How do SMEs Behave?

Towards a Better Understanding of SME Responses to Environmental Regulatory Pressures

A thesis submitted to the University of Manchester for the degree of Doctor of Philosophy (PhD) in the Faculty of Humanities

Gary Lynch-Wood

2018

CONTENTS

Abstract

The University of Manchester, PhD by Published Work, 2018

For several reasons, small and medium enterprises (SMEs) are an important group of firms. In most market economies SMEs contribute significantly to wealth and job creation, economic growth, and product and service innovation. At the same time, SMEs are said to produce environmental impacts that are significant and that need managing and regulating. Their importance, from an economic and environmental perspective, is reflected in the fact that SMEs have become an established subject for research, with a distinct area of analysis focusing on how they manage their environmental impacts. Despite considerable interest in this area, aspects of their behaviour are in need of further examination, for there are still misunderstandings and gaps in knowledge. An area where gaps exist is how SMEs respond to different forms of environmental regulation (*e.g*., command-based or market-based approaches) and different forms of regulatory pressure (*e.g*., such as those pressures from civil society that might induce compliance-related activities or market forces that might flow through, and affect, the value chain).

Why the gaps? On the one hand, and generally speaking, a common claim among those who have considered issues affecting smaller firms is that regulation is an important driver of environmental behaviour. There is a well-documented set of linked claims and empirical findings that smaller firms tend to be motivated by compliance with regulatory standards, yet owing to their scarce resources can find themselves hovering on the edge of compliance. Typically, SMEs will attempt to do no more than the law requires of them. They tend not, as it were, to go beyond compliance. Of course, this is an important observation –one that might say much, even if indirectly, about the motivations and intentions of smaller firms. It might indicate that SMEs, rather than addressing environmental issues, are more concerned with making cost savings and efficiency gains, or with satisfying the requirements of customers over such matters as product or service quality and delivery. While significant, there are at least three reasons why this view remains incomplete as an explanation for the interaction between SMEs, regulation and the environment.

Firstly, this view tends to over-homogenise smaller firms. By treating them as a standardized group, the inference is that SMEs view and respond to regulation – *i.e.*, they are all driven by regulation –in a broadly similar way. Secondly, it says little about *how* and *why* regulation drives behaviour. Claiming that regulation drives behaviour is helpful, but the claim is unduly narrow and leaves several important questions. In what ways does regulation drive behaviour? Does regulation drive all smaller firms in the same way? Thirdly, and finally, it suggests that different forms of regulation drive SME behaviour and that different forms of regulation drive this behaviour in broadly similar ways. That is, it is incomplete as it lacks appreciation of the widening scope of regulation and governance, and the nature of smart mixes of regulation. It fails to properly consider whether and how SMEs might respond differently to command-based regulation, market- or information-based measures, or self- or so-called civil regulatory pressures.

On the other hand, and again in general terms, while those who have examined regulation have looked at how it can influence firms, they have tended to pay too little regard to how firms of different size may respond to different approaches or to how the factors and characteristics relating to size may shape the effectiveness of regulation. SMEs particularly are often discussed as an unusual sideshow that might raise different issues in relation, say, to the impacts of regulation on performance or innovation. That we often pay too little regard to how firms of different size may respond raises difficulties, particularly given our increasing understanding that there is no guarantee that a particular instrument will work in all situations. In other words, we are becoming more aware of the fact that the effectiveness or ineffectiveness of regulation is likely to be context-sensitive, and that the size of the enterprise is likely to be an important determinant of context.

This thesis does take, and provides evidence for, the view that the organisational context is crucial to understanding how regulation functions. The thesis does not claim to provide all answers, but it does adopt the position that, in aggregate terms, a firm's size, or the factors that can be associated with size (*e.g.*, resources, skills, knowledge, visibility, profile, stakeholder relations), and related factors concerning a firm's mind-set, can affect two things; first, the types of regulatory influences that may affect organizational behaviour and, second, how firms will respond to those influences. By focusing on SMEs, the thesis in some ways reinforces the dominant view that regulation is a driver of behaviour. Nevertheless, it goes much farther than this by showing, both theoretically and empirically, that there are important differences across SMEs and that these differences determine how and why they respond to regulation. It extends the common view by showing how SMEs differ not only in terms of the types of regulatory influences that shape their behaviour, but also in terms of how they react to these different influences.

