{These ideas were developed by David M Kreps, Corporate Culture and Economic Theory, in Perspectives on Political Economy 90 (James E Alt & Kenneth A Shespie ed., 1990) and Drew Fudenberg, David Levine & Eric Maskin, The Folk Theorem with Imperfect Public Information, 62 Econometrica 997 (1994).}

Reputation is critical to the maintenance of complex social orderings. It enables agents to make commitments, and hence to generate wealth, that would be unattainable using only private law. It has a non-instrumental justification, too: a reputational ordering is not enforced by the state, and so allows individuals to pursue their own version of the Good. A state-sponsored system of measurement and reporting might be able to achieve through public law behaviour patterns that cannot be enforced through private, contractual, law. But such a system would impose the same values upon everyone. In contrast, a private, reputational, ordering allows agents to choose the behaviours to which they subscribe, and hence is arguably an effective way to accommodate a plurality of values in a liberal society.

Given the centrality of reputational concerns to much of social life, it is important that we understand the social and institutional features that facilitate their creation and maintenance. Reputations can be created and maintained only if agents can observe the reputation carrier’s behaviour with some probability, so that they can downgrade the agent’s reputation if the wrong actions are taken. But recall that reputations derive their value from the fact that they concern hard-to-codify actions that cannot form the basis of a black-letter contract. Information about reputations is therefore most effectively transmitted through social networks in which nuanced information can be effectively communicated, even when it cannot be written down and proved.

These observations reinforce the social nature of reputation. They suggest that reputation-supported commitment is most easily maintained in societies that have interlocking networks of people amongst whom the tacit information that supports reputation can be credibly exchanged. A similar observation was made by Alexis de Tocqueville,\footnote{Alexis de Toqueville, Democracy in America (Eduardo Nolla ed., Liberty Fund, 2010) (1835)} who argued that early
nineteenth century American society was able to support informal enforcement devices because it had a tradition of voluntary associations that extended beyond the family, but were smaller than, and independent of, the state. In contrast, he argued that French society, which lacked such a tradition, could not rely upon extra-legal commitment devices, and so was forced to fall back on state organisation and coercion. Francis Fukuyama suggests that the presence of intermediate associations renders a society better able to create reputational enforcement mechanisms, which he believes are a source of competitive advantage, because they are more nuanced and cheaper to establish than formal contracts.

If reputation is significant in business life then it must be supported by the intermediate networks of the previous paragraph. For retail firms, which are subject to word-of-mouth effects, and whose business is closely reported in the media, such networks are easy to create. But a firm whose transactions are harder to observe and to explain, such as a diamond merchant or a bank, can only be monitored by a sophisticated agent that understands its behaviour. One such agent is a client; that client may struggle credibly to transmit information about its trading experiences, so that the firm’s reputation is client-specific. In general, because it is hard to transmit reputation-sensitive information about complex firms, it is hard for those firms to create large social networks within which reputations can be maintained. Such a firm could maintain multiple reputations, each with a separate agent or group of agents that can communicate with one another, but not with agents outside their ambit.

The multiple-reputation firm has some advantages: the separation of reputations across multiple social networks creates natural “firewalls” against the contagion of reputationally damaging information and allows for some discrimination between customer groups. But this structure undermines the effectiveness of reputational commitment devices: if an agent can break a promise to one consumer without seriously damaging its reputation with others then it will struggle to attract new customers, who are aware that their relationship with the firm is new and of little reputational value, and to retain older consumers, who fear that they will be cut loose as soon as the continuation value of their relationship is perceived by the firm as likely to diminish in the future. It follows that a complex firm operating in a market where extra-legal commitments are important derives a significant competitive advantage from a large reputation-sustaining social network. Moreover, because such networks are very hard to build, such an advantage may be unassailable.

A natural solution to the problem of information transmission in complex reputational businesses has emerged in market economies. When a firm’s business is too complex for the majority of its business counterparties to observe there is a role for a specialist organisation whose only role is to observe and communicate its activities. Such an organisation facilitates the creation of a social order by enabling economic actors to create and maintain reputations, and to use those reputations when dealing with very infrequent or one-off counterparties.

---

23 Fukuyama, supra note 15, at 49-56. Fukuyama labels as “Trust” the enforcement mechanisms with which he is concerned. Id., at 26. Trust for him is partly sustained by the reputational mechanisms that we discuss in this section. But it can also stem from learned behaviour: he stresses the importance of culture in sustaining extra-legal arrangements and by “culture” he means the unreflective acceptance of social norms. Id., at 34. Cultural relationships in Fukuyama’s work therefore correspond to our notion of trust, supra Section A. Fukuyama argues that cultural norms are internalised in childhood in societies where they have been established through reputational orderings. Id., at 36-41.

24 This remark does not contradict our earlier claim that reputation is a social phenomenon. Such phenomena obtain whenever one agent forms a view of another through social contact.
This is the reason that so-called “gatekeeper” firms such as accountants and credit ratings agencies have emerged in advanced economies. Gatekeeper firms certify the quality of a firm’s activities and the truthfulness of its promises. They therefore serve a court-like purpose, but they cannot be viewed as courts under the Rule of Law, because the nature of their activities both renders them impossible to monitor, and also prevents them from applying a high standard of proof. Indeed, in that their activities are outside the law and profoundly affect the nature of the social order, some have argued that their activities should be subject to the oversight of State agencies. This point is a complex one which we do not attempt to address in this Article.

Gatekeeper firms facilitate the creation of corporate reputations.\(^{25}\) Much of the value associated with those reputations accrues to the firm that bears them and, as a result, gatekeeper services are typically paid for by the reputation carrier. However, in two circumstances the carrier may be unwilling to pay a third party reputational gatekeeper. First, the information upon which a reputation rests may be commercially confidential: in that case the client may be unwilling to expose information to a reputational gatekeeper, or the reputation carrier may regard the risks of disclosure to a third party as greater than the potential benefits of reputation formation. Second, a reputation carrier may be unable to recoup the costs of reputation formation through dealing with those who rely upon the reputation. A classic argument about economic externalities then applies. A reputation that third party stakeholders use to condition behaviour that is not priced generates no return for the reputation carrier, which therefore will not fund the gatekeeper that maintains the reputation. Indeed, if the absence of reputation data enables the reputation carrier to operate at the expense of the third parties it will actively discourage the gatekeeper. When reputation violates confidentiality requirements or is an externality there is a potential role for public policy; a state-sponsored auditor can maintain socially valuable reputations that no one else will pay for.

While the previous paragraph identifies a rationale for state-sponsored gatekeepers, their introduction is subject to complicated practical problems. These are illustrated by the argument surrounding the funding model for credit ratings agencies in the wake of the 2007-2009 financial crisis. The crisis appeared to highlight serious deficiencies in the ratings of some structured credit instrument instruments.\(^{26}\) Some commentators argued that ratings agencies were conflicted because their services were paid for by the rated firm, and that this conflict resulted in poor ratings standards. They concluded that ratings agencies should be controlled by the state. However, various scholars argue that any loss of reputational concern within ratings agencies reflected ill-considered regulatory interference in their activities.\(^{27}\) In

\(^{25}\)One could argue that credit scoring affects individual reputations. Credit scoring firms use publicly available information, and generally have no personal contact with the people whose creditworthiness they certify. Hence, it is hard to argue that they are concerned with the tacit and extra-legal quantities that make a reputation.

\(^{26}\)See Efraim Benmelech & Jennifer Dlugosz, *The Alchemy of CDO Credit Ratings*, 56 J. Mon. Econ. 617 (2009) (analysing almost 4,000 structured bonds backed by loans: the loans have an average rating of B+, a “junk” rating, and 70% of the bonds receive the highest AAA rating); Joshua Coval *et al.*, *The Economics of Structured Finance*, 23 J. Econ. Persp. 3 (2009) (arguing that ratings agencies would have to be extraordinarily confident of their ability to estimate the correlation between defaults to justify the ratings given to structured products).

the early years of the twentieth century the regulation of banks and investment firms was increasingly predicated upon the credit ratings of their assets. This decision reflected a desire to bring the superior dispersed information gathering capabilities of free markets to bear upon the regulation of those markets. But it had the unanticipated consequence of undermining the market processes that generate that information. The reason was that regulations that made high ratings a necessary prerequisite for regulated firms to invest in certain classes of security introduced a secondary role for the ratings agencies: in addition to certifying the quality of investments, they now constrained the activities for regulated entities. Those entities may have valued a relaxation of their regulatory constraints over the quality of ratings agency data; if so, reputational concerns lost their bite in the ratings agencies. In short, reputational gatekeepers are effective when they have only one function; introducing new roles, even when those roles reflect laudable goals such as the maintenance of orderly markets or the protection of retail investors, can undermine their reputation maintenance role, and may even serve to undermine the original rationale for role expansion.

C. Contract

The contract literature is voluminous and deep. We confine ourselves in this Section to a discussion of the elements of contract that are relevant to our argument and, where relevant, to a comparison of the contractual and reputational levels of the commitment hierarchy.

First, note that, in common with the reputational devices of Section B, the relationship between the contracting parties lies at the heart of contract law. The rationale for enforcement is of course contested. This will be relevant for our argument, but it is of secondary importance for our main argument, which is that contract is the least intrusive legal means of enabling parties to build commitment to temporally extended transactions into their relationships.

