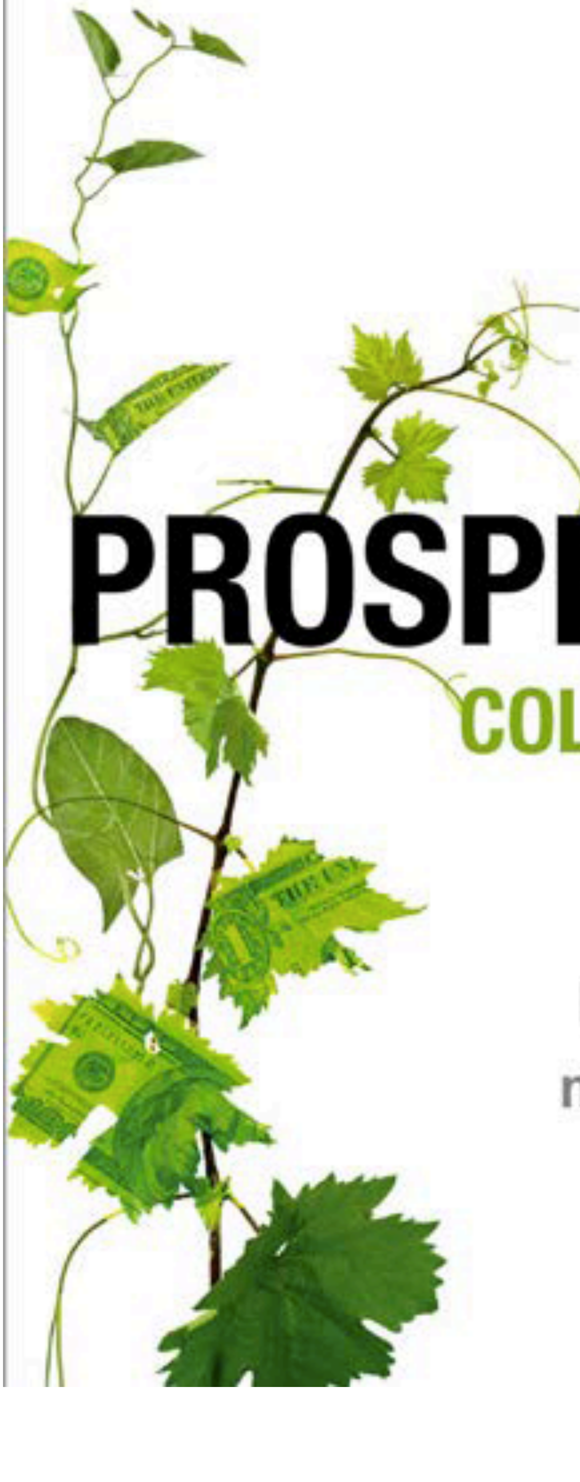

PROSPERITY

COLIN MAYER

better
business
makes the
greater
good

Chapter 7[1]

Law

The law giveth,
And the law taketh away.
Debt to debt,
Assets to assets.

Context[2]

Law is in general important but in the case of the corporation it is defining. Corporate law creates the corporation. It would not exist without corporate law because the corporation is a product of the law. It is a legal fiction whose presence is defined, determined and dependent on the law. Few other parts of the law have such powers of creation.

That power of creation makes corporate law a remarkable tool of influence. Since, as has been described previously, the corporation is one of the most important institutions in our lives, touching on virtually every aspect of them, the way in which the law influences this creature, which is of its own making, is of profound significance. It has the power to let a genie out of the bottle that can be our guardian angel or our malevolent destructor. As described in Chapter 1, it is currently poised somewhere between the two. To ensure that it delivers us from evil into ecstasy, we need to understand its basic function.

Company law is regarded as being the source of rights and rules imposed on its constituent members. It defines the basis on which the legal entity is established and the obligations on those who comprise it. It is a set of rules that define how the corporation is structured and conducts its affairs. As such it is like a toolkit that defines the framework around which the corporation is constructed.

The traditional view of corporate governance described in Chapter 5 mirrored this notion of corporate law. It saw the governance of the company as delivering on the framework established by law in promoting the interests of the company for the benefit of its members. The law defines the rules and corporate governance adopts

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[1] These are two chapters from Colin Mayer (2018), *Prosperity Better Business Makes the Greater Good*, Oxford: Oxford University Press.

[2] This chapter draws extensively on Colin Mayer (2015), "Conceiving corporate commitment" in *The Research Handbook on Shareholder Power* (edited by Jennifer Hill and Randall Thomas). Edward Elgar

them. It is the basis of the plethora of regulatory rules that will be discussed in the next chapter and the conventional delineation between the state and business – the former sets the rules by which the latter plays for gains.

The book argues that this conception of the corporation and its relation with society is incorrect and that the conventional separation between state and firm has been damaging and unrealistic. This is reflected in a misconception of the nature and role of corporate law. It should not simply be considered as a set of rules that define rights and responsibilities and what firms can and should do but as a way of allowing different parties to commit to the common purposes that the corporation promotes. The remarkable contribution of corporate law has been to provide commitment devices that bind people and organizations together in such a way that they fulfil purposes that would otherwise be infeasible.

Commitment is a complex concept in regard to individuals but it is largely absent from a corporate context. Contracts, control, incentives, and fiduciary duties feature prominently but commitment does not. The reason is straightforward: it is not thought to be credible. It is not credible to think of commercially oriented institutions sustaining relations of trust. We would be remarkably foolish to commit something or someone to the care of an individual let alone a corporation whose sole interest is focused on enhancing its own wellbeing. We would be naïve to entrust our property or possessions let alone ourselves without watertight contracts or strong incentives that aligned the interests of the corporation with our own.[3] But that is precisely what nearly all commercial transactions and relations rely on and until we have conceived, created and confirmed the concept of corporate commitment, we will not understand the functioning of corporations or the economies within which they operate.

Corporations are not first and foremost mechanisms for enforcing contracts or imposing incentives but vehicles for upholding commitments.[4] The law plays a

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[3] There are extensive discussions of trust in Francis Fukuyama (1995) *Trust: The Social Virtues and the Creation of Prosperity*, New York: Free Press; Russell Hardin (2006) *Trust*, Cambridge: Polity Press. Martin Hollis (1998), *Trust Within Reason*, Cambridge: Cambridge University Press; and Piotr Sztompka (1999), *Trust: A Sociological Theory*, Cambridge: Cambridge University Press. Trust in economics is discussed in the context of a number of related subjects such as institutional economics (George Akerlof (1970), "The market for "lemons": Qualitative uncertainty and the market mechanism", *Quarterly Journal of Economics*, 84, 488–500; and Kenneth Arrow (1974), *The Limits of Organization*, New York: Norton), game theory (Partha Dasgupta (1988), "Trust as a commodity", in Diego Gambetta, ed., *Trust: Making and Breaking Cooperative Relations*, Oxford: Basil Blackwell.), and transaction costs (Oliver Williamson (2010), "Transaction cost economics: The natural progression", *American Economic Review*, 100, 673–90).

[4] See Stewart Macaulay (1963), "Non-contractual relations in business: A preliminary study, *American*

critical role in this by allowing companies to make and sustain commitments through the types of ownership and governance arrangements that were described in Chapters 4 and 5. This chapter will describe how the law does this by conceptualizing what is meant by corporate commitments, and considering how corporations create and consolidate them through their ownership and governance arrangements. It will distinguish between laws that enable, empower, and enforce conduct that is consistent with commitment and those that require, restrain, and restore it. It will contrast forms of commitment that are self-regarding in furthering the success of the company itself[5] and those that have a wider social purpose in promoting the interests of communities and societies beyond the firm.

Concept

Consider these statements by some US corporations of their "corporate commitments":

> *"As a responsible global citizen, Formica Group has established numerous programmes of environmental management reflecting our belief that significant action must follow good intentions and ambitious goals.*
>
> *We continually develop strategies that enable us to move toward sustainability with efforts to:*
>
> - *reduce energy use throughout the life of our products;*
> - *reduce carbon emissions by developing renewable energy sources, waste-to-energy technologies and fuel-efficient freight activities;*
> - *work with suppliers to increase recycled and eco-friendly content in our raw materials, making mandatory the use of fibres from sustainable forests."*

> *"At Columbia Group our customers' success drives our success. We promise to provide the right resources with unrivalled expertise and the personal commitment to deliver superior solutions and facilitate your mission."*

> *"By building an inclusive work environment, we help ensure that Lockheed Martin is able to attract, develop and retain a diverse workforce that has the opportunity to showcase and develop their skills and abilities. We believe that all employees should have a safe and inclusive work environment – one in*

Sociological Review, 28, 55–67 for an early discussion of the importance of non-legally binding commitments. See also Isabelle Brocas, Juan Carrillo and Mathias Dewatripont (2004), "Commitment devices under self-control problems: An overview", in Isabelle Brocas and Juan Carrillo, eds, *The Psychology of Economic Decisions*, *Volume 2: Reasons and Choices*, Oxford: Oxford University Press.

[5] John Mill (1859), *On Liberty*, London: Longman, Roberts and Green.

which everyone is treated fairly, with the highest standards of professionalism, ethical conduct and full compliance with the law. From the CEO down, we are actively committed to promoting diversity and inclusion throughout our Corporation."

> *"At Northrop Grumman, we look at diversity and inclusion as being integrated into all our business practices. We take pride in creating a working environment where diversity and inclusion is valued and leveraged to foster creativity and innovation, thereby allowing us to meet the business challenges of tomorrow."*

Happy? Reassured? Our corporations are committed to looking after our environment, customers and employees. Others are committed to looking after communities, suppliers, investors, the elderly, and the vulnerable. "From the CEO down", they are committed to you, your families and your descendants because we live in a world of committed caring corporations.

Well, we would be happy if we had one iota of confidence in these statements. Our scepticism derives from the fact that we know full well that "from the CEO down" what they are really committed to is their own and their owners' interests, and ours and our societies' only feature to the extent that they are consistent with theirs. Where they diverge then we know who will come off the better and we do not expect it to be us.