The emerging picture thus shows that the responses of firms are determined by their particular characteristics. The term used in this thesis is 'receptive capacity', which is shown to be a composite measure that includes the capabilities (*e.g.*, resources, skills, knowledge) and orientations (*e.g.*, views) of firms. It is suggested here that the range of receptive capacities across firms is enormous, since no two firms will be identical. Yet, it is argued – and demonstrated – that firms can be grouped according to certain identifiable characteristics, and that these groups of firms will respond to regulatory pressures in broadly similar ways; that is, there are groups of firms that have broadly similar resources and broadly similar worldviews. Thus, as well as suggesting that differences can be found at the micro level, it is demonstrated that there are sufficient commonalities across some firms that we can understand them as groups – groups of individual firms with some common characteristics. In conclusion, it is the differences across firms that provide us with a more sophisticated view of how SMEs are influenced by, and respond to, regulation. It is the nature of differences that is the main contribution of this research to both the fields of regulation and organisational and management studies. It is suggested finally that these differences have implications for how we design regulation, for how we may expect regulation to work or indeed not work, and for issues such as regulatory complexity and smart mixes.

Declaration

My contribution to the publications included in this thesis is 50%.

Only one piece of work has been completed when I was at Staffordshire University. The other publications included in this thesis have been completed whilst I have been a member of staff at the University of Manchester, School of Law.

Copyright Statement

Statement

Degrees and eligibility

LLB (Hons) (Staffordshire University, School of Law), MPhil (University of Manchester, School of Law). I became a Lecture in Law at the University of Manchester in September 2005 and was made Senior Lecture in Law in September 2012.

List of Publications Submitted (in chronological order)

1. Williamson D and Lynch-Wood G, 'A new paradigm for SME environmental practice' (2001) The TQM Magazine: The International Journal of Total Quality Management 13(6): 424-432.
2. Williamson D, Lynch-Wood G and Ramsay J, 'Drivers of environmental behaviour in manufacturing SMEs and the implications for CSR' (2006) *Journal of Business Ethics* 67(3): 317-330.
3. Lynch-Wood G and Williamson D 'The social licence as a form of regulation for small and medium enterprises' (2007) *Journal of Law & Society* 34(3): 321-341.
4. Lynch-Wood G and Williamson D, 'Organisational strategies and Regulatory Capacities'. In Smith, G., Quirk, H and Seddon T (Eds). *Regulation and Criminal Justice: Developing a New Framework for Research and Policy Development* (Cambridge University Press: Cambridge, 2010) 134-161.
5. Lynch-Wood G and Williamson D, 'The Receptive Capacity of Firms – Why Differences Matter' (2011) *Journal of Environmental Law* 23(3): 383-413.
6. Williamson D and Lynch-Wood G, 'Ecological modernisation and the regulation of firms' (2012) *Environmental Politics* 21(6): 941-959

7. Lynch-Wood G and Williamson D, 'Understanding SME responses to environmental regulation' (2014a) *Journal of Environmental Planning and Management* 57(8): 1220-1239.
8. Lynch-Wood G and Williamson D, 'Civil regulation, the environment, and the compliance orientations of SMEs' (2014b) *Journal of Business Ethics* 125(3): 467-480.

PART I:

SMALL AND MEDIUM ENTERPRISES AND REGULATION: AN OVERVIEW

I.1. Introduction and Background

The focus of this thesis is on firms, and particularly small and medium enterprises (SMEs). While there is no single definition of what constitutes an SME (Story 1994; OECD 2002; Ayyagari et al. 2007; Rhodes 2012), a well-used definition, and the one used throughout this thesis, is that it is an independent firm – or unit – with fewer than 250 employees. SMEs can be, and for research and data collection purposes often are, further broken down into the three subcategories of 'micro', 'small' and 'medium' sized firms. A micro firm has fewer than 10 employees, while a small firm fewer than 50 but more than 10 employees. A medium firm has fewer than 250, but more than 50 employees.

In most market economies, the SME sector – if it can properly be described as one sector – is important for different reasons. The sector consists of a huge body of firms that are known to make a significant economic contribution. We will look at this in more detail shortly, but it has recently been stated that in 2016 there were 5.4m SMEs in the UK, and that this represented over 99% of all businesses (House of Commons Library 2016).In the EU, in 2015, there were just under 23m SMEs that generated €3.9 trillion in value added and employed 90m people (European Commission 2016). This explains why the SME sector is commonly portrayed as the economy's 'engine room', or its 'backbone' (European Commission 2016). What is more, owing to their economic importance, there has been developed around the SME sector a distinct public policy context that advocates support, stability, growth and the removal of barriers to success and development, and which promotes ideas such as 'think small first' and 'litmus