The use of legal means to enforce contract bears upon our argument in several ways. First, because contractual commitment is provided by the courts, contracts must be drafted in language that can be interpreted by the courts. Hence, while the parties to a business arrangement may understand implicitly what a “satisfactory” good is, they cannot leave the term implicit in a contract, as they probably would in transactions underpinned by reputational devices. Contracts are therefore limited by the ability of formal language to reflect understood tacit norms. They are inevitably less nuanced than extra-legal arrangements.

Second, when contractual language clearly fails to delimit behaviour in some state of the world, the courts supply missing clauses. This renders contract superficially flexible. But that flexibility is rather indeterminate. A contractual term may have been intended to have a blanket relevance, even if it appears to fail to address a complex real-world situation. In other words, even the absence of a contractual clause is sometimes contestable in court, although its presence or absence may in fact be obvious to plaintiff and defendant. Furthermore, even when contractual clauses are clearly incomplete, the court needs a device to supply them, and any device reflects a normative judgement that the plaintiff and defendant may not have intended when contracting. It is for this reason that the normative foundations of contractual enforcement are important: whether the court aims to foster economic efficiency, Kantian respect for the person, doctrinal coherence, social unity or some other goal is less important to our argument than the fact that any choice amongst these alternatives rules
out the others, and so limits the contracting parties’ freedom of action relative to the case where they can make an extra-legal commitment.

In summary, in moving from the reputational to the contractual level of the commitment hierarchy, the parties to a relationship are forced to make less precise commitments. As a result, they sacrifice some moral autonomy to the court that will fill contractual gaps and, in so doing, will impose a normative vision upon their relationship that they might not have chosen for themselves. This shift might be necessary if the parties are to reach any sort of agreement, but it clearly affects the nature of the emergent social ordering.

The shift from extra-legal to legal enforcement affects the extrinsic penalty for failure to perform on a commitment. Extra-legal contractual devices are relatively crude in this regard: reputation loss can be precipitate, and the attendant costs for the affected agent can be massive. They certainly cannot be effectively quantified in advance, although they are sufficiently large to discourage non-performance. On the other hand, the penalty for failure to perform on a black-letter contract is reasonably precisely specified. This might make for more precise arrangements. But it may also render the commitment less effective. Law and economics scholars have characterised the decision to perform on a contract as being based on a cost-benefit analysis; given this insight, it is hardly surprising that non-performance occurs. Indeed, if contract is viewed consequentially as a device for securing economic efficiency, non-performance may even be desirable. But this observation simply underlines the fact that the meaning and effectiveness of contractual commitments reflects moral judgements exterior to the contracting relationship, and that it forces contracting parties into particular arrangements.

Finally, there is an important distinction between the enforcement of extra-legal commitments and of contractual commitments. Extra-legal commitments are frequently self-enforcing. If Y fails to honour a reputational commitment to X then, provided Z can observe this failure, Y will suffer an immediate reputational cost although, of course, a public renegotiation might prevent this cost if Z believes that the renegotiation is consistent with Y’s reputation. Furthermore, if Z is a gatekeeper then Z can trigger the reputational loss without recourse to either X or Y. In contrast, the decision to enforce a contractual commitment is the plaintiff’s alone: if Y’s commitment to X were contractual then Z would have no right to trigger damages. In this respect the contractual commitment is perhaps more closely embedded in the private relationship than is the extra-legal one.

**D. Fiduciary Duty**

Fiduciary law applies to a broad range of situations, and its precise nature is hard to pin down. Once again, we restrict our attention to the aspects we need to make our general point.

While the appropriate scope and the precise content of the fiduciary relationship are the subject of scholarly debate, we can identify some important salient features. A fiduciary has control over the property of a beneficiary, and that control is usually open-ended. Hence, contract law has secondary rules that govern its application, while extra-legal commitments do not. See H.L.A. Hart, *The Concept of Law* 77-96 (1961): Cooter, *supra* note 12, at 1654.

the beneficiary is exposed to bad faith on the part of the fiduciary. Moreover, the fiduciary is in a superior position to the beneficiary, usually by virtue of its better information, its physical proximity to the relevant assets, or its social power (as, for example, when the fiduciary is a professional adult and the beneficiary is a child).

Fiduciary law protects the beneficiary by requiring the fiduciary to act in the interests of the beneficiary and, moreover, to avoid taking any actions with respect to the fiduciary relationship that could give even the impression of self-interested behaviour. Hence, for example, a fiduciary cannot sell the assets for which it has responsibility to itself, and it cannot engage in self-dealing with its assets.

Fiduciary duty is of interest in the context of this Article because it is usually held to govern the behaviour of corporate directors with regard to shareholders. Some commentators have also argued that investment banking advisors should have a fiduciary responsibility to their clients.

As conceived by some authors, fiduciary law facilitates and protects close personal dealings between social actors. This conception appears to mitigate against our decision to place fiduciary law towards the bottom of our commitment hierarchy. For example, it has been argued that fiduciary law exists to protect trust. That statement strikes us a contradictory. Trust sits at the top of our commitment hierarchy because, when it exists, it needs no legal reinforcement. It would be better to say that fiduciary law exists to protect relationships that would be better intermediated by trust, but where trust is imperfect. But that begs a question: what prevents those relationships from resting upon reputation concerns or upon contract law?

The answer is that fiduciary law deals with situations of extreme contractual incompleteness. The open-ended nature of the fiduciary’s control renders it almost impossible in most situations to state up-front what course of action is in the beneficiary’s interests, and renders it extremely hard to generate information about actions after they have been taken. If one could enumerate optimal choices and measure their implementation then a reputational or contractual relationship would be the appropriate commitment device. Either would be a safer way to meet the needs of the beneficiary, and neither would interfere with the natural desire of the fiduciary to pursue his own goals in tandem with those of the beneficiary.

If the impossibility of enumerating and measuring fiduciary actions renders fiduciary relationships necessary then, inevitably, the parties to a fiduciary relationship must rely to a great extent upon the courts to evaluate fiduciary actions and to provide recompense for inappropriate choices. It is hard or impossible to restrict the court’s discretion. And, because the courts frequently cannot determine after the fact whether the fiduciary acted in the beneficiary’s interests, they are frequently forced to fall back upon procedural requirements, like the prohibition on self-dealing, rather than to make substantive judgements.

---

30 Some authors contest the appropriateness of fiduciary duty in this context, or even its de facto existence. See Kelli A. Alces, Debunking the Corporate Fiduciary Myth, 35 J. CORP. L. 239 (2009-2010) (arguing that directors are not entrusted with open-ended control of corporate assets, and that the case evidence contradicts the hypothesis that directors are held to fiduciary standards).

31 See, e.g., Robert Flannigan, The Fiduciary Obligation, 9 OXFORD J. LEGAL STUD. 285 (arguing that fiduciary law has its basis in a public interest in ensuring that trust is honoured).

32 For a particularly forceful exposition of a related but stronger position, see Frank H Easterbrook & Daniel R Fischel, Contract and Fiduciary Duty, 36 J.L. & ECON. 425, 427 (1993) (“a ‘fiduciary’ relation is a contractual one characterized by unusually high costs of specification and monitoring.”).


34 For an economic discussion of this point, see Robert Cooter & Bradley J. Freedman, The Fiduciary
In short, fiduciary law is the basis for commitment in bilateral relations that are so complex that neither reputational nor contractual commitment devices are appropriate. The parties to a business relationship can usually choose whether it should be governed by fiduciary law, and, as with contract law, enforcement is initiated by a beneficiary plaintiff. But the content of a fiduciary relationship is determined by the courts to a far greater extent than the content of a purely contractual relationship. Fiduciary law involves a greater reliance upon the courts and, hence, upon the normative choices of the courts, than contract law. As a result, it sits lower in the commitment hierarchy than does contract law.

E. Regulation

Regulations sit at the bottom of our commitment hierarchy, because they represent commitments that are created and enforced by parties who are not privy to the relationship that engendered those commitments. To be more specific, suppose that agent Y floats agent X’s shares on the stock market. X and Y’s business relationship rests upon commitments that each makes to the other. Depending upon their nature, those commitments could rely upon trust, reputation, contract or fiduciary duty. In addition, by virtue of its business relationship towards agent X, agent Y has some legal responsibilities that neither X nor Y need have chosen. For example, Y is required to disclose certain types of information and not to disclose others. Those responsibilities are contingent upon the relationship between X and Y and they represent enforceable commitments; they therefore belong in the commitment hierarchy. But, because they are imposed by a third party which is also responsible for enforcement actions and for deciding the penalties for non-performance, they have the weakest connection of any commitment device to the relationship between X and Y.

Successive moves from trust-based commitment through reputational commitment and contractual commitment to fiduciary commitment each represent a greater reliance upon the decisions and the norms of the state. Trust-based commitment relies upon no external enforcement devices, and, hence can reflect only the norms that its counterparties bring to their relationship. Reputational commitment is possible to the extent that the members of social networks are prepared to sanction certain types of behaviour. But, while it requires a network of such people, reputational commitment does not require them to adopt general norms. Amish communities successfully sustain norms that are neither shared by most Americans nor sanctioned by a legislature, for example. Contracts, like reputational commitments, are designed by the parties to the relevant relationship, but, in contrast to the reputational arrangements, unclear terms are filled by the courts in accordance with prevailing social norms and in line with legislation. And, finally, because fiduciary relationships are not susceptible to detailed codification or monitoring, they are subject to a still greater extent to the agency of the courts and, hence, to whatever normative perspective they adopt.