Our scepticism derives from the fact that these are not in practice commitments in the conventional sense. Contracts are obligations to abide by statements, written or verbal, which are enforceable by law. Commitment is an obligation to abide by statements, principles or values stated or presumed that are not enforceable by law. Corporate commitment is an obligation on the part of the corporation so to abide.

Commitment can be self-regarding, communal and social. *Self-regarding commitment* benefits the provider by giving the recipient sufficient assurance of its irreversibility to encourage them to do things and in particular make investments that otherwise they would be reluctant to undertake. For example, they encourage employees to make firm specific human capital investments in their education and training that they cannot readily transfer to another corporation. They induce customers to make purchases from suppliers on whom they are then dependent for after sales service. They are self-regarding in so far as they are reflected in the benefits, either priced or reciprocal, that the provider derives. In other words, they are consistent with, not divergent from profit maximization in improving the terms on which the corporation can trade by lowering its cost of employment, purchases and capital and raising the prices it charges its customers.

Communal commitments confer benefits on the communities of which the provider is a part, the employees who work for it, the suppliers to and purchasers from it and the locality in which it operates. Communal commitments may not confer direct pecuniary benefits on the corporation but they may derive non-pecuniary benefits of status and prestige, which at least in part convert them into being self-regarding. A corporation that is committed to socially responsible investing cares for its employees and protects the environment and is a respected organization for which employees are proud to work, with which customers and suppliers are keen to be associated and which governments and nations respect. This may in part be reflected in a willingness of employees to work for lower wages, of customers to pay higher prices and of governments to engage in greater procurement, but not all of the benefits will necessarily be reflected in enhanced profitability; some will remain external.

Social commitments extend beyond the provider's community to society and nations more generally. There may not be any benefit that a corporation derives from adopting a policy of no corruption throughout the organization. On the contrary, it might forgo many commercial opportunities from so doing and derive little non-pecuniary benefit because its adoption is not widely appreciated. Its reason for implementing such a policy beyond its legal obligations may be because it believes it to be right or proper and for it to be inappropriate to do otherwise. Alternatively, social norms may encourage it to act in this way or there may be inducements that come from the provision of subsidies and taxes.

Commitments therefore relate to those components of obligations that are not enforceable by contract. Some of them are promoted by an alignment of incentives between the recipient and provider and some by more general forms of wellbeing that the provider might derive. In some cases, they reflect broader principles for which there may not be a direct profit motive.

Why are they needed? The significance of commitments derives from the fact that they are opportunity enhancing. In their absence the range of relations that can be sustained is constrained by those that are enforceable by contract or promoted by incentives. Most relations cannot be sustained in this way because they are dependent on the trustworthiness of the individuals and institutions involved and the trust that others have in them.

Many of the limitations on contracts and incentives come from conventional explanations – costs of writing and enforcing contracts, the impossibility of identifying all possible contingencies, and problems of what are termed the "observability and verifiability" of outcomes by third parties, by which is meant the ability of disputes to be resolved in courts of law.[6] Some of the limitations of contracts are more fundamental, for example the inability of future generations to negotiate on contractual terms about activities that impinge on them.

The result is that contractual protection is imperfect, incomplete and often altogether absent, leaving exposed those who do not have rights of contract or ownership. Instead, those parties depend on the trustworthiness of corporations acting with integrity, principles and compassion in upholding their interests as well as those of the corporation. But what justifies that conviction?

This goes to the central proposition of this chapter that a combination of the ownership and governance of the corporation and the legal environment within which it operates determines both the ability of the corporation to commit to its stated purposes and the degree to which it credibly can do so. Furthermore, the combination of ownership, governance and law allows the corporation to provide degrees of commitment beyond those of which individuals are capable.

At a personal level, the ability of individuals to commit derives from a combination of aretaic (virtue), deontic (obligations), and consequential considerations.[7] It reflects character, rules, and outcomes. We infer the credibility of the commitments of others from their personality, family, upbringing, education, social background, and conduct. The problem this presents is that it is frequently difficult to evaluate these criteria and it takes a long time to do so. Only immediate family members may feel able to evaluate the character of their relations and the obligations that derive from being a part of the family. Even they may find it hard and slow to do so and still harder to establish how resilient their assessments are to adverse circumstances, such as the financial or personal stress of their relations.

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[6] Sandy Grossman and Oliver Hart (1986), "The costs and benefits of ownership: A theory of vertical and lateral integration", *Journal of Political Economy*, 94, 691–719 and Oliver Hart (1995), *Firms, Contracts and Financial Structure*, Oxford: Oxford University Press.

[7] See, for example, Roger Crisp and Michael Slote (1997), *Virtue Ethics*, Oxford: Oxford University Press and Michael Slote (1999), "Virtue ethics", in H. LaFollette, ed., *The Blackwell Guide to Ethical Theory*, Oxford: Blackwell.

As a consequence, the reliance that they or anyone else can place on their ability to evaluate the trustworthiness and commitment of others is very limited and they in turn respond by limiting the extent to which they are willing to trust and commit. To express this in more conventional terms, reputations take years to establish and seconds to destroy, and our inherent reluctance to engage in relationships therefore takes years to overcome and seconds to justify.[8]

The commitment capability of the corporation derives from the fusion of finance and administration that was the innovation in the evolution of the corporation from the guilds in Britain and the partnerships (società) in Continental Europe described in Chapter 3.[9] The presence of the owners provides a constraint on the administration – the management – and the management limits the latitude of the owners. What this does is to allow the corporation to provide checks on the conduct of individuals to ensure that they abide by their statements, principles, and values. That is what ownership and corporate governance are concerned with or rather should be concerned with but that is not how they are currently conceived.

At present, ownership and corporate governance are perceived as being about aligning the interests of management with those of shareholders and the exercise of control by shareholders to do so.[10] Shareholders are the owners of the corporation and those entrusted with running it therefore owe the shareholders a duty to act in their interests and maximize the returns on their investments. They have a fiduciary responsibility to act with care, diligence, honesty, and loyalty at all times to their shareholders. Corporate governance is about ensuring that they do so through the accountability of management to shareholders, the information that is provided to shareholders for them to monitor the performance of the firm, the incentives that align the interests of management with those of shareholders, and the control that shareholders can exert to ensure that their interests are upheld.

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[8] Margaret Blair and Lynn Stout (2001), "Trust, trustworthiness, and the behavioural foundations of corporate law", *University of Pennsylvania Law Review*, 149, 1735–1751 argue for internalized trust based on expectations of intrinsic trustworthiness. Oliver Williamson (1993), "Calculativeness, trust and economic organization", *Journal of Law and Economics*, 36, 454–486 suggests that trust relates to non-calculative personal relations.

[9] See Edwin Hunt and James Murray (1999), *A History of Business in Medieval Europe: 1200–1500*, Cambridge: Cambridge University Press; Robert Lopez (1971), *The Commercial Revolution of the Middle Ages, 950–1350*, Englewood Cliffs, NJ: Prentice Hall; and William Scott (1912), *The Constitution and Finance of English, Scottish and Irish Joint-Stock Companies to 1720, Volume 1 – The General Development of the Joint-Stock System to 1720*, Cambridge: Cambridge University Press.

[10] Armen Alchian and Harold Demsetz (1972), "Production, information costs, and economic organization, *American Economic Review*, 62, 777–795, and Michael Jensen and William Meckling (1976), "Theory of the firm: Managerial behavior, agency costs and ownership structure", *Journal of Financial Economics*, 3, 305–60.

What is wrong with this is the premise. As discussed in the Chapter 5, corporate governance is not about aligning the interests of management with shareholders. It is about ensuring that the corporation abides by its stated purposes, values, and principles at all times. It is about confirming the basis on which the corporation can credibly commit to other parties in the delivery of its purpose.

It might be thought that promoting shareholder interests and establishing corporate commitments are equivalent if the commitments of the corporation are solely designed to enhance shareholder value, i.e. they are purely self-regarding. But even this would be incorrect for several reasons. First, corporate governance as currently conceived is not about the creation of commitments. It is about the rights of shareholders and the responsibilities of directors to act in their interests, not about the self-imposed restraint that both may have to demonstrate to create credible commitments to each other. In particular, restraints on the activities of shareholders have not been a focus of the corporate governance literature to date. Second, theories of corporate governance that emphasize shareholder interests fail to recognize the diversity of shareholders reported in Chapter 4. It is only comparatively recently that the divergence of interests between block holders and minority shareholders has been appreciated and still more recently that the potential conflicts between short- and long-term shareholders have been acknowledged.

Self-regarding commitments raise questions about whose self are we regarding – block holders, minority, short-term or long-term shareholders? More generally, they suggest the inclusion of other parties, such as employees, suppliers, distributors and customers. The justification for this is not some normative argument about enhancing the welfare of others but a pure economic efficiency one that, in the absence of broader commitments, the relations that the corporation can sustain are restricted and its efficiency constrained. For example, employees that do not trust their employers, suppliers who do not trust their customers, and customers who do not trust their suppliers withhold their labour, supplies and custom. In the absence of credible commitments to protect them, they restrict their participation in commercial transactions below the level at which they would be willing to engage with trustworthy firms.

Companies that are incapable of sustaining credible commitments to their vulnerable counterparties are impoverished in relation to those that are. Put simply, in a world in which contracts are incomplete, unenforceable or infeasible then the ability to commit and sustain relations of trust is critical to the scope of economic activity. We should encourage commitments to engagements that extend beyond the purely self-regarding because they are enriching in every sense of the word.