The progression down the commitment hierarchy from trust to fiduciary duty therefore represents an increasing reliance upon socially agreed norms and at the same time a concomitant reduction in the abilities of parties to a relationship to choose their own moral position. But, at every stage in the progression, the parties to the relationship elect to adopt those norms by choosing to commit themselves. While the parties could avoid regulation by refusing to embark upon a relationship, the standards that it imposes are qualitatively different to those that apply further up the hierarchy. First, the standards are not determined in the

context of a particular relationship, as are those used for gap-filling by the courts. Rather, those standards apply across the board to every party touched by the regulation. It follows that regulatory commitment is cruder and much less nuanced that commitment achieved using other devices in the hierarchy. Second, there is no reason in general to believe that regulatory standards are imposed in pursuance of relationship-specific values. Indeed, they will in general be imposed for other reasons. At least two reasons are particularly relevant. First, regulations may be imposed to protect third parties who are affected by, but are not privy to, regulated relationships. For example, regulations restricting risk-taking by deposit taking banks protect tax payers who are exposed to the costs of bailouts. Second, regulations may be intended to impose norms regarded as desirable by the polity, that do not form a part of current practice. Such regulations are of course subject to change in response to changing social attitudes. Laws outlawing homosexuality or inter-racial marriage fall into this category.

F. Situating Relationships on the Commitment Hierarchy

We conclude this Part by briefly considering the factors that determine the location of a relationship on the commitment hierarchy. The first determinant of commitment device is social. As de Tocqueville and Fukuyama note,\textsuperscript{35} neither trust nor reputational commitment is easy to sustain in a society that lacks social networks intermediate to the family and the state. Those networks, and their ability to maintain and to transmit information, collectively form a society’s social capital. Hence, we would expect to see a higher reliance upon legal devices in societies that lack social capital. Fukuyama presents evidence that appears to support this position.

The second determinant of commitment device is the quality of the legal system. The parties to a relationship deploy the commitment device that meets their needs at the lowest cost. The costs of legal commitment in a society with a dysfunctional legal system are so high that the citizens of such a society will rely upon trust and reputation-based commitment. As the legal system strengthens the cost of legal commitment drops, and so its use increases.

The final determinant of commitment device, and the one that will be of most interest to us, is technological. Trust and reputational commitment have low transaction costs, but an exclusive reliance upon these devices comes at a cost. If an agent has to rely upon extra-legal commitment then he is restricted in his choice of trading partner to the social networks that can support the necessary commitment. There are at least three costs to such a restriction. First, it opens the door to monopolistic practices. Second, it may tie the agent to the feudal relationships of his existing social circle. Third, it may prevent the agent from accessing capabilities and opportunities that are available only outside his social circle. For these reasons, the transactions costs of legal commitments that are less closely linked to the nature of the social relationships they govern may be far outweighed by their benefits. Hence, any technological change that renders legal governance easier is likely to see an increase in its use. The most obvious such change of recent years is the advent of cheap and widely distributed computing. Computers have rendered the measurement and codification necessary for legal commitment easier and cheaper. We believe that they have resulted in a corresponding drop in the importance and use of extra-legal commitment devices. The remainder of the paper documents and explains this drop in the investment

\textsuperscript{35}See supra notes 22- 23 and accompanying text.
COMMITMENT IN INVESTMENT BANKING

III. EXTRA-LEGAL COMMITMENT IN INVESTMENT BANKING

A. Investment Bank Reputations in History

Investment banks historically operated in markets where information was tacit and legal commitment was hard to achieve. Hence, traditional investment banking activities are very reliant upon reputational commitment, although the nature of the those commitments, and the ends to which they are directed, are frequently laid down in regulations. We will refer throughout the Article to investment bank reputation.

The long-run history of investment banks illustrates the importance of reputational commitments to their traditional activities. Investment banks emerged in the nineteenth century from the cross-border trade in cotton and dry commodities.\textsuperscript{36} At the start of the nineteenth century legal institutions and international trading law were undeveloped,\textsuperscript{37} and the Atlantic traders had to rely upon extra-legal devices to support their activities.\textsuperscript{38} They therefore built reputations for fair-dealing and truth-telling that enabled them to extract valuable information about trading partners, and to sustain extra-legal commitments with them.\textsuperscript{39}

The importance of reputational assets to these early traders was underscored by their response to technological and legal innovations in the middle of the nineteenth century. The introduction of expectation damages in commercial law,\textsuperscript{40} the increasing sophistication of maritime trade law,\textsuperscript{41} the inauguration of timetabled steamship crossings of the Atlantic,\textsuperscript{42} and the opening of the trans-Atlantic telegraphic cable\textsuperscript{43} served both to expand the space of contracts available to Atlantic traders, and also to increase their confidence in the courts that settled those contracts. As discussed in Section II.F, these effects increased the relative attractiveness of formal law over reputational devices in trans-Atlantic trade. As a result, the returns to be derived from reputational assets in that trade dropped.

The early traders elected not to compete with new entrants to the commodity trade, and instead started to concentrate upon finance,\textsuperscript{44} where information was still hard-to-codify and relationships remained critically important; as financiers they could therefore still earn a superior return from their reputational assets. Initially the major trading houses financed the commodity businesses from which they had emerged; later on, they used their European contacts to raise funds for the industrialisation of the United States.\textsuperscript{45} European investors were extremely exposed because they were unable to gather detailed information about the securities in which they invested, or even adequately to audit the accounts of the issuing firms. As a result, they relied upon their bankers to identify good investments, and to

\textsuperscript{38}Horowitz, supra note 37, at 155.
\textsuperscript{39}Morrison & Wilhelm, supra note 36, at 107-109.
\textsuperscript{40}Friedman, supra note 37, at 203-206.
\textsuperscript{41}Morrison & Wilhelm, supra note 36, at 129-132.
\textsuperscript{42}Id., at 100-101.
\textsuperscript{43}Id., at 159.
\textsuperscript{44}Id., at 157-160.
Table 1: Board memberships by bank for the seventeen banks cited in US v. Morgan et al.

<table>
<thead>
<tr>
<th>Bank</th>
<th>Directorships</th>
<th>Bank</th>
<th>Directorships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blyth</td>
<td>10</td>
<td>Kidder Peabody</td>
<td>4</td>
</tr>
<tr>
<td>Dillon Read</td>
<td>2</td>
<td>Kuhn Loeb</td>
<td>10</td>
</tr>
<tr>
<td>Drexel</td>
<td>2</td>
<td>Lehman Brothers</td>
<td>54</td>
</tr>
<tr>
<td>Eastman Dillon</td>
<td>4</td>
<td>Morgan Stanley</td>
<td>2</td>
</tr>
<tr>
<td>First Boston</td>
<td>3</td>
<td>Smith Barney</td>
<td>8</td>
</tr>
<tr>
<td>Glore Forgan</td>
<td>6</td>
<td>Stone &amp; Webster</td>
<td>2</td>
</tr>
<tr>
<td>Goldman Sachs</td>
<td>34</td>
<td>Union Securities</td>
<td>9</td>
</tr>
<tr>
<td>Harriman Ripley</td>
<td>6</td>
<td>White Weld</td>
<td>6</td>
</tr>
<tr>
<td>Harris Hall</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Board memberships by bank for the seventeen banks cited in US v. Morgan et al.

achieve a fair deal for them if their borrowers ceased to pay interest. And they had little recourse to black-letter law: prior to the 1934 Securities Act, US bankruptcy law was created in court by the investment banks.\(^{46}\) It follows immediately that reputation was a critical asset for investment banks. A strong reputation was a critical business asset, and it presented a significant barrier to entry.

A bank’s reputational assets could be deployed in the service of the issuing companies with which it had relationships. Precisely because a bank’s reputation for probity was so precious, any action by the bank that risked its reputation on a statement of client quality was credible. One such action occurred when investment banks took seats on the Boards of the firms for which they issued securities. This was a common practice throughout the nineteenth and much of the twentieth century. We have gathered evidence on investment banker Board representation from court submissions relating to a suit filed under the Sherman Act by the US Justice Department against seventeen investment banks that were accused of conspiring to suppress investment banking over a thirty year period starting in 1915. The submissions covered the period from 1930 through 1949. Table 1 shows the number of firms at which partners of the cited banks had Board memberships in that period. Twenty firms had directors from more than one bank; ten had directors from both Goldman Sachs and Lehman Brothers. In most instances, a firm with a banker on its board used his bank for at least one securities issue.

Although all banks had board representation at other firms, partners at Goldman Sachs and Lehman Brothers were by a wide margin the most active board members. Their bankers had very long-lived relationships with the firms upon whose boards they sat. We illustrate this with more data from the US v. Morgan papers. Table 2 illustrates external directorships held over the reporting period by Sydney Weinberg, head of Goldman Sachs from 1930 to 1969.