Creation

The corporation's existence derives from the law. The law establishes the corporation as an entity that is distinct from its individuals. It defines the various manifestations of the corporation and the boundaries within which it operates.[11] Corporate, securities, competition, commercial, and public law all contribute to the identification of the corporation.[12]

In creating the corporation, the law determines its characteristics. It does this by defining the permissible forms it can take: who owns, who controls, the responsibilities of different parties to each other, the information that they have to provide, and the powers that they can exert. Together these determine the nature of the corporation. They are the corporate genome from which the genetic make-up of a particular corporation, as reflected in its ownership and governance, is derived. One of the characteristics of the corporation that the law, ownership and governance determine is its ability to commit to its corporate purpose. To date, corporate law and governance have failed to recognize their significance in this regard and the next section attempts to rectify this by describing how they achieve it.

The way in which the law impinges on commitment is in establishing the range of relations a corporation can sustain. If the law states that the only obligations of class X of individuals can be to class Y of individuals then the range of relations that can be sustained is restricted to these two sets of individuals. It makes precise the nature of permissible relations of the corporation. Another society that permits the relations of class X of individuals to be with class Z as well as Y is potentially a richer one in a literal as well as metaphorical sense of sustaining a broader set of relations than that of the first society. However, by restricting permissible relations to a more narrowly defined class, the first society might assist its corporations in committing to a more restricted set of relations and, in so doing, may enhance not diminish its economic efficiency relative to the second society.

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[11] For a discussion of this see Eric Orts (2013) *Business Persons: A Legal Theory of the Firm*, Oxford: Oxford University Press.

[12] Paul Davies and Sarah Worthington (2012), *Principles of Modern Company Law*, 9th edition, London: Sweet and Maxwell.

For example, if corporate law states that the responsibilities of the directors is solely to their shareholders then this prevents a broader range of stakeholders from exerting influence over them. This might be deleterious in preventing the executives from being accountable to their creditors, customers, employees, or suppliers, but it might be advantageous in making precise their obligations and preventing the executives from switching their allegiance at a future date from one party, such as the shareholders, to another, such as the employees. It is not therefore possible to determine *a priori* whether an exclusive or inclusive corporate form is preferred.

Enabling legislation is permissive in allowing corporations to adopt a range of different forms. It provides a broad framework within which corporations are free to select a particular structure that is suited to their activities. In particular, it allows corporations to define the ownership and governance arrangements that establish the degrees of commitment that they provide to different parties. The recent introduction of the benefit corporation is an illustration of a legislative innovation that permits of a greater variation in corporate form than previously existed.[13] The creation of limited liability partnerships at the beginning of the 1990s is another example.[14]

Chapter 5 described how the UK Companies Act privileges shareholders over other parties to the firm notwithstanding its reference in s.172 to the obligations on directors to take other party and long-term interests of the company into account. In practice, directors to date have paid scant attention to those other interests on the presumption that the force of the law favoured shareholders. The existing law could encompass more diverse forms by describing alternative models, for example, stakeholder participation models that grant rights of information and representation to employees and other stakeholders, or shareholder privilege models that confer greater control rights on long-term and engaged owners.[15]

Legislation enables corporations to *empower* different parties. Traditionally the two groups who are empowered are the shareholders and the directors of a corporation. Their spheres of influence are different relating respectively to the property rights that are associated with the ownership of shares and the duties of administration of the employment of that property. However, entitlement need not be restricted to

[13] Felicia Resor (2012), "Benefit Corporation Legislation", Wyoming Law Review, 12: 91–113 and Frederick Alexander (2018), *Benefit Corporation Law and Governance: Pursuing Profit with Purpose*, forthcoming.

[14] Robert Hamilton (1995), "Registered limited liability partnerships: Present at birth (nearly), *Colorado Law Review*, 66, 1065–1069.

[15] See Big Innovation Centre (2017), Purposeful Company: Policy Report, London: Big Innovation Centre, Section 4.1 for further details about these alternative models.

shareholders and directors and could be extended to other parties such as employees, customers, and communities. They too could be granted access to information about the performance of the corporation in regard to their interests and rights of representation in relevant decision-making processes.

Associated with the allocation of rights are the liabilities arising out of them. The responsibility of the corporation to different parties creates obligations that in turn establish liabilities for actions taken or intended.[16] With the attribution of claims comes access to information about the status of the claims and the liabilities arising out of those claims. For example, if employees are empowered to have influence over corporate decisions then they should be party to relevant information on the performance of the corporation and their claims on the organization arising out of it.

As described in the previous chapter, accounting conventions and measures of performance should reflect the stated objectives of the corporation and the commitments to employees, customers or communities should be reflected in associated liabilities in income and balance sheet statements. Different parties to the corporation should therefore have the information on which to judge whether it is abiding by its stated purposes and values. For example, benefit corporations are required to provide precise information on how they contribute to their social as well as private purpose.

Once endowed with rights, the relevant parties should have powers to *enforce* them. These powers may derive from voting within their particular class, voting corporately in conjunction with other classes, initiating class actions, or publicizing the opinions of members of the class in social media. Where the directors of a corporation fail to uphold the interests of the relevant party then it should have the right to have the deficiency remedied and compensated. Such remedies may result from enforcement through the courts, the ballot box, and the media.

In sum, there are three forms of legislation that facilitate the provision of corporate commitments: *enabling*, *empowering* and *enforcing* legislation. Together these define available corporate arrangements and forms of corporate commitment. However, legislation may not only be permissive in facilitating the establishment of different corporate structures, but also prescriptive or restrictive in requiring corporations to abide by particular conventions.[17]

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[16] Gregory Alexander (2013), "Ownership and obligations: The human flourishing theory of property", *Hong Kong Law Journal*, 43, 451.

[17] See John Coffee (1989), "The mandatory/enabling balance in corporate law: An essay on the judicial role", *Columbia Law Review*, 89, 1618–1691 and Jeffrey Gordon (1989), "The mandatory structure of

To date we have presumed that commitments are voluntarily entered into to enhance the value of the corporation for self-regarding reasons. The question is whether there should be obligations beyond those to which parties voluntarily agree to abide. The answer is yes if corporations do not address communal and social commitments adequately and thereby fail to internalize externalities that more socially oriented corporations would internalize.

In particular, the *requirements* of corporations will relate to their provision of human, intellectual, natural, and social as well as financial and material capital. There may be obligations to enhance human, intellectual, natural, and social capital beyond the levels that organizations would voluntarily choose. Corporations should be required to *refrain* from pursuing purposes and engaging in activities that could be detrimental to the maintenance of these forms of capital and to invest in those that would benefit from enhancement. There should be a requirement to make good failures and *restore* detriments where damage has been done.

In other words, there are three forms of legislation that regulate corporations: *requiring*, *refraining* and *restoring* legislation. Together with those that establish corporations – enabling, empowering and enforcing legislation – they provide the legislative framework within which corporations can determine their particular structures and processes. Legislation and governance together then define the nature of the corporation and its ability to commit.

Confirmation

The transformation of what is possible in to what is realized is achieved through the ownership and governance of the corporation as described in the previous chapters.[18] The ability of the corporation to display self-regarding commitment derives from its ownership. Long-term owners endure the consequences of their actions; short-term owners may not, particularly if the consequences of them are not fully evident before the disposal of their shares. Long-term owners are therefore able to provide a menu of credible commitments that short-term owners cannot.

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corporate law", *Columbia Law Review*, 89, 1549.

[18] See Edward Rock and Michael Wachter (2001), "Islands of conscious power: Law, norms, and the self-governing corporation", *University of Pennsylvania Law Review*, 148, 1622 for arguments for non-legally binding governance arrangements. For a discussion of commitment in investment banking in the context of a hierarchy that runs down from trust to fiduciary law and regulation, see Alan Morrison and William Wilhelm (2015), "Trust, reputation, and law: The evolution of commitment in investment banking, *Journal of Legal Analysis*, 7, 363–420.

Neither is capable of offering commitments that extend beyond self-regarding ones without further assistance. That assistance comes from the governance of the corporation. There are three components to corporate governance: the *articulation* of values and principles; *accountability* and accounting for liabilities attributable to the values and principles; and *attribution* of responsibility for attainment of the values and principles and adjudication over their allocation between different parties. The combination of articulation, accountability, and attribution allows for communal as well as self-regarding commitments. This can be illustrated in the context of the corporate commitment statements quoted at the start of this chapter.

This was Formica Group's statement about sustainability:

- *"reduce energy use throughout the life of our products;*
- *reduce carbon emissions by developing renewable energy sources, waste-to-energy technologies and fuel-efficient freight activities;*
- *work with suppliers to increase recycled and eco-friendly content in our raw materials, making mandatory the use of fibres from sustainable forests."*

These statements raise three questions. Question 1: does this statement by Formica mean continuously reduce the use of the volume of all forms of energy used in all of its products? Question 2: what has been the substitution between conventional and renewable energy sources and the overall level of carbon emissions? Question 3: what are the target levels of increase of recycled content in raw materials and what precisely is meant by eco-friendly content? In other words, values and principles need to be specific and have measurable goals and targets for them to carry conviction and content. The values and principles by which the corporation will abide need to be clearly and precisely stated. By their articulation and specification they should create obligations and responsibilities on corporations that are persuasive and precise.

To illustrate accountability, consider the statement by Lockheed Martin: *"Lockheed Martin is able to attract, develop and retain a diverse workforce that has the opportunity to showcase and develop their skills and abilities".* Northrop Grumman made a similar statement about diversity. How should diversity be measured and what are its target levels in regard to new recruitment and retention of existing employees? What are the financial liabilities associated with these diversity targets and how are they reflected in Lockheed Martin and Northrop Grumman's accounts? Arising from the stated purposes and values, there should be associated liabilities that are reflected in corporate accounts. As suggested in the last chapter, the content of corporate accounts should correspond with the purposes of corporations and be tailored to their particular needs. Accounting statements should be consistent with corporate purpose statements.

Finally on attribution, consider the next part of Lockheed Martin's statement: *"We believe that all employees should have a safe and inclusive work environment – one in which everyone is treated fairly, with the highest standards of professionalism, ethical conduct and full compliance with the law".* Who is responsible for ensuring safety? Who adjudicates on the fair treatment of employees and the resolution of disputes between employees and between employees and their employers? There should be a group of individuals in Lockheed Martin who take responsibility for these statements, bear the consequence for upholding them and arbitrate disputes between different interested parties.

In other words, what converts these assertions, to which at present we attribute little significance or credibility, into credible commitments of substance is precision in their articulation, accounting for their implementation, and allocation of responsibility for upholding them and bearing the consequences of a failure to do so. Without that precision, measurement, and responsibility, the statements are vacuous; with them, they are powerful assertions of binding commitments that have consequences for the corporation in terms of its profitability and for individuals within it in relation to their careers and reputation for a failure to deliver.

By articulating clearly in whose interest the corporation is run, making the corporation explicitly liable to those parties, accounting for those liabilities in a transparent way and making someone specifically responsible for ensuring that the corporation does not deviate from its stated purposes, it is able to offer credible commitments to other parties. By empowering other parties, allowing them to enforce their rights, and making individuals within the organization accountable for this, the corporation can extend its commitments beyond the self-regarding interests of their owners to those of other members of its community. The scope of self-regarding commitment has been broadened by making other groups parties to the corporation and conferring rights on them that are analogous to those of shareholders. In other words it has converted them into meaningful "stakeholders". The mere act of requiring companies to articulate their purposes and demonstrate a credible commitment to their delivery will, in and of itself, be transformational in reforming the corporate landscape.

Nevertheless, the domain of commitment remains within the confines of those that the corporation embraces as part of its community through empowering them with rights as stakeholders. It does not extend to society at large whose members do not have a specific claim or right of enforcement on the corporation. To protect them, the corporation will have to act in trust in promising to uphold their interests. In so doing, the owners of the corporation will have to relinquish control rights to others, such as a board of trustees, whose responsibility is to third party members of society.[19] So while Lockheed Martin and Northrop Grumman can credibly uphold the commitments to their employees by empowering and conferring appropriate rights of enforcement on them, the Formica Group can only deliver on its promised environmental protection by holding those promises in trust for society at large. To be able to do that then there will have to be individuals in the corporation endowed with the necessary authority to act as trustees for society at large.

This is an effective way in which corporations can commit. By creating a board of trustees, the owners of a corporation relinquish control and confer it on a board of directors responsible for upholding the values of the corporation. It is the responsibility of the trustees to ensure that the interests of those parties for whose benefit the corporation is run are respected.[20] On appointment, the trustees become the guardians of the values of the corporation. It is so powerful a form of commitment that it should be applied with caution because in the process of disenfranchising the owners, it places immense reliance on a board of trustees to provide effective governance of a corporation with little or no accountability for their actions.

As described in Chapter 1, it is a technique that has been used very effectively in industrial foundations which some of the most successful European corporations,

[19] The relationship between trust and corporation has an extensive pedigree, not least Frederic Maitland (1904), "Trust and corporation", reprinted in Frederic Maitland (1911), *Collected Papers*, Cambridge: Cambridge University Press and Frederic Maitland (1905), "Moral personality and legal personality", *Journal of the Society of Comparative Legislation*, 6, 192–200.

[20] "Ownership conferred by the law of trusts does not seem to belong either to persons or to things. … Yet this is precisely what allows non-persons such as 'unincorporate bodies' to be the beneficiaries of trusteeship. Ownership does not belong to persons because trusteeship allows ownership in 'strict law' to rest with one set of persons (the trustees) and ownership in 'equity' to rest with another group entirely (the beneficiaries); it does not belong to things because trusteeship allows the things owned to vary and to be variously invested without the rights of ownership having to alter (hence the trust 'fund'). Instead, the law of trust rests on the idea of 'good conscience'. If men can be trusted to act as owners in law for those who have an equitable claim on the thing owned, and if those with whom they deal can be trusted to see the matter in the same light, then it is possible to provide an enduring legal identity for all manner of people and things that do not otherwise fit into the typology of *ius in personam* and *ius in rem*" (David Runciman and Magnus Ryan (2003), *State, Trust and Corporation*, Cambridge: Cambridge University Press, xx).

such as Bertelsmann, the media company, Robert Bosch, the automotive supply company, Carlsberg, the brewery, Ikea, the furniture retailer, and Velux, the window manufacturer, have adopted.[21] It is also the organizational form of the Indian conglomerate, Tata and the US chocolate manufacturer, Hershey. These corporations are controlled by boards of foundations that are responsible for ensuring that they abide by the principles and values of the foundations. In many cases, the foundations have a charitable purpose. They were often created by founders of the companies who were concerned about succession and sought to avoid problems of inheritance by transferring control from their heirs to a body with a philanthropic and public purpose. Below the boards of the foundations, the corporations have operating boards that are responsible for formulation of corporate strategy and below these are executive boards that oversee its implementation.

Notwithstanding the fact that the industrial foundations are in essence ownerless corporations with self-appointing boards that are not externally accountable, and that the corporations are insulated from the discipline of markets for corporate control, their performance has been strikingly good. There are many possible explanations for this but the most compelling is the value that all employees from the board of directors downwards place on contributing to an organization that has public and social as well as private purposes. In other words, industrial foundations are able to command the trust and respect of their stakeholders through abiding by social as well as self-regarding and communal commitments.

The power of the corporation to commit therefore derives from its ownership and governance and its ability to align these with its commitments. Short-term owners can avoid commitments of any form. There may be drawbacks as well as advantages associated with commitments in imposing obligations on corporations which they would wish to avoid, and short-term ownership allows the corporation to do that. Long-term owners can sustain self-regarding commitments. Empowering stakeholders allows corporations to provide commitments to their broader communities. Separating ownership and control by creating a board of trustees allows the corporation to provide social as well as communal commitments.

The flexibility of the corporation to commit reflects two features of it. The first is its ability to assign responsibility to directors to act as agents of shareholders alone, as agents of stakeholders as well as shareholders, or as trustees of society at large as

[21] See Henry Hansmann and Steen Thomsen (2013), Managerial distance and virtual ownership: The governance of industrial foundations", ECGI – Finance Working Paper No. 372

well as shareholders and stakeholders. The second is its ability to allocate property rights equally and proportionally to all shareholders or to concentrate them in the hands of certain classes of, for example, long-term shareowners as against short-term shareholders. The first feature of the corporation's governance determines the cross-sectional breadth of its commitment to different parties, namely whether it is self-regarding, communal, or social. The second feature of the corporation's ownership affects the inter-temporal length of its commitment horizon, namely whether it is of long or short duration. Together with the depth of capital committed, the product of the length, breadth and depth establishes the volume of committed capital.

The degree of trust that the corporation's communities and societies place in it is a function of its volume of committed capital.[22] In the absence of full protection from complete and binding contracts, it determines the terms on which different parties (customers, employees, investors and suppliers) are willing to trade and invest in it. The volume of committed capital therefore affects the prices the corporation can charge its customers and its cost of capital, labour, and material inputs. It therefore influences the corporation's capital structure, employment, and investment and it bears critically on its performance measured in both conventional profitability and broader stakeholder and social terms.

In essence, what commitment and the structures associated with it do is to place the corporation in a social and political context. The corporation can be the narrow self-regarding instrument with which economics and finance traditionally associate it, concerned with the interests of its owners and its executives alone. Alternatively, through relevant legal, ownership and governance forms, it can extend its obligations to other parties in the corporation such as its employees, suppliers and local communities, or it can go beyond that in creating responsibilities to societies and the public at large. The corporation should therefore be regarded in a system as well as an individual entity context, and sociology and politics bear on it not just through the duties that society and nations impose on it but through the commitments that it makes to them.

The structure of ownership and governance gives the corporation a "personality". As described in Chapter 2, this has normative virtues associated with it that derive from the purposes and values of the corporation. These in turn establish internal norms and rules, which together with those externally imposed by society through

[22] See Mayer (2013), *Firm Commitment: Why the Corporation is Failing Us and How to Restore Trust in It,* Oxford: Oxford University Press, Chapter 7

regulation create obligations that constrain the behaviour and conduct of the corporation.

What makes the ethical basis of the corporation and its power to commit potentially stronger than that of individuals is the juxtaposition of its ownership with the control exercised through its board of directors and the public manner in which its purposes and values are stated. These make the character of the corporation transparent in a way in which it remains opaque for individuals, and allows the corporation to provide commitments that are more credible than those of individuals. In the terms of Chapter 2, they allow our individual *mintegrity* to be converted into a corporate *maxtegrity*. Whereas economics typically places welfare analysis in a consequential framework, its basis in the corporation can equally be a reflection of virtues and obligations.

Consequence

Europe provides illustrations of all these forms of corporations and corporate commitments. The UK in particular with its dispersed ownership is dominated by short-term shareholders rather than long-term shareowners, and is therefore a low commitment economy. UK corporations can avoid the commitments that constrain their counterparts elsewhere and thereby demonstrate a greater degree of flexibility to changing circumstances. Nordic countries confer control on long-term owners, in particular families, who are actively engaged in the oversight of corporations. These long-term owners are able to uphold self-regarding commitments. Central European countries, such as Austria and Germany, confer control rights on stakeholders, in particular employees, as well as shareholders through workers councils and co-determination on supervisory boards. These allow Austrian and German corporations to offer credible communal commitments beyond those that are self-regarding. In the industrial foundations of, in particular, Denmark, founders of corporations relinquish control rights to a board that is responsible for ensuring that the corporations act in trust for the philanthropic benefit of other members of society. The foundations are therefore able to offer social as well as communal and self-regarding commitments.

The combination of enabling legislation, ownership, and corporate governance allows corporations to fulfil a range of communal and social as well as self-regarding functions. Where corporations do not or are unable to offer the level of commitments that society demands of them then it resorts to prescriptive regulation in place of permissive enabling legislation. In other words if corporations do not demonstrate the levels of commitment that society requires of them then they sacrifice their powers of self-determination to externally imposed restrictions on their activities. It may therefore be in the interests of corporations that they provide the forms of ownership and governance that allow them to offer the levels of commitment which communities and societies demand of them.