The widespread presence of bankers on non-financial firm boards is a priori susceptible to both positive and negative explanations. The banker could have provided a valuable service, by advising his companies on financial matters, and acquiring information that he could later use for share flotation. Moreover, because a banker risked his reputation when he accepted a board seat, he had a motive to execute his duties carefully, and also a reason to pick the firms upon whose boards he served with particular care. On the other hand, a

\(^{46}\) David A Skeel, Jr., Debt’s Dominion (2001).
<table>
<thead>
<tr>
<th>Client</th>
<th>Start Date</th>
<th>End Date</th>
<th>Tenure as Director (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluett, Peabody &amp; Co., Inc.</td>
<td>6/3/30</td>
<td>12/31/49</td>
<td>&gt; 20</td>
</tr>
<tr>
<td>Continental Can Co., Inc.</td>
<td>6/11/30</td>
<td>2/31/49</td>
<td>&gt; 20</td>
</tr>
<tr>
<td>Franklin Simon &amp; Co., Inc.</td>
<td>10/11/36</td>
<td>1/14/39</td>
<td>2</td>
</tr>
<tr>
<td>General Cigar Co., Inc.</td>
<td>2/16/33</td>
<td>12/31/49</td>
<td>17</td>
</tr>
<tr>
<td>General Electric Co.</td>
<td>6/22/45</td>
<td>12/31/49</td>
<td>4.5</td>
</tr>
<tr>
<td>General Foods Corp.</td>
<td>6/25/30</td>
<td>12/31/49</td>
<td>&gt;20</td>
</tr>
<tr>
<td>B.F. Goodrich Co.</td>
<td>6/10/30</td>
<td>12/31/49</td>
<td>&gt; 20</td>
</tr>
<tr>
<td>Manhattan Shirt Co.</td>
<td>1/1/27</td>
<td>12/22/38</td>
<td>12</td>
</tr>
<tr>
<td>McKesson &amp; Robbins, Inc.</td>
<td>4/14/34</td>
<td>12/31/49</td>
<td>&gt;16</td>
</tr>
<tr>
<td>National Dairy Products Corp.</td>
<td>8/7/30</td>
<td>2/20/36</td>
<td>5</td>
</tr>
<tr>
<td>Sears, Roebuck &amp; Co.</td>
<td>7/1/30</td>
<td>12/31/49</td>
<td>&gt; 20</td>
</tr>
<tr>
<td>Van Raalte Co., Inc.</td>
<td>1/1/27</td>
<td>12/31/49</td>
<td>&gt; 23</td>
</tr>
</tbody>
</table>

Table 2: External directorships held between 1930 and 1949 by Sidney Weinberg. Those directorships whose length is assigned a lower bound were active at the end of the reporting period for US v. Morgan et al.i.

bank directorship could have been evidence of self-dealing or of monopolistic malpractice by bankers; this was certainly the view taken by a number of prominent early twentieth century commentators.

Academic evidence appears to support the positive view of banker board participation. At the turn of the twentieth century, firms experienced positive share price reactions when a J.P. Morgan partner joined their boards. Moreover, after the 1914 passage of the Clayton Antitrust Act weakened the influence of bankers in nonfinancial corporations, the share prices of firms with banker directors underperformed those that did not.

**B. Partnerships and Investment Bank Reputation**

In light of the immense importance of their reputational assets, one would expect the early investment bankers to design their firms so as to protect their institutional reputations. They accomplished this by adopting the partnership form. The defining characteristics of a partnership are first that it is owned by its managers, and second that its members are able to commit one another in their business dealings. Hence, when a partnership employee enters the partnership, she risks her own capital, and she has to rely upon her partners to protect it. These observations have two consequences. First, in an opaque business like an investment bank, junior employees represent the most natural market for the shares of retiring partners. Those employees are best-informed about the future prospects of the firm and about their

---


49 The argument of this and the following paragraph is expounded formally by Alan D Morrison & William J Wilhelm, Jr., *Partnership Firms, Reputation, and Human Capital*, 94 AM. ECON. REV. 1682 (2004).
own ability to run the firm in the future; if either the prospects or the training of junior staff is unsatisfactory then the price of a partnership share is impaired. Current partners therefore have a strong incentive to maintain the firm’s reputation and to train their junior staff, and partners’ horizon extends sufficiently far beyond their own retirement to satisfy the next generation of partners. The partnership form is therefore a natural mechanism for sustaining institutional reputation.

The second implication of investment in a partnership derives from the ability of each partner to commit the others. New partners must therefore be convinced that they can avoid malfeasance by their partners. This places an upper bound on the size of the partnership for two reasons. First, peer group monitoring is hard in large partnerships, so that it is easier for a partner to make reputationally damaging choices without detection. Second, in large partnerships the costs of reputationally damaging actions are shared amongst many people, while the benefits of taking those actions is captured by the person that takes the action; the cost of reputationally damaging costs is therefore lower.

While partnerships protect reputation, their limited scale restricts their access to partner funds, and so precludes their entry into very capital intensive businesses. For most of the history of investment banking this restriction had little bite; investment banks were pedalling reputational services, and did not need deep reserves of financial capital.

C. Reputational Commitment and the Information Marketplace

Investment banking has changed in recent years. Nevertheless, traditional investment banking activities remain reputation-intensive. In this Section, we illustrate this fact by examining the role of investment banks in share flotation and in merger deals.

The formal procedure by which Initial Public Offerings (IPOs) are brought to market in the US is laid down in regulations. It begins with competition amongst investment banks for the underwriting mandate. The winner of this competition prepares a preliminary prospectus (the S-1 statement, or “red herring”), whose submission to the Securities and Exchange Commission (SEC) constitutes the registration of the offering. The SEC’s review of the S-1 statement takes several weeks, during which time the bank starts to sell the issue to institutional investors and also assembles a syndicate of banks that assists with the sales effort and shares the underwriting risk. The sales effort is closely related to the process by which the bank assigns a price to the issue: institutional investors provide information about their likely demand for shares, and the price at which they wish to deal. These indications are not legally binding; together, they constitute the offering’s “book.” Shares are marketed at a price that reflects the book as well as current market conditions. The investment bank then provides a market in the shares, and provides research on the issuing firm to its investor clientele.

The most important responsibilities of the lead investment bank in an IPO are establishing the right price for the new issue, and ensuring that there is an adequate market for the shares when they are sold. Neither of these activities is easy to contract upon. Hence, while the IPO process is well-defined in US securities law and is closely supervised by the SEC, the investment bank’s primary activities are extra-legal.

The extra-legal nature of the investment bank’s activities is particularly apparent in its pricing responsibilities. The price of a security reflects the likely cash flows that the underlying business will generate, the riskiness of those cash flows, and the other calls upon investor funds when the shares are sold. No single party to the IPO has all of the information
needed to establish all of these facts. The management of the business that is being floated has the best information about the quality of its product. However, they are not well-placed to estimate its riskiness, and they certainly cannot evaluate their business against alternative investment opportunities. Indeed, an entrepreneur need not have a particularly good grasp of the business opportunities that he will have after flotation. Professional investors and investment analysts are best placed to evaluate business riskiness, business opportunities, and outside investment opportunities. But they cannot do so without truthful information about the firm that is being floated. And the floating firm has a natural incentive to overstate its likely income so as to maximise the value of its shares. Similarly, if investors have truthful information about a new issue their incentive is to understestate its value so as to acquire shares cheaply. SEC rules are designed to prevent outright fraud but they can do little to prevent the parties to an IPO, concerning which very little public information exists, from engaging in wishful or pessimistic thinking.

The problems identified in the previous paragraph reflect the non-verifiability of price-relevant information. They cannot be resolved through the creation of standard arm’s-length markets: information is non-verifiable and cannot be alienated and, hence, it cannot be bought and sold in the same way that a share or a second hand car can be. When, as in this case, formal markets do not exist and information cannot be verified the discussion of Part II suggests that a reputational solution might emerge. But most issuers are very infrequent sellers of shares; they are unlikely to know the right price for an IPO, and their threat to cease dealing with an investor that they discover mispriced their shares has little force. Similarly, an investor wishing to establish a reputation for probity runs up against the problem that its counterparties in the new issues market have no need for a reputation, and, hence may misrepresent the quality of their business. Here, as in the case of the reputational gatekeepers of Section II.B, a third party is needed. That third party is the investment bank.

The investment bank is a long-lived reputational intermediary between security issuers and investors. It is able to devote resources to verifying the claims that issuers make about their businesses, which it can then certify to all putative investors. Its certification is plausible because it risks its future reputation for probity when it expresses an opinion. That reputation is valuable because it ensures the ongoing participation of investors. At the same time, investors can establish reputations with investment banks, because the banks are long-lived players. What investment banks require of their investors is accurate pricing and guaranteed participation in issues, even if they prove on the issue date to be unattractive; in exchange, the investment bank provides the investor with share allocations at discounted prices. Investors maintain their reputations so as to ensure that they have access to IPO allocations.

Investment banks also have a traditional intermediation role in the Merger and Acquisition (M&A) process. If the parties to a corporate takeover had all of the information that they needed to determine the fair price for the deal then an open auction would maximise the revenue accruing to the target firm. In practice, however, roughly half of large corporate M&A deals involve negotiations with a single bidder, and many deals involving many bidders are still controlled sales with a deliberately limited pool of bidders. By re-

\[50\text{Supra text accompanying note 25.}\]
\[51\text{For a discussion of J.P. Morgan's role in nineteenth century corporate mergers, see Morrison & Wilhelm, supra note 36, at 182-184}\]
\[52\text{Audra L. Boone & J. Harold Mulherin, Is There One Best Way to See a Company? Auctions Versus}\]
stricting the universe of potential buyers the investment bank is able to control the flow of
information about the target firm through non-disclosure agreements.\textsuperscript{53} One reason to do so
is that this information is likely to be commercially confidential; a buyer may be less willing
to acquire a firm if it knows that its competitors have acquired that information during the
takeover process, and the target may be unwilling to share information indiscriminately.
Moreover, understanding that information is costly, and a bidder may be unwilling to make
the necessary expenditure if it seems unlikely to succeed in its bid.

We have argued that the investment bank’s position as a long-lived reputational inter-
mediary enables the exchange of price-relevant information in both the IPO and the M&A
markets. This information is necessary for efficient resource allocation and, hence, it is
socially very important. Nevertheless, the relevant information could not be exchanged in
an arm’s-length price-intermediated market. The investment bank’s activities substitute for
such a market; we therefore regard the primary role of the traditional investment banks as
creating an information marketplace for the buyers and sellers of financial assets.\textsuperscript{54} Inform-
ation exchange cannot rely upon formal court-enforceable contracts, and the investment
bank therefore relies upon its reputation to create conditions under which exchange can oc-
cur in an extra-legal setting. In the information marketplace, the investment bank’s most
important asset therefore remains its reputation as, without it, the bank could not control
information flows.

IV. INVESTMENT BANKS AND THE COMMITMENT HIERARCHY

Part III stresses the historic importance of extra-legal modes of commitment to investment
banks. In this Part we present evidence that suggests that investment banking is increas-
ingly reliant upon the more codified commitment devices at the bottom of the commitment
hierarchy.

A. Technological Change and Investment Bank Flotation

One of the reasons that we identified in Part II.F for movement down the commitment hier-
archy is technological change that renders information easier to codify and, hence, renders
legal modes of enforcement more effective. Investment banks started to adopt commitment
devices lower in the hierarchy when computers came to Wall Street in the 1960s.\textsuperscript{55} The early
computers were large mainframe computers. They were capable of performing large scale
repetitive computations (“batch processes”), but were unable to provide real time data anal-
ysis. They were therefore of most utility for large scale processing of customer information
and for deals settlement. These were tasks that were particularly important to firms like
Merrill Lynch and E.F. Hutton whose business involved a lot of deals with small clients. This
type of “retail” business was particularly reliant upon its back office operations and could
generate a significant competitive advantage by adopting computerised settlement. Indeed,
when a surge in trading volumes between 1967 and 1970 triggered settlement problems that
forced the NYSE to shorten its trading day and then to close on Wednesdays, firms like

\textsuperscript{53} For a discussion of the mechanisms through which information flows are restricted, \textit{see id.}, at 29-30.
\textsuperscript{54} For a discussion of the participants in the information marketplace, \textit{see} Morrison & Wilhelm, \textit{supra}
note 36, at 71-88.
\textsuperscript{55} Alan D Morrison & William J Wilhelm, Jr., \textit{The Demise of Investment Banking Partnerships: Theory
Merrill that had embraced computers experienced far fewer settlement failures than those that had not.\textsuperscript{56}

Mainframe computers were extremely useful to retail firms that generated a sufficient volume of deals to justify their very high cost. They were less relevant to the business model of “wholesale” firms, of whom the most important exemplar was Morgan Stanley. These firms concentrated upon the advisory and reputation businesses discussed in Section III.C, and performed only a few large-scale trades with wholesale counterparties. As a result, retail firms were the earliest investment bank adopters of information technology and, hence were the first to start shifting their relationships down the commitment hierarchy. As they did so their need for reputational capital, and, hence, their reliance upon the partnership form,\textsuperscript{57} was diminished. At the same time, they had a greater need for the financial capital needed to operate at a scale that would pay for computer power. In 1971 the New York Stock Exchange relaxed rules that prevented its member firms from floating. Flotation generated financial capital and, because it involved the jettisoning of the partnership form, involved the sacrifice of some reputational capital. It is unsurprising in light of the above discussion that the retail banks, which had already started to shift down the commitment hierarchy, floated immediately, and that the wholesale firms did not.\textsuperscript{58}

Computerisation affected modes of commitment in wholesale banks only when it facilitated the codification and recording of the data that underpinned their core businesses. This happened when computers became sufficiently small and powerful to sit on the desktop and run applications like spreadsheet programs that could be interrogated in real time. This innovation coincided with a series of advances in the analysis and valuation of financial derivatives like option and swap contracts. The associated mathematical models were easy to apply by traders who had access to new microcomputer technology. As a result, an increasing part of trading could be reduced to the mathematics and computer science of derivative modelling. Moreover, as traders began to appreciate the power of the new technology, businesses that had previously been the preserve of the old-fashioned reputational banker started to move into the dealing room. For example, interest rate swaps were initially performed by bankers who arranged back-to-back trades between counterparties with whom they had relationships; spreadsheet models and liquid interest rate futures markets resulted in their management from trading desks.\textsuperscript{59}

These changes had a deep impact upon wholesale firms and their position in the commitment hierarchy. Computerisation and financial engineering rendered codifiable much that previously had been tacit. Computers could analyse performance data, and tradeable instruments were by their nature more susceptible to formal contracting than the relationship-based transactions they displaced. The consequence was that many wholesale investment banking activities could be supported by commitment devices lower down the hierarchy. And, in businesses that could now be supported by commitment mechanisms lower down the hierarchy, reputational capital no longer presented a significant barrier to entry. The consequence was the emergence of new competitors for the old blue chip investment banks and, with them, narrower trading margins.\textsuperscript{60} At the same time, computers served to increase the scale at which a derivatives trading operation could operate from a given cost base.

\textsuperscript{56}See id., at 331.
\textsuperscript{57}See supra Section III.B.
\textsuperscript{58}See id., at 334-335.
\textsuperscript{59}Id., at 339-341.
\textsuperscript{60}Id., at 341.
The combined effect of a lower position on the commitment hierarchy and a concomitant need for financial scale had the same effect upon the wholesale banks as it had had upon retail banks. The 1978 acquisition of Salomon Brothers by the public company Phibro was the start of a lengthy move towards the public ownership of wholesale investment banks. The wholesale firms went public as their primary businesses became codified and moved into the trading room. The last blue chip bank to float was Goldman Sachs, in 1999: Goldman delayed flotation for as long as it did because it remained very committed to the traditional advisory businesses in which reputational capital remained important.

B. Technology and Relationships

If a reputation is socially constructed then it reflects the quality and frequency of its client dealings. Moreover, reputations for complex activities like the ones that investment banks sustain partly reflect the quality and the strength of their bilateral reputations. The technological changes of Section IV.A altered the contracting environment so as to facilitate private ordering through contract, rather than through extra-legal mechanisms that rely upon reputation. Hence, one would expect it to affect the formation of the relationships upon which reputation formation relies; in this Section we present evidence that this occurred.

We have constructed a unique dataset that allows us to study the changing nature of investment banking relationships. We draw upon three sources. First, we use data that were submitted to the court by the defendants in US v. Morgan relating to deals between July 26, 2933 and Dec. 31, 1949. Second, we extract deal data for the 1950s and 1960s from contemporary records in Investment Dealers’ Digest. Third, we extract post-1970 data from the Thomson Reuters SDC database. This dataset holds incomplete records for issues between 1970 and 1979, and we therefore exclude these years from much of our analysis.

We use these data to determine the exclusivity of investment banking relationship before and after the introduction of computers to Wall Street. For the 1933-1969 period, Table 3 reports for leading investment banks the number of clients for which it ran a securities offering, the fraction of its relationships that were exclusive, and the percentage value of all of its clients deals for which it acted as lead manager. Table 4 reports the same figures for the 1980-2009 period.

The exclusivity of investment bank relationships is strikingly lower after 1980 than it was before 1970. This indicates that issuers were more willing or more able to pick banks on a deal-by-deal basis. Doing so enabled them to seek the lowest issuance fees, the best deal placement, or some other criterion. But doing so came at the expense of their relationships; when a banker felt that it was less likely to profit from a long-term relationship with a client his willingness invest in that relationship was correspondingly reduced. Hence, when the banker came to create the information marketplace necessary to float that client’s securities

---

61 Id., at 343.
62 We follow the empirical investment banking literature and exclude from our analysis unit issues, limited partnerships, issues by funds, LBOs, self-funded deals, rights issues, equity deals with par amounts below 5, and debt issues of less than two years or less than $1 mn. We also exclude issuers with the following SIC codes: 4000s (Transportation, communications, electric, gas, and sanitary service), 6000s (Finance, insurance and real estate), 9000s (Government issuers).
63 We categorise a client’s relationship with a particular bank as “exclusive” during a decade if the bank is the only one that underwrote any of the client’s deals in that decade.
64 When a deal has more than one lead manager we apportion its value equally between them. This was an extremely rare occurrence before 1970.
## Table 3: Exclusivity data for major banks from 1933-1969.