The attainment of particular levels of communal and social engagement would require high levels of regulation in the UK to compensate for its low levels of corporate commitment, modest levels of regulation associated with industrial foundations that sustain high levels of social commitment, and intermediate levels in Central European countries where corporations provide commitments to stakeholders but not society more generally. However, nations are constrained in terms of the regulations that they can impose to correct for deficient corporate commitment by the impact that these have on the efficiency and commercial performance of their corporations. So, marked variations in levels of trust across countries persist, with consequences for the nature of both corporations and the societies within which they operate.

Conclusion

Ownership and governance determine the balance between permissive, establishing and restrictive, regulating legislation. The longer the controlling ownership of the corporation, the broader the scope of corporate values and principles, the greater the accountability of the corporation to its stakeholders and the clearer the attribution of responsibilities for upholding values and principles, the less the need for regulation and the greater the potential diversity of corporate forms and commitments. The advantage of this is that it allows for a richer set of commercial arrangements that in turn promotes economic efficiency and wellbeing.

In contrast to the enriching nature of enabling legislation, the drawback of regulation is that it is essentially retrospective and restraining in limiting potential commercial arrangements. Therefore, if corporations can themselves demonstrate a credible ability to commit then the legislation will be available to provide the framework within which corporations have the latitude to do this. If, on the other hand, the willingness of corporations to commit is weak then legislation will have to fill the gaps that have been left through the imposition of regulatory rules.

This chapter has pointed to the centrality of commitment in the functioning of corporations and economies. Why have we failed to recognize corporate commitment to date? The answer is that we have not always failed to recognize it. As described in Chapter 2, charters originally endowed corporations with public purposes. At that stage, commitments were intrinsic to the corporation. With freedom of incorporation the intrinsic commitments were relinquished. Nonetheless, so long as the corporation remained in family ownership then commitments were synonymous with the values of the families. As ownership became more dispersed it was the board that could commit safe in the knowledge that the degree of control that shareholders would in practice exercise was limited. However, in an attempt to address the resulting agency problem through markets for corporate control, discretion of management became progressively more constrained to a point at which it was subsumed in shareholder value maximization. Furthermore, the horizon of shareholders diminished with the shortening duration of shareholdings and, in the process, the latitude to commit was extinguished.

The consequence has been a futile attempt to rectify this by seeking ever more extensive contractual arrangements and imposing tougher regulatory requirements that constrain the commercial potential of the corporation. We need to break out of this destructive spiral of declining commitment and intensifying regulation by conceiving what corporate commitment is capable of achieving and creating the context within which it can realize its full potential to perform communal and social as well as self-regarding purposes. Otherwise, as the next chapter will reveal, regulations that not only distort but also threaten greater financial instability than the crisis of 2008 will inevitably intensify.

Chapter 8

Regulation

"Our manufacturers must consent to regulations; our gentry must concern themselves in the education as well as in the instruction of their national clients and dependents, and must regard their estates as offices of trust, with duties to be performed in the sight of God and their country."
Samuel Taylor Coleridge
"A Lay Sermon ("Blessed are ye that sow beside all Waters!")"[23]

The purpose of regulation[24]

The purpose of regulation is to set the rules of the game within which the private sector plays. The purpose of the private sector is to pursue profits while staying within the rules of the game.

This conventional post World War Two consensus on how economies operate has guided the formulation of policy everywhere - in competition policy, privatisation, regulation of monopolies, investor protection, corporate governance and corporate law, to name a few. It is based on the premise that regulation is there to stop people and organizations doing things – driving too fast, polluting too much, pricing too high, and building too precariously. It restrains where we fail to refrain. It is a response to our innate irresponsibility imposing rules of reason where reason fails to rule.

And reason has failed the most where it is most required - in finance. Nowhere are we more dependent on our ability to trust than when we hand over our money to others. Nowhere is there a worse alignment between the provider and the purchaser. Making other people wealthy is not an innate source of personal satisfaction. We do not in general relish other people getting rich; better to prosper ourselves while others fester.

And nowhere is it easier to steal. Money is fungible, odourless and untraceable. Finance is complex, opaque, unfathomable, populated by smart, ambitious

[23] In Coleridge's *Poetry and Prose*, ed. N. Halmi, P. Magnuson and R. Modiano, New York: W.W. Norton, 2004, pp.371-2

[24] This chapter is based on Colin Mayer (2017), "Finance, wealth, technological innovation and regulation". In *National Wealth: What is Missing, Why it Matters.* Kirk Hamilton and Cameron Hepburn eds, Oxford: Oxford University Press. Further discussion of some of the issues considered in this chapter can be found in John Armour, Dan Awrey, Paul Davies, Luca Enriques, Jeff Gordon, Colin Mayer and Jennifer Payne (2016), *op. cit.*

specialists, who understand the incomprehensible. We part with our farthings on the promise of a fortune. No wonder we need regulation. Finance without regulation is a licence to steal.

The question is not then whether but how. How should we regulate finance to convert a cesspit of self-interest into a cockpit of high principles? It is not easy but we should start by asking, what is the purpose of finance?

The purpose of finance

The conventional answer is to enhance economic prosperity. The way it does it is through financial institutions and markets that intermediate between savers and borrowers and facilitate the allocation of capital to where it is most effectively employed. These institutions collect and process information that is otherwise unavailable or inadequately provided and reduce the costs of reallocating capital to its most productive uses.

There is a large amount of evidence of a relationship between financial development and economic growth. Several studies report an association of the size of financial systems at the start of a period and subsequent economic growth, and, controlling for other factors, financial development appears to contribute to growth. A variety of measures of financial development are relevant, for example, the volume of monetary assets, the size of banking systems and the size of stock markets.[25]

The primary channel through which financial development contributes to growth and wealth creation is via the external financing of firms. Comparing the growth of different industries across countries reveals an inter-relationship between their growth rates, the degree to which they are dependent on external finance and the development of financial systems in which they operate.[26] Financial development therefore benefits industries and companies that depend on external finance.

These results suggest that a primary purpose of financial institutions is to improve allocation of funds within an economy. Institutions that direct financing to activities that are most dependent on external finance assist corporate, industrial and economic growth. The studies therefore provide empirical confirmation at an

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[25] See for example the surveys by Ross Levine (1997), "Financial Development and Economic Growth: View and Agenda", *Journal of Economic Literature,* 35 and Ross Levine (2005), "Finance and Growth: Theory and Evidence" in Philippe Aghion and Steven Durlauf (eds), Handbook of Economic Growth.

[26] Raghu Rajan and Luigi Zingales (1998), "Financial Dependence and Growth", *American Economic Review,*17.

aggregate or industry level for the theoretical underpinning of financial institutions.[27]

However, in 1995 two US economists made an interesting observation that “in the United States, the importance of commercial banks as a source of funds to nonfinancial borrowers has shrunk dramatically. In l974 banks provided 35 percent of these funds; today they provide around 22 percent”.[28] They went on to consider the implications of what was termed “financial disintermediation” for the stability and regulation of the US banking system. They were not alone in documenting this phenomenon and perceiving significant implications for the conduct of financial and regulatory policy.

Disintermediation is a reversal of the cost and information advantages of banks and other intermediaries. With the growth of electronic trading, communication and information, the benefits of employing middlemen between the suppliers and purchasers of financial securities diminished. Instead of economizing on distributing securities, collecting information and monitoring performance, intermediaries just introduced a layer of costs that added little to what investors and firms could do directly themselves. In fact one study shows that over the last 130 years of massive investments in the financial sector, in its people, buildings and technology, there has been no, literally no, improvement in the productivity of the financial sector whatsoever.[29]

With the growth of “fintech” – computer driven finance - the process of disintermediating traditional providers of financial services has accelerated. However, the limitations to this process have also become more evident. Electronic systems facilitate direct communication, information and transaction between parties but do not of themselves overcome problems which afflict goods and services markets in general but are especially prevalent in financial markets, namely deficiencies of information about uncertain and frequently distant prospects. Evaluating the quality of information that is available to market participants is complex and, while electronic systems increase the volume of information, they do

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[27] See Colin Mayer (2015), “Economic development, financial systems and the law”, in Eilis Ferran, Naomi Moloney and Jennifer Payne (eds) *Oxford University Press Handbook of Financial Regulation,* Oxford: Oxford University Press.

[28] Franklin Edwards and Frederic Mishkin (1995), “The decline of traditional banking: Implications for financial stability and regulatory policy”, *Federal Reserve Board of New York Economic Policy Review*, July, 27-45.

[29] Thomas Philippon, 2015. "Has the US finance industry become less efficient? On the theory and measurement of financial intermediation”, *American Economic Review*, 105, 1408-1438.

not necessarily improve its reliability. Reputations, relations, trustworthiness remain critical components of financial markets and, although technological advances might have altered the way in which these are established, they have not eliminated or diminished their significance.

Therefore, while the 1980s and 1990s saw a shift from funding from banks and other intermediaries to securities markets, the 2000s and 2010s are seeing the re-emergence of market facilitating intermediaries. Essentially these span the functions traditionally performed by financial intermediaries and markets, and complement their respective activities. The most significant example of this is the growth of financial institutions as intermediary investors.

Individuals and institutions frequently employ investment managers (asset or fund managers) to manage portfolios of shares on their behalf. Investment management has been one of the fastest growing areas of the financial industry. It includes wealth management on behalf of wealthy private clients and hedge funds investing predominantly on behalf of institutional investors. Alongside institutional investors that hold securities, investment banks that issue them and investment managers who manage them are advisors, analysts, consultants and credit rating agencies which collect and process information on behalf of investors and firms. They facilitate financial investments by improving information flows in markets.

So in short succession we have observed, intermediation, disintermediation and reintermediation in the financial sector. In addition to technology, one key influence on this process has been regulation. Whereas regulation is traditionally viewed as a response to conduct in financial markets, it is equally a cause. The way in which financial transactions are structured and the conduct of participants in financial markets is also a response to regulation. The directions of causation between financial conduct and regulation therefore run both ways.