<table>
<thead>
<tr>
<th>Banks</th>
<th>Clients</th>
<th>Exclusive Relationship</th>
<th>% of Client’s Deals Managed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morgan Stanley &amp; Co.</td>
<td>182</td>
<td>60.99%</td>
<td>69.34%</td>
</tr>
<tr>
<td>First Boston Corp.</td>
<td>355</td>
<td>45.63%</td>
<td>42.60%</td>
</tr>
<tr>
<td>Kuhn, Loeb &amp; Co.</td>
<td>160</td>
<td>56.88%</td>
<td>62.44%</td>
</tr>
<tr>
<td>Lehman Bros.</td>
<td>340</td>
<td>57.65%</td>
<td>46.35%</td>
</tr>
<tr>
<td>Halsey, Stuart &amp; Co.</td>
<td>212</td>
<td>16.04%</td>
<td>24.68%</td>
</tr>
<tr>
<td>Dillon, Read &amp; Co.</td>
<td>132</td>
<td>68.94%</td>
<td>58.41%</td>
</tr>
<tr>
<td>Blyth &amp; Co.</td>
<td>315</td>
<td>59.37%</td>
<td>42.62%</td>
</tr>
<tr>
<td>Goldman, Sachs &amp; Co.</td>
<td>305</td>
<td>67.54%</td>
<td>63.43%</td>
</tr>
<tr>
<td>White, Weld &amp; Co.</td>
<td>269</td>
<td>60.97%</td>
<td>39.74%</td>
</tr>
<tr>
<td>Kidder, Peabody</td>
<td>417</td>
<td>67.63%</td>
<td>39.35%</td>
</tr>
<tr>
<td>Smith, Barney &amp; Co.</td>
<td>162</td>
<td>55.56%</td>
<td>42.11%</td>
</tr>
<tr>
<td>Salomon Bros.</td>
<td>132</td>
<td>27.27%</td>
<td>18.88%</td>
</tr>
<tr>
<td>Eastman Dillon, Union Securities &amp; Co.</td>
<td>237</td>
<td>64.14%</td>
<td>41.93%</td>
</tr>
<tr>
<td>Merrill Lynch</td>
<td>186</td>
<td>51.08%</td>
<td>30.67%</td>
</tr>
<tr>
<td>Harriman Ripley &amp; Co.</td>
<td>83</td>
<td>38.55%</td>
<td>25.34%</td>
</tr>
</tbody>
</table>

## Table 4: Exclusivity data for major banks from 1980-2009.

<table>
<thead>
<tr>
<th>Banks</th>
<th>Clients</th>
<th>Exclusive Relationship</th>
<th>% of Client’s Deals Managed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goldman, Sachs &amp; Co.</td>
<td>1,038</td>
<td>38.92%</td>
<td>36.12%</td>
</tr>
<tr>
<td>Morgan Stanley &amp; Co.</td>
<td>762</td>
<td>39.37%</td>
<td>33.74%</td>
</tr>
<tr>
<td>Salomon Bros.</td>
<td>735</td>
<td>27.35%</td>
<td>25.28%</td>
</tr>
<tr>
<td>Merrill Lynch</td>
<td>899</td>
<td>36.04%</td>
<td>25.88%</td>
</tr>
<tr>
<td>Drexel Burnham Lambert Inc</td>
<td>482</td>
<td>51.45%</td>
<td>59.98%</td>
</tr>
<tr>
<td>Lehman Bros.</td>
<td>669</td>
<td>38.57%</td>
<td>24.58%</td>
</tr>
<tr>
<td>J. P. Morgan &amp; Co.</td>
<td>550</td>
<td>29.82%</td>
<td>19.77%</td>
</tr>
<tr>
<td>Bank of America</td>
<td>659</td>
<td>34.75%</td>
<td>21.22%</td>
</tr>
<tr>
<td>Credit Suisse</td>
<td>502</td>
<td>42.83%</td>
<td>26.99%</td>
</tr>
<tr>
<td>First Boston Corp.</td>
<td>387</td>
<td>32.04%</td>
<td>21.89%</td>
</tr>
<tr>
<td>Donaldson, Lufkin &amp; Jenrette, Inc.</td>
<td>400</td>
<td>48.50%</td>
<td>31.10%</td>
</tr>
<tr>
<td>Bear, Stearns &amp; Co.</td>
<td>369</td>
<td>47.97%</td>
<td>20.76%</td>
</tr>
<tr>
<td>Barclays Bank PLC</td>
<td>72</td>
<td>22.22%</td>
<td>13.07%</td>
</tr>
<tr>
<td>Deutsche Bank, A. G.</td>
<td>180</td>
<td>34.44%</td>
<td>11.21%</td>
</tr>
<tr>
<td>Kidder, Peabody</td>
<td>335</td>
<td>46.87%</td>
<td>17.11%</td>
</tr>
</tbody>
</table>
he would be less able to do so. That bankers started to resolve this tradeoff in favour of deal-by-deal negotiation rather than long-term relationship management in the last decades of the twentieth century indicates that investors had access to alternative sources of information. Those sources derived from better information technology and the improved codification and contracting that came with it.

Coincidental with the weakening of client relationships through the 1970s and 1980s, the length of partnership tenure at investment banks dropped. The traditional investment bank’s partnership structure mitigated against employee mobility. Investment banking partnerships were opaque to the outside world: clients and competitors could see the firm’s results, but they could not easily determine who was responsible for those results. This opacity was fostered by the imposition of flat pay scales within banks and the adoption of “up-or-out” promotion policies; only by observing the firm’s promotion decisions could outsiders intuit which of the its employees were the most effective. As a result, investment banks that attempted to hire their competitors’ staff faced a potential winner’s curse problem: in the absence of hard information to the contrary, they would fear that any banker willing to accept their offer of employment was of low quality, and did so only because he did not anticipate future promotion at his current firm. As a result, lateral movement between banks was extremely uncommon, and investment banking partners tended to spend their entire career at one institution.65

We use our partnership data to examine changes to partnership tenure at our sample leading investment banks through the twentieth century. For example, the average partnership tenure of the five partners working for Goldman Sachs in 1934 was 37 years. John Whitehead, who eventually became the chairman of Goldman Sachs, joined the firm in 1947 and was one of three bankers promoted to the partnership in 1956; this was the largest new partner cohort in the firm’s history. They joined thirteen existing partners. The average total tenure of those sixteen partners was 26 years.

Our data show a fall in average partner tenure in the second part of our sample period, and an expansion in partner numbers. When Whitehead retired from Goldman Sachs in 1984, he and 16 other retiring partners were replaced by a new 25-member partner cohort; as a result, the firm lost 226 years of partnership experience, by far the largest change to that point in the firm’s history. The partnership then stood at 89 members, whose average time as a partner at that date was only seven years.

The changes that occurred at Goldman Sachs over the course of Whitehead’s career are representative of broader industry trends. Figure 1 shows a rolling average of percentage changes in partner tenure at eight leading investment banks between 1937 and 1989. There was a sharp drop during the period when Wall Street started to computerise.

Shortening investment banker tenure was in part a consequence of increased labour mobility in investment banking. It is to this phenomenon that we now turn.

C. Individual and Institutional Reputation in Investment Banking

When banks relied upon their institutional reputation rather than a perception of their street smarts or their technical expertise, the most important requirement that they had of their hires was that they conform to the social and cultural mores that sustained the bank’s reputation, and that they be sufficiently motivated by the fear of exclusion from the bank.

65 See id.
Figure 1: 3-Year Moving Average Percentage Change in Partner Tenure. Partner tenure is measured as the number of years served as a partner entering the current year. The percentage change is calculated annually and used to calculate the average percentage change for the preceding 3 years. The figure reports the average of this 3-year moving average calculated for each of Dean Witter, Goldman, EF Hutton, Lehman, Merrill, Morgan Stanley, Salomon, and Smith Barney. The chart shows the average figure.

Banks achieved this by recruiting from close-knit and relatively small social circles, stressing social connections and character over technical business education.

We can see this effect at work in the preeminent banks of the late nineteenth and early century, JP Morgan and Koeln Loeb. Recent research by Susie Pak documents their hiring choices, and the social circles within which the senior partners of both banks moved. They were drawn from very different social circles. JP Morgan was perceived at the turn of the twentieth century as the quintessential establishment bank. It recruited executives from elite WASP circles. The partners socialised together, joining the same social clubs and sitting of the boards of the same charities. Kuhn Loeb’s senior executives were recruited from a close-knit group of families that were descended from German-Jewish immigrants. Like Morgan’s partners, Loeb’s socialised together, although there was almost no contact between the Morgan and Loeb circles outside of business hours.

As new technology improved legal contracts and rendered it easier to monitor bankers the rational for seeking future partners in a restricted social and cultural circle was correspondingly diminished. The investment banks started to cast their recruitment nets wider, and to hire staff on the basis of their technical skills as well as their social contacts. Between 1965 and 1969, the fraction of Harvard’s graduating MBA class that accepted investment banking jobs increased from 8 to 21 percent. The increase was due in part to the retirement of a

---

67 Morrison & Wilhelm, supra note 36, at 245, n. 48.
generation of investment bankers; it also reflected the growing need for technical skills in the new dealing room-oriented businesses.

Technological change did not merely change the social make-up of investment bankers. It also gave them opportunities to build individual reputations. The traditional opacity of investment banks was undermined by the codification of activity and the corresponding measureability of individual banker performance. When a bank’s rain-makers could be identified by market players they could also be recruited, and so could capture a higher fraction of the returns to their talent. For the first time, individual reputations became important in investment banks, and a “star” culture began slowly to emerge.

An individual building a reputation for himself is concerned not only that he appear honest, but also that he be perceived as clever. In other words, individual reputations are concerned not only with the behavioural choices that we have already discussed, but reflect also the attributes of the individual. Economists have studied models of this type of reputation. One class of model examines the effect of a widespread belief that a small number of agents are morally or physiologically constituted to tell the truth or to cooperate in every situation, irrespective of the effect that this choice has upon their income. When this happens, agents may wish to acquire a reputation for pathological honesty, because others are more willing to deal with the pathologically honest.