The most significant response to regulation is to encourage the emergence of financial institutions and practices that replicate those of banks but are not classified and therefore regulated as banks. These institutions are frequently categorized under the general heading of "shadow banks" or "non-bank financial intermediaries". Shadow banks have similar purposes to banks and perform their traditional functions of liquidity, maturity and credit transformation. What distinguishes shadow from formal banks is that they are not deposit taking institutions and do not have access to lender of last resort or deposit insurance schemes. They are institutions that perform similar functions to banks in regard to payments, liquidity, savings and lending but they are not banks and not regulated as banks.

Herein lies the cause of the emergence of this shadow system and the seeds of its own destruction. Similar activities are being regulated in different ways, thereby creating strong incentives to take activities out of the formal regulated sector and put them in the informal unregulated one. Along with technology, regulation is driving financial innovation. Still more seriously, a regulatory system that is based on institutional form rather than purpose and function is not well placed to respond to the resulting financial failures. It does not matter whether an activity is performed in a bank and therefore subject to banking regulation or in a market intermediary and therefore subject to securities regulation but it does matter a great deal if there is a lack of equivalence between the two. The way in which regulation is structured by institutions not purpose and functions means that it is both a distortion to financial innovation and an impediment to the avoidance of the failures that are thereby created. As we will see, this will be potentially a cause of a systems wide financial failure that will be more serious than the financial crisis of 2008.

There are four functions of a financial system: to undertake intermediation between savers lending their financial assets and borrowers using them; to provide safe-keeping of financial assets; to operate a payments system of transferring monies in the settlement of transactions; and to manage risks. Technology and regulation are causing profound changes in all four of them. We begin by describing the changing nature of intermediation and the emergence of a parallel system of shadow banking

Disintermediation

The drive to disintermediation that occurred from the 1980s was in part a reflection of technological advances that allowed individual and institutional investors to undertake transactions themselves electronically without relying on banks to do it for them. These reduced the costs of transacting and encouraged a shift from organizing transactions within to outside banks. Examples of such developments are peer-to-peer lending and crowd sourcing which provide direct access of borrowers to lenders and savers to speculative investments via the web.

There was in addition a second factor that played an important role in promoting this shift and that was regulation. The regulation of banks is extensive and relates to their structure, personnel, conduct and products. It impedes the activities in which banks can engage and in the process it raises the costs of undertaking transactions.

Regulation therefore encourages a search for lower cost, unregulated activities and ways of doing business and the emergence of market processes was therefore a natural reaction to the costs of bank regulation.

An early example of this was Regulation Q, which prohibited US banks from paying interest on demand deposits from 1933 onwards. One of its effects was to encourage the emergence of money market funds as substitutes for demand deposits. Another was the stimulus it gave to the growth of the Eurobond market, which allowed issuers to circumvent domestic regulation of bond markets by issuing foreign currency denominated bonds. US investors could thereby earn significantly higher returns on US dollar denominated bonds issued in Europe than on US bank accounts. A more recent example is the imposition of increased capital requirements as part of Basel III to correct the failures of the financial crisis. These raise the cost of bank capital and encourage the diversion of banking activities to non-bank intermediaries.

The influence of regulation on the growth of market based finance is illustrative of a general principle that regulation encourages substitution of lower cost activities that are subject to less onerous forms of regulation. It suggests that, first, one should not regard the structure of financial systems as independent of regulation or regulation as just a product of the financial system but recognize that in addition there is a reversed causation running from regulation to the financial system which makes the structure of financial institutions a product of regulation. Second, since there is a range of institutions that undertake similar activities, the imposition of regulation on some but not all of these institutions distorts competition and artificially diverts activities to the less regulated. One should not therefore think about regulation on an institutional basis but rather in relation to the financial purposes it is seeking to promote, for example, not focusing on the regulation of banks per se but on institutions that perform equivalent lending and savings functions.

Market intermediaries illustrate this principle very well because in many cases they have similar purposes and perform similar functions to equivalent bank based institution. The shift to market finance has created a need for a new type of intermediary associated with market activities. There are three fundamental drivers of such market-based intermediation – transaction and portfolio diversification economies, information collection, and governance and control

A primary function that market intermediaries are supposed to perform is economizing on transaction costs – the costs of buying and selling securities that reflect fees and the spread between bid and ask prices. These are particularly significant in relation to small transactions as a consequence of the fixed as well as variable costs incurred. As a result, there are economies of scale in transacting in large amounts. A justification for financial intermediaries is therefore the costs that they can save by aggregating together the transactions of a large number of investors.

A related source of economy in investing comes from portfolio diversification. By spreading their risks across a large number of securities, investors are able to take advantage of the reduced risks that are associated with the uncorrelated, "Idiosyncratic" components of risk. So for example, when investors hold the stock of one particular corporation, e.g. Apple, they incur the idiosyncratic risk of the performance of Apple being worse than expected as well as the market risks that affect all shares on a stock market. When an investor holds a large number of shares then they still bear the market risk of the correlated movements in share prices across a large number of firms but they extinguish the idiosyncratic risks of Apple's own performance. There are therefore substantial portfolio diversification benefits of holding a large number of shares in a portfolio and costs associated with purchasing and managing the portfolio of shares. There are therefore diversification economies of pooling together the investments of a large number of investors.

Theories of banking place a great deal of emphasis on the role of banks in collecting information on borrowers. There are similarly substantial economies in collecting and processing information on market transactions. Much market intermediation is therefore associated with economizing on the collection of market information. In addition, to ensure that their investments are properly managed, investors will have to monitor them. They will need to establish that executive remuneration reflects the performance of their investments and that it properly incentivizes management to act on their behalf. They will have to intervene where management is failing and seek to replace them if necessary. In other words, investors will be responsible for the governance of firms in which they invest. There are significant free rider problems of monitoring and governance reflecting the fact that the benefits of any such activities accrue to all investors not just to the particular investor undertaking them. There will therefore be under-provision of monitoring and governance and benefits from coordinated actions by financial intermediaries acting on investors' behalf.

Transaction costs, portfolio diversification, information gathering, monitoring and corporate governance all have substantial economies of scale associated with them and justify intermediation by institutions between investors and the companies in which they invest. Disintermediation of banks by markets does not therefore obviate the need for financial intermediaries so much as change the nature of the intermediation that is required. Instead of banks managing their own portfolios of investments, market intermediation involves a range of institutions assisting with the process of gathering information, monitoring, portfolio diversification and transacting in securities. That is what has driven banking into the shade.

Shady banking

Traditionally the functions of liquidity, maturity and credit transformation were performed in one institution, a bank. Shadow banking disaggregates these functions into component parts and engages different institutions in the process. It relies on market sources of finance rather than deposits to provide funding and enhances the credit worthiness of loans by providing a variety of forms of insurance and risk spreading. In particular since it does not raise funds from deposits, the institutions involved are not classified as banks, they are not regulated as banks and they do not enjoy access to lender of last resort facilities.

The total value of liabilities associated with shadow banking is estimated to have reached a peak of over $20 trillion in the US alone in the immediate pre-financial crisis period in 2007. It subsequently shrank to around $15 trillion in 2011. To put this in context, total bank liabilities in the US amounted to around $10 trillion in 2007 so that the size of the shadow banking system was at one stage double that of the formal banking system. By 2011 bank liabilities had risen to almost the same amount as shadow banking liabilities.

Shadow banking originated approximately 80 years ago in the US institution Fannie Mae, which was founded in 1938 after the Great Depression as part of the New Deal. The Federal Home Loan Mortgage Corporation, Freddie Mac, then joined Fannie Mae in 1970. The purpose of Fannie Mae was to securitize the mortgages of banks freeing them up to extend further loans to the housing market. It did this by buying mortgages in the secondary market, pooling them and selling them as mortgaged backed securities in the open market. Its source of funding was not therefore deposits but the capital markets and in particular the mutual funds. Fannie Mae was privatized in 1968 to remove it from the government's balance sheet but Fannie and Mae and Freddie Mac both enjoyed implicit government guarantees.

Shadow banks perform the functions of pooling and securitizing assets but in addition originate loans and structure them in such a way that they can be packaged to different class of investors, reflecting their risk appetite. A traditional bank originates, funds and risk manages loans while a shadow bank uses special purpose vehicles to sell the loans on to investors in the securities markets. As a consequence, shadow banking involves a range of institutions namely banks, broker-dealers and asset managers and is funded through global capital markets.

In particular, the purpose of shadow banks is to perform the three functions of credit, maturity and liquidity transformation. Credit transformation is performed through packaging together individual loans and then selling them in tranches of different credit ratings. The best quality loans are put together and sold as, for example, AAA bonds, the worst as low grade, investment or below investment grade bonds. Maturity transformation occurs by loan origination of for example auto loans, leases and mortgages being transformed into asset backed securities and collateralized loans that are funded through wholesale markets by money market funds. Liquidity transformation occurs through illiquid loans being backed by asset backed commercial paper and repurchase agreements (what are termed "repos:), which are sales of securities together with agreements for the seller to buy back the securities at a later date. Through the intermediation process, shadow banking transforms long-term loans in for example the subprime mortgage market into risk free, short-term, liquid money market instruments.

The advantage of shadow banking over traditional banking is that it spreads risks across a large number of investors and engages investors beyond depositors in securities markets. Second, it segments risks into component parts allowing investors to specialize in particular parts of the risk chain. Third, it takes risks out of the formal banking system in which there are government guarantees to a part of the financial system where there is not formal government underwriting. Fourth, by disaggregating activities that are internal to banks it augments the amount of information in capital markets and provides price signals that were previously absent.