When a reputation for pathological honesty is valuable it has the same effect as a behavioural reputation, in that it induces socially useful behaviour patterns. But attribute reputations need not be for honesty. Financial economists have shown that agents might work hard to build a reputation for competence or cleverness even when they possess neither attribute, because that reputation increases their long-run payoff. This type of reputation building could induce behaviour materially different from that which underpins a behavioural reputation. If the only way for a junior employee to demonstrate his brilliance to the labour market is to execute an unnecessarily complex cross-border M&A deal or to perform a pointless credit securitization then he may choose to do so, even though neither action is in his customer’s best interests.

New technologies made it possible for individuals to acquire reputations, and so opened the door to behaviour patterns designed to build such reputations, even if they came at the expense of clients. Nothing we have said suggests that investment bankers became more greedy or less honest at the same time; as information technology revealed their talents to the wider labour market, their choices began to reflect the technological landscape in which they operated.

When individuals can sustain personal reputations, what is the role of the institution for

---

68 supra note 65.

69 This insight is due to Kreps et al., Rational cooperation in the finitely repeated prisoners’ dilemma, 27 J. Econ. Theory 245 (1982) (showing that the remote possibility that a pathologically cooperative individual exists can serve as the basis of socially useful reputation formation in repeated prisoners dilemma games). In a financial context, see also Arnooid W. A. Boot, Stuart I. Greenbaum & Anjan V. Thakor, Reputation and Discretion in Financial Contracting, 83 AM. ECON. REV. 1165 (1993) and Paolo Fulghieri, Günter Strobl & Han Xia, The Economics of Solicited and Unsolicited Credit Ratings (Dec. 2010) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1572059&sa=U&ei=_ThCUN_VBuPNOvQX52DgCw&ved=0CBQQFjAB&usg=AFQjCNFr45A-Sx77_DSZHINeABziXAGxUg.

70 See, e.g., Douglas W Diamond, Reputation Acquisition in Debt Markets, 97 J. Pol. Econ. 828 (1989) (showing that a borrower will work hard to gain a reputation for competence so as to lower its funding costs).

71 For a formal exposition of this idea, see Jeffrey C Ely & Juuso Välimäki, Bad Reputation, 143 Q.J. Econ. 785 (2003).
which they work? In a world with perfect but costly contracting they would be merely the transactions cost minimisers of the textbooks. But, while information technology expands the contract space, it certainly does not obviate the need for extra legal arrangements in finance: institutional reputation remain important. However, those reputations now relate in part to the institution’s ability to temper the undesirable personal reputation building of their junior employees. An institution that chooses or fails to do so loses its own reputation; this appears to have been one of the root causes of the decline of the investment banks Drexel Burnham Lambert and Banker’s Trust.\textsuperscript{72}

The institutional reputation of the investment bank and the personal reputation of its bankers are in conflict for two reasons. First, and most obviously, an aggressive star culture is contrary to the investment bank’s reputational interests. Employees cannot always serve their own reputational needs and those of the firm simultaneously. Second, and less obviously, if an investment bank can extract a sufficient share of the rents that accrue to its stars then it may elect to sacrifice its own reputation. This is particularly true of banks of whose employees the market has developed an erroneously low opinion.\textsuperscript{73}

These observations suggest that, in some banks, the conflict between individual and institutional reputation will be resolved in favour of the individual. For example, Geoff Boisi, the youngest-ever partner of Goldman Sachs, left the firm in 1991 because he felt it was starting to embrace a star culture, with non-partners in pursuit of star status assuming massive risks with partnership capital.\textsuperscript{74} This is a particularly striking example, because Goldman at the time was a partnership, and was viewed historically as being particularly focused upon teamwork and client well-being.\textsuperscript{75}

V. The Evolution of Commitment Policy

A. The Regulation of Broad-Spectrum Commitment

In this Part we discuss the public policy response to the evolution of investment bank commitment. The technologies that have transformed investment banking commitment can also transform regulation. And, indeed, most commentators agree that rules that were intended to regulate a social ordering built around close networks of investment bankers and high-level commitment devices will not work for arm’s-length dealing room businesses at the base of the commitment hierarchy. It is worth noting that an obvious corollary to this observation is that the blanket imposition of rules designed for dealing rooms will backfire in reputation-intensive businesses. Investment banks, by virtue of their wide commitment spectrum, require a range of regulatory approaches.

Investment bankers and their clients did not move their relationships down the commitment hierarchy in response to a regulatory mandate. They chose to do so because new technologies rendered it possible to record more transactional data and, as a result, the social

\textsuperscript{72}On the failure of Drexel, see Lawrence M. Benveniste \textit{et al.}, \textit{The Failure of Drexel Burnham Lambert: Evidence on the Implications for Commercial Banks}, 3 J. Fin. Int’N 104 (1993); on Banker’s and its demise, see Morrison & Wilhelm, \textit{supra} note 36, at 245-249.


\textsuperscript{75}See Lisa J Endlich, \textit{The Culture of Success} (1999).
ordering changed. We have already argued that social orderings are too complex fully to understand; for the same reason, the effect of changes to the social ordering are extremely hard-to-predict. It is hardly surprising that regulators are engaged in a constant game of catch-up. New regulatory mandates emerge from alterations in the social ordering and, in turn, they change the behaviour of the individuals who comprise that ordering.

Regulators have been playing catch-up with the information technology revolution in financial markets for years. In doing so, they have adopted the technological machinery of the dealing room. Like investment banks, regulators are now able to call upon a wide range of commitment devices. At one end of the spectrum lie traditional judgement-based methods of supervision; at the other lie rules based upon complex financial models that owe as much to physics as they do to economics or law. The choice of commitment mode in investment banks is non-trivial, but is at least governed by a reasonably easily defined and measured metric: the profit motive. Regulation is more complex. Even if one accepts the economists’ argument that regulations should increase economic efficiency it is very hard to know whether they have succeeded. And it is naïve to imagine that economic efficiency is the only rationale for regulation. Regulations could be designed to redistribute wealth, or to further the political goals of the legislators and bureaucrats who write them. Regulations could therefore be distributed along the commitment hierarchy in a very different way to the commitments that they are designed to manage.

Hence, we see positive and negative aspects to the computerisation and codification of financial market supervision. On the one hand, codification is necessary if orderings built upon contract are to be regulated. And such codification could even serve to improve extra-legal contracting: a regulator able to ascertain and publicise reputation-relevant facts could actually facilitate reputation formation.

But the codification of regulation has a potential dark side. When rule-makers seek to regulate extra-legal relationships with formal laws, their actions could serve to drag those relationships down the commitment hierarchy. For example, it is hard for the parties to an M&A transaction to rely upon informal commitment arrangements if they are able ex post to choose to subject those arrangements to the scrutiny of the courts. More generally, if the state imposes codified rules that contradict the reputational commitments that parties would otherwise make, it probably destroys the reputational assets upon which those commitments rest.76 The decision to do so might derive from measured and careful analysis, but that analysis need not bear upon the economic efficiency of the financial markets or the economic liberty of their participants; it could equally reflect a realisation that new information technologies present new ways to impose a particular normative vision on social actors. Or, of course, the enthusiastic application of computer analysis to the regulation of every aspect of financial markets could be the consequence of a failure to grasp the subtleties of financial market relationships.

Choosing the right commitment mode for regulation is thus a particularly challenging problem. Moreover, we have already argued that it is almost inevitable that mistakes will be made along the way. It is too early to say whether those mistakes will be corrected, or whether they will generate deep-seated problems in post-crash financial markets. But it is

---

76See also Eric A. Posner, The Regulation of Groups: The Influence of Legal and Nonlegal Sanctions on Collective Action, 63 U. CHI. L. REV. 133 (1996) (arguing in the context of employment and labor law that legal enforcement of informal commitments could reduce their effectiveness); Douglas G. Baird & M. Todd Henderson, Other People’s Money, 60 STAN. L. REV. 1309, 1314 (“Imposing a value-maximizing duty [.] may be contrary to what the investors want in their ex ante bargain.”)
easy to find hard cases, where regulatory choices are contestable. We turn now to such a case.

B. The ABACUS Transaction

This Section is incomplete.

The challenges that face regulators are illustrated by a dispute between the SEC and Goldman Sachs over a structured credit transaction referred to as ABACUS.

The ABACUS transaction was a complex transaction, but its goals were simple: it facilitated a transaction between, on the one hand, the hedge fund manager John Paulson, and, on the other, the German bank IKB Deutsche Industriebank AG (IKB) and ACA Management LLC (ACA). Paulson believed that the US housing market was overheated and was suspicious of the investment grade ratings that bonds backed by mortgages were receiving. He used the ABACUS deal to establish a short position on a Baa2-rated portfolio of such bonds; IKB and ACA assumed the long side of the deal. The precise portfolio that Paulson wished to short was not rated, so Goldman created it as one tranche of a securitisation deal.

The ABACUS deal became a focus of attention when the SEC filed a civil complaint against Goldman Sachs in the U.S. District Court for the Southern District of New York, alleging a formal violation of antifraud rules. Specifically, the SEC alleged that Goldman has misled investors by failing to state in its marketing materials that Paulson had played a significant role in selecting the portfolio that he shorted; the SEC further alleged that Goldman had incorrectly indicated to ACA that Paulson held a risky long position in the portfolio.

Goldman Sachs agreed to a $550 million settlement of the ABACUS complain with the SEC. Quite apart from the truthfulness or otherwise of the SEC’s allegations, the case raises some interesting questions about the nature of the modern investment bank.

Was the SEC’s complaint justified? And was its response appropriate? We start to address these questions by asking where the ABACUS transaction sat on the commitment hierarchy. Lloyd Blankfein, a former trade and now Chairman and CEO of Goldman Sachs, addressed this question directly in US Congressional testimony, stating that

What clients are buying...is an exposure. The thing that we are selling to them is supposed to give them the risk they want. They are not coming to us to reresent what our views are... They shouldn’t care.

Mr. Blankfein’s position appears to be that the identity of the person who picked the contents of the reference portfolio for the ABACUS transaction was not relevant. The parties to the deal all knew what was in the portfolio and could figure out for themselves the risks that they bore. In this view of the transaction, Goldman Sachs had a structuring but not an advisory role, and it had no behavioural reputation at stake. In other words, it served as...  

---

78 The other tranches were never actually traded: the deal was therefore a so-called “unfunded” securitisation. Id., at 537.
80 Davidoff et al., supra note 77, at 535.
81 Id., at 544.
a transactions cost minimiser. And, as such, it had no obligation to tell any of the parties
to the trade who their counterparties were, or why those counterparties had entered into the
transaction. Indeed, in traded security markets, this type of disclosure would be illegal.

The implication of Mr. Blankfein’s argument is clear. He argues that Goldman Sachs’
security business is contractual: Goldman, he appears to imply, effectively runs a shop in
which market participants can acquire tailored market risk positions. Market players know
what sort of risks they ought to be taking, and either already have the price-relevant infor-
mation that they need, or can acquire it for themselves. Goldman’s job as a reputational
intermediary in this market has therefore been rendered obsolete by new information tech-
nology. It serves as a transactions cost minimiser. If this argument is correct then the SEC’s
case appears to have been baseless; Goldman was the victim of a stick-up by a politically
beleaguered supervisor.

The previous paragraph draws some conclusions from Mr. Blankfein’s testimony that
many at Goldman Sachs would find uncomfortable. They argue that the firm’s customer
focus has been the principal explanation for its preeminence over many decades. They might
argue, for example, that the parties to the ABACUS deal could not understand all of the
details of the transaction, and that they therefore relied upon their bank for careful advice.
If this is true then ACA and IKB were both at risk from the personal reputation building of
Fabrice Tourre, the Goldman Sachs vice-president responsible for the ABACUS deal. To the
extent that it could not control Tourre’s actions, Goldman Sach’s reputation, and, hence, its
profitability, was therefore at risk.

If customer ignorance of the details of ABACUS-like transactions was indeed a problem
how should the SEC respond? One might argue that it should impose a fiduciary duty upon
Goldman with respect to its clients. To do so would present immense technical difficulties,
because, of course, Goldman is both a principal to its deals and an advisor to its clients. But
this approach has nevertheless been advocated in some quarters, and something very close
to it is imposed by the Dodd-Frank Act. Quite apart from the technical legal challenges
that it presents, we believe that this approach is likely to be mistaken.

---

82See, e.g., Arthur B. Laby, Reforming the Regulation of Broker-Dealers and Investment Advisers, 65
BUS. LAW. 395 (arguing that the imposition of a fiduciary role on broker-dealers is inconsistent with their
role as profit-maximising dealers and underwriters); Donald C. Langevoort, Brokers as Fiduciaries, 71 U.
PITT. L. REV. 439 (2009-2010) (noting that fiduciary duty sits uneasily on a business that sells products
and services for profit).

83The Act prohibits an underwriter, placement agent, initial purchaser, sponsor, or any affiliate or sub-
сидиary of any such entity, of an asset-backed security from engaging in any transaction that would involve
or result in any material conflict of interest with respect to any investor in a transaction arising out of such
activity for a period of one year after the date of the first closing of the sale of the asset-backed security.
Stat. 1376 .

84Andrew Tuch suggests a less extreme solution. He argues that, as gatekeepers to the new issues mar-
ket, underwriters should be subject to conflict of interest rules that strengthen their incentives to ensure
correct information disclosure. Andrew F. Tuch, Conflicted Gatekeepers: The Volcker Rule and Gold-
man Sachs (Washington University in St. Louis, Legal Studies Research Paper No. 12-12-1, Dec. 2012),
available at http://ssrn.com/abstract=1809271. This is an interesting idea, but it begs several questions.
First, if the role of the investment bank is to sustain an information marketplace, it is not clear why
legal incentives are required to supplement reputational ones. Indeed, the former could crowd out the
latter. Second, if the investment bank has moved down the commitment hierarchy away from the in-
formation marketplace then it will be difficult, and possibly counterproductive, to attempt to push it
back up. Third, the costs of information production in complicated transactions like ABACUS may be
so high as to preclude consistent enforcement. Finally, in the specific case of the ABACUS transaction,
Fiduciary law deals with situations of open-ended control whose control is exercised without restriction, or with very incompletely specified restrictions. It is for this reason that fiduciary law sits below contract in our commitment hierarchy. When fiduciary and beneficiary dispute a decision, both are very reliant upon the court’s ability to establish a reasonable course of action. That course may reflect the original intentions of the committing counterparties; it may equally reflect a doctrinal position on fiduciary loyalty that fits the parties’ goals only imperfectly. In the highly codifiable world of the modern investment bank the opportunities for court intervention are legion. Increasing intervention, and the concomitant expansion of precedents, surely attenuates the decision-making powers of the fiduciary. If the fiduciary is less able to make decisions for itself, it is less able to build or to sustain a reputation. In short, in imposing a fiduciary responsibility upon investment bankers, legislators are very likely to weaken their reputational assets. This effect, surely an unintended consequence of the regulation, will serve to prevent bankers from forming information marketplaces, and mediating extra-legal agreements to exchange information. There is some irony in the fact that this effect could stem from legislation intended to protect the Ignorant.  

The ABACUS transaction is a hard case, and it highlights the challenge of formulating public policy in the face of rapid technological change. When the securitization market emerged through the late 1990s and the 2000s it was the latest manifestation of information technology and financial engineering in financial markets. It demanded a regulatory response. But, despite the efforts of excellent economists and lawyers, neither the SEC nor any other regulatory agency fully appreciated the effect of securitization trades upon the social ordering. It would be unreasonable to expect the initial regulatory response to these trades to be completely appropriate. But the 2007-2009 financial crisis appears to have rendered an aggressive response politically necessary. The SEC’s action was taken at a time when public faith in the financial industry was at a particularly low ebb. At that time, the fact that the two counterparties to a financial deal were satisfied with it was not sufficient to justify it. The SEC’s action may simply have signalled a change in the politically acceptable boundaries of the free market.

VI. Conclusion

Social orderings are built from the many transactions that individuals elect to make with one another and, in a modern society, those transactions are frequently extended in time. Hence, if we are to understand social institutions, we must also understand the commitment devices that sustain long-term commitment. Those devices occupy a hierarchy: at the bottom of the hierarchy are the devices that rely most upon the sophisticated legal machinery of the modern state; devices higher up the hierarchy lean less upon the law, and leave more to

Goldman explicitly draws investors’ attention to the possibility that it will experience conflicts of interest. Offering Circular, Goldman, Sachs & Co., ABACUS 2007-AC1, Ltd. (Apr. 26, 2007), available at http://av.r.ftdata.co.uk/files/2010/04/30414220-ABACUS-Offer-Document.pdf. While we can envisage a requirement that any repudiation of the duty of care between market professionals be subject to more formalities, we find it hard to find a completely plausible reason why those professionals should be denied this right. 

For a related point, see Ribstein, supra note 16, at 584 (“Courts frustrate [trust-based commitment] by making implicit bargains explicit”). But see Blair & Stout, supra note 16 (arguing that the imposition of fiduciary law frames expectations in such a way as to encourage, rather than to undermine, trust-based exchange).
the discretion of the parties to the commitment, and to the social networks in which they operate.

The position that a relationship occupies in the commitment hierarchy depends upon its social, legal, and technological contexts. Changes to those contexts therefore cause changes to commitment modes and, hence, to the social ordering that emerges from them. The advent of information technology caused a particularly sharp dislocation in investment banking commitment, which saw many traditional businesses move away from their relational roots to adopt arm’s length commitment devices towards the base of our hierarchy. The most visible artifact of this shift was an explosion of business conducted in dealing rooms.

The normative implications of these changes remain unclear. It is certainly far from obvious that the diminished role for reputation and trust in banking relationships is entirely a bad thing. Reputational modes of enforcement rely upon long relationships and close social networks. These requirements present massive barriers to entry for new investment banking firms. They also have the potential to ossify social relations, and to stifle innovation. Change, even rapid and destructive change, may be beneficial.

But, at the same time, the attenuation of reputational concerns in investment banking presents a challenge. Even the most sophisticated and careful analysis can give only an incomplete impression of the way that the dust will settle on this change: the new modes of commitment serve different purposes than the old ones, and they support a different set of relationships. The changed social ordering that emerges from those relationships will be qualitatively different from the old one. It is quite possible that something valuable will be lost in the process.

Notwithstanding these remarks, we suspect that the biggest difficulties presented by the commitment dislocation in investment banking arise in the design of public policy. New technologies change the spectrum of commitments in regulation as well as in commercial relationships. The challenge facing rule-makers is to marry the two as effectively as possible.