While these are supposed advantages of shadow banking, the financial crisis revealed many of them to be either spurious or over-stated. First, the notion of risk spreading does not apply if the investors are interconnected in such a way that the failure of one or more investing institution impacts on others through an indirect chain. Second, the segmentation of risks is only advantageous if risks are properly priced. A significant problem that was revealed by the financial crisis is the difficulty of determining the true risks and therefore appropriate pricing of different bundles of securities. Third, far from removing risks from the banking system and taking them off balance sheet, residual or implied risks often remain within banks. Furthermore, to the extent that banks themselves purchase the assets that have been securitized then the shadow banking system can intensify the risks borne by banks.

The most serious problems related to government guarantees and information flows. The creation of markets in place of intermediaries in principle places greater reliance on price signals and less on government underwriting. However, information in fragmented markets often only allows participants in the market to see a small part of the total picture. It is therefore difficult for investors to look through the web of complex interactions to gauge an understanding of the broader risks that prevail in a market. So while in principle governments can stand back and allow such informal market based processes to operate, in practice it is difficult and potentially inefficient for them to do so. It is difficult because the repercussions of widespread failures amongst financial institutions has significant ramifications for a broad class of investors and threatens to impact on formal as well as informal banks. It is inefficient because the failures are of a systemic nature reflecting the inability of markets to price the system wide risks appropriately. A central regulatory or public body is in a better position to provide that system wide oversight than individual institutions.

There is in addition a reversed causation between shadow banking and regulation. Not only does the emergence and growth of shadow banking create a need for government intervention in the face of failure but the emergence of shadow banking is itself a response to regulation in the formal banking system. The regulation of banks in, for example, the imposition of capital and liquidity requirements raises their cost of capital and their cost of doing business. As a consequence, there is an incentive on financial intermediaries to organize their activities in a shadow banking form that is not subject to the same regulatory requirements and undercut the formal banking system. The emergence of shadow banking may therefore itself be a response to the costs of regulation rather than just a more efficient way of disaggregating, packaging and selling financial products to investors.

As shadow banking grows in significance and economies become increasingly dependent on their shadow banking sectors, it becomes difficult to argue with conviction that it can remain unsupported by government guarantees. In the event of a widespread failure of shadow banks, the economic consequences of a failure of shadow banking would not be dissimilar to that of the formal banking system – the consequences for the financing of the corporate sector, for the savings of investors and for the operation of money market funds would be on a par with those associated with failures of formal banks. Just as banks appreciate that as they grow they become too big to fail and come under the umbrella of an implicit government guarantee to bail them out in the event of failure, so too the implicit guarantee of the shadow banking system strengthens as it grows in scale. Placing shadow banking outside of the formal regulatory therefore risks creating a parallel financial system that overtime has come to dwarf the formal banking system as it enjoys similar privileges to banks but without the regulatory structure to which they are subjected.

This leads to the first principle of financial regulation – *functional equivalence:* financial institutions that have similar purposes and perform equivalent functions should be regulated in similar ways. Failure to do so results in "regulatory arbitrage", by which institutions avoid regulatory costs through engaging in similar activities in the least regulated way, and the emergence of parallel systems of finance, with potentially catastrophic consequences. The next major financial failure will happen in the shades of the banking system and, in the absence of formal mechanisms of regulating, providing emergency lender of last resort facilities or bailing it out, its repercussions will be far more widespread and difficult to control than the last.[30]

Key components of shadow banking are the other three functions of a financial system mentioned above – storage, payments and risk management. We discuss the first two of these in relation to one of the most striking and significant examples of how technology is changing the nature of financial services.

Mobile money[31]

Mobile money is the use of mobile phones to make financial transactions. It is most in evidence in Africa and originated in Kenya in 2007 when the telecommunications company, Safaricom, working in conjunction with the Department of International

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[30] For a description of how deregulation around the time of Big Bang in the UK was predicted in the middle of the 1980s to set in train both the subsequent explosion in financial activity and instability resulting in the 2008 financial crisis, see Colin Mayer (1986), "Financial innovation: Curse or Blessing?" *Oxford Review of Economic Policy*, 2, 1-19 and Colin Mayer (2015), "Big Bang: New beginning or beginning of the end?", *Oxford Review of Economic Policy*, 31,186–198.

[31] This section is based on Ignacio Mas and Colin Mayer (2011), "Savings as forward payments: Innovations on mobile money platforms", SSRN working paper no.1825122, Michael Klein and Colin Mayer "Mobile money and financial inclusion: The regulatory lessons", World Bank Working Paper WS 5664, and Colin Mayer (2015), *op. cit*. For a more detailed discussion of these issues, see Jonathan Greenacre (2016), "The regulation of mobile money", DPhil Thesis, University of Oxford.

Development in the UK and Vodafone, launched a new service called MPesa. Mobile money allows users to store, send or withdraw money on their mobile phones.

The impact on Kenya has been extraordinary. In the ten years from 2006 to 2016, financial inclusion in Kenya in the formal financial sector has increased from 27% to 75% of the population. The speed of take up of mobile money has been approximately twice as fast as mobile phones in Kenya and nearly ten times as fast as cell phones in the US. The revenue from mobile money has increased by nearly twenty times since 2008.

Transformational as this is for developing and emerging economies in which access to banking was previously restricted to a small proportion of the population, mobile money also has important lessons for banking and regulation everywhere. Indeed, given the cheapness, speed, convenience, and transparency of payments transacted by mobile phones that bypass banks, it may transform payments in developed economies as well if it is not derailed by regulation or vested banking interests.

The real insight it provides comes from the way in which it unbundles banking into its core functions: exchange of money, storing money, transferring, and investing it. MPesa, provides two functions. It stores money with a custodian and it transfers it. People storing money with MPesa are rewarded in the same way as if they had stored the money in a safe-deposit box: they get no interest and the nominal value of the money is preserved. The system requires reliability and integrity enforced by normal standards of commercial law and consumer protection but no prudential regulation or capital requirements.

In essence, this is a form of narrow banking - no fractional banking and no investment of monetary deposits—just pure custodianship. But perfect security and mobility of money come at a price because the predominant form in which most people hold their savings, namely cash deposits, is no longer available for investment. One of the most significant sources of capital, monetary assets that are used for transaction purposes, is removed from the savings net. That is the price of narrow banking and what mobile money demonstrates is that a perfectly safe and efficient monetary system can be created but at the price of raising the cost of capital for those parts of the economy, such as small- and medium-sized enterprises, which traditionally benefit from banking.

In the case of MPesa the custodians are banks that can employ the monetary deposits in normal banking functions. This reintroduces an element of prudential risk into mobile money but to the benefit of those who are funded by the banks from the monetary deposits. What this demonstrates is that by allocating the cash deposits of mobile money between pure independent custodians and banks, the regulatory authorities can determine an appropriate point on the trade-off between creating a perfectly safe but comparatively unproductive payments system and a useful but riskier one that supports normal banking functions.

The case of mobile money raises questions about whether payments should, in fact, be regarded as a core function of banking. But it also demonstrates the potential distortions caused by regulation. The reason why mobile money first flourished in Kenya is that the authorities took an enlightened view of its regulation. Despite pressure from existing banks, MPesa was not regulated as a bank and was not subject to the same prudential requirements as banks. Had it been then it might have been strangled at birth. Elsewhere, where existing banks have exerted more influence on regulation, for example in India, mobile money has been much slower to develop.

Mobile money, therefore, illustrates the second principle of financial regulation and that is *purposeful regulation* - the importance of regulating for a clearly defined public purpose, how a failure to do so can lead to inappropriate regulation, and how changing technology is rapidly altering the regulation that is appropriate for a particular form of financial service. This is particularly important as banks morph from their traditional function as receptacles for depositing and dispersing money to their role in the information age as repositories for the safe keeping of data on their savers as well as borrowers. It will require regulation to recognize its changing role from scrutinizing capital structure and depository security to certifying computer systems and data storage.

The risk management of a financial system illustrates how purposeful regulation requires a detailed understanding of the way in which different financial institutions perform similar functions.

Risk management[32]

Asset managers provide services to individuals, governments, public agencies, banks, pension funds, insurance companies and charities, to name a few. They are the

[32] For a more extensive discussion of the issues in this section see Luis Correia da Silva, Julian Franks and Colin Mayer (2003), *Asset Management and Investor Protection: An International Analysis,* Oxford: Oxford University Press.

interface between investors, on the one hand, and financial markets and companies, on the other. As securities markets, insurance companies and funded pension schemes grew in significance relative to deposit taking and bank lending, asset management played an increasingly important role in economic activity around the world. It performed the functions described above of economizing on transaction costs, portfolio diversification and governance.

Traditionally, asset management has been primarily associated with the 'stock market' economies of the UK and US. It has been much less significant in Continental Europe, the Far East and other 'bank-dependent' countries, where savings have been primarily through deposits and debt instruments, in particular pay-as-you-go pension schemes. Countries at similar stages of economic development have very different asset management businesses. This manifests itself in several different forms. The size of the business varies markedly across countries. One reason for these disparities is that Continental Europe has traditionally had less well-developed stock markets and therefore had less need for a substantial asset management business.

A second aspect of this diversity is that the nature of the asset management business differs appreciably across countries. While the UK dominates the European pension fund and insurance asset management business, historically it has been a smaller player in mutual funds, though this has changed significantly in recent years with the growth of exchange-traded funds (ETFs) as well as mutual funds. Differences in the size of pension-managed funds reflect the greater emphasis on funded pension schemes in the UK than in other European countries, where state pensions, pay-as-you-go and in-house corporate pension schemes predominate. The distinction in asset management businesses is not simply an Anglo–American versus Continental European one; there are significant variations within Continental Europe. For example, insurance companies are dominant in Germany, while the amount of mutual funds and insurance company funds in France are similar.

One implication is that both the business that is being regulated and the type of investor differ significantly across countries. In some countries, clients of asset management firms are predominantly large institutional investors, and, in others, they are private clients. In some countries, most investments are through pooled funds and, in others, through defined mandates (for example, in Germany, the Netherlands and the UK). Regulation therefore has a potentially different impact on investor protection across countries because of differences in the nature as well as the size of asset management businesses.

Third, countries differ in the ownership as well as the activities of asset management firms. Outside the UK and the US, asset management firms have been predominantly owned by banks and insurance companies, many of which may be classified as parts of large financial conglomerates. While this is the case in some of the largest asset management firms in the UK, there are also a large number of small independent firms, and, in the US, there are many more asset management firms than in the UK. Concentration of ownership is therefore appreciably higher in Continental Europe than in the UK and the US. Furthermore, there are differences within Continental Europe, where France has seen a rapidly increasing number of small, independent asset management firms.

The significance of this observation is that the organization and ownership of firms crucially affect investors' exposure to loss. Firms that are part of large groups have more financial resources upon which to draw than independent firms, and may have more incentive than independent firms to provide protection to investors in the event of failure. If parent firms believe that either the intrinsic value of their asset management firms or the loss of their own reputations outweigh the cost of compensating investors, they will protect investors against loss. Where asset management firms are large and part of larger groups, investor exposure to loss is appreciably reduced by the ability of one part of a group to bail out another.

However, this presumes that losses across different parts of groups are uncorrelated and insufficiently large to threaten the solvency of the entire group. The financial crisis revealed the extent to which correlated risks across the different activities of financial conglomerates can suddenly emerge. In sum, the design of regulation has to be sensitive to the fact that the size, the clients, the activities and the ownership of asset management businesses differ appreciably across countries, and that this affects the desired pattern of regulation.

The nature of asset management also varies appreciably in terms of their clienteles, from mutual fund businesses that are targeted primarily at relatively unsophisticated individual investors to hedge funds which are designed for sophisticated wealthy individuals and institutions. The degree of investor protection that might be expected to be required of the two classes of investors is very different. Investors in mutual funds might anticipate a high degree of regulatory protection whereas the clients of hedge funds should be expected to evaluate the risks of the investments for themselves.

The degree of systemic risks associated with asset management firms will also be quite different from many other financial institutions. Some asset management firms are essentially pass-through vehicles that pass on the risks of investments to their investors. They do not therefore for the most part take positions on their own account in the sense of leveraging up the investments they make on behalf of their clients. They are not therefore vulnerable to the same types of risks of failures as leveraged financial institutions and in particular banks. The case for imposing capital requirements on asset management firms to provide protection against systemic risks is therefore weaker than in many other financial institutions.

Other asset management firms, and in particular hedge funds, take significant positions on their own account and leverage their business. Their risks of financial failure are potentially much more significant than those of mutual funds which do not have equivalent financial obligations. Even unleveraged asset managers may have operational leverage arising from the fixed costs of running the business, such as the administrative overheads and their IT systems. Others may have contractual obligations in the form of guarantees that promise their clients particular profiles of returns, for example, limitations on the downside risks of losses to which they are exposed. In such cases, asset management firms are not pure pass-through vehicles but institutions with financial risks, which justify the holding of capital to provide protection against the possibility of failure.

The other types of risks to which investors are exposed are first and foremost fraud and misrepresentation. Fraud of the type associated with the activities of Bernie Madoff is in general associated with individuals and institutions that promise returns to their investors which are or prove to be unattainable. Fraud therefore emerges as a way of trying to disguise the inability to generate anticipated returns. Beyond fraud and theft, investors are at risk from failures on the part of the management process – buying instead of selling securities, purchasing the wrong securities, violating the terms of an investment fund, acting beyond the authority delegated to asset managers by their investors and a failure of computer systems.

A significant degree of protection can be provided to investors from a variety of structural arrangements. For example, the use of custodians to hold client funds establishes a degree of segregation between the funds of clients and those of the asset management firm itself. Designated client funds offer greater protection than the pooling together of the funds of many investors. Oversight of the activities of asset management firms by trustees offers investors the protection of supervision by independent parties. The auditing of clients accounts is an important part of record keeping.

Regulators frequently impose conduct rules that specify how asset management should undertake their business. These relate to segregation of client funds, the use of custodians, the operating and computer systems that the firm employs, the price at which securities are bought and sold, the extent to which firms are able to purchase securities on their own account as against those of their clients and the timing of such purchases in relation to those of clients. All these rules are designed to limit the exposure of investors to the investment management process as against risks to financial systems as a whole, which is the pre-occupation of regulatory authorities in relation to banks and other financial institutions.

The above issues are as relevant to the newly emerging technologies such as peer to peer lending and crowd funding as they are to more traditional investment vehicles. The central questions that they pose are (a) do the institutions bear risks of failure themselves or are they pure pass-through vehicles with investment risks being borne entirely by the ultimate investors; (b) are they financially or operationally leveraged or simply equity funded; (c) do they offer any forms of guarantees to their investors; (d) are they standalone institutions or embedded in other institutions which could fail as a result of their failure; (e) do systematically important institutions invest in them or are their investors individuals; and (f) are their investors sophisticated and informed or relatively uninformed?

Pure pass-through standalone lenders that are unleveraged, investing on behalf of well-informed individual investors without any forms of guarantees pose relatively little risk of contagious failures and arguably can be expected to operate on a *caveat emptor* basis. Where the vehicles are independent and unconnected but leveraged or offer guaranteed products, or investors are uninformed then various forms of investor protection as described above should be employed. Where they are also embedded in other institutions or other institutions invest in them then they also pose systemic risks.

What the above demonstrates is the third principle of financial regulation – a *focus on failure.* It is only once the precise failures of financial institutions, the nature of their investment processes, their financial liabilities, their degree of interconnectedness and the nature of their investors have been identified that appropriate regulatory responses can be determined.

Regulating on purpose

The emergence of new forms of financial activity that bypass traditional financial institutions, in particular banks, is altering the structure of financial markets in profound ways. It is superficially undermining the role of financial intermediaries but in practice it is changing rather than eliminating them.

This chapter has recorded how shadow banking is disaggregating the traditional roles of banks into their component parts and undertaking them in a variety of financial institutions that access securities markets rather than deposits as their sources of finance. Deposit taking functions may remain of primary importance but payments outside of the traditional banking system and investing by non-bank financial intermediaries are of growing significance. The relevance of different activities to economic performance is changing rapidly.

It is reflected in the dramatic rise of mobile money in Africa, which demonstrates how a combination of technological innovation and well-conceived regulation can transform the lives of the poorest people in the world through financial inclusion. It is also captured in the growth of asset management, peer to peer lending and crowd funding to facilitate savings activities, which substitute for many of the functions performed by banking in economizing on transaction costs, portfolio diversification and monitoring and control of investments.

In principle, the disaggregation of functions associated with these expanding forms of market intermediation has significant benefits of specialization and extends the range of potential participants in the intermediation process. In practice, it can create serious risk of failures that are not as transparent as they are in single institutions. It therefore requires a good understanding of the nature of risks that can arise, and the purposes and benefits of different parts of the financial system.

In particular, it raises questions about the validity of the traditional approach of regulating on the basis of institutional form rather than purpose and functional equivalence. Regulation can be a cause as well as a product of disintermediation. The regulation of banks is arguably a cause of the growth of disintermediation and in particular shadow banks, in so far as it has increased the cost of raising capital and doing business of regulated banks. This distorts resource allocation by promoting the development of institutional forms that have little underlying economic rationale or benefit except in avoiding the costs of regulation.

The first principle of financial regulation is *functional equivalence.* Different institutions can have similar purposes, perform the same functions and have identical effects on both the real and financial side of the economy. Regulation by institutional form rather than purpose and function encourages the emergence of new institutions with similar purposes, performing the same functions but subject to less onerous regulation than existing ones.

Where the post World War Two consensus on regulation errs is in presuming that regulation is predominantly there to constrain particular types of activities – charging too high prices in utilities, polluting the environment through burning fossil fuels, endangering financial stability by holding too little financial capital. It fails to recognize that regulation should have a more noble ambition: to encourage companies and institutions to commit to purposes that respect their public as well as private obligations. This is the second principle of financial regulation – *purposeful regulation.* In attempting to draw a ring-fence around particular parts of the financial system and seeking to limit the scale of government protection, careful consideration needs to be given to purposes of financial institutions and the contribution that they make to economic activity. It is a critical component in encouraging the good, not just stopping the bad.

Purposeful regulation requires a detailed understanding of the functions of institutions and the way in which different institutions perform similar functions. It risks creating both over- and under-inclusive regulation. It is over-inclusive in applying regulation to institutions to control particular types of risks that only form a part of their overall function. It is under-inclusive to the extent that institutions, such as shadow banks, which perform equivalent functions to deposit-taking banks, remain unregulated. The type of regulation that is appropriate to different activities within the same institution may be very different, while the regulation that is required of activities in different institutions may be very similar. This points to the third principle of financial regulation – a *focus on failure.*

The focus on failure has to be on the protection of systems - water supply, environment or financial systems as a whole - as well as its individual parts to avoid the unaffordable costs of systemic collapse. Shadow banking creates significant risks of systemic failures through interactions between banks and non-bank financial institutions. The involvement of large parts of the financial sector, including commercial banks through their investments in relevant money market instruments and lending to shadow banking entities, makes economies vulnerable to their shadow banks. They have grown to a point where, in the event of widespread failure, their bailing out by governments is inevitable, complex and unsustainable in imposing unaffordable burdens on national states.

The above principles of functional equivalence, purposeful regulation and a focus on failure require a fundamental reassessment of regulation which starts with a careful consideration of the purpose of an activity, its functions, its risks, its requirements for success, and its measures of performance - exactly the same analysis as Chapter 5 sought of responsible companies. Regulation is one but only one part of the armoury available to governments. More generally, governments should seek to promote much deeper and more enduring partnerships between public and private sectors than have existed to date through the range of instruments from taxation to ownership that are available to them. In the process the private sector needs to be able to demonstrate its good intentions in respecting its side of the social bargain - and there are strong grounds for us to be deeply suspicious of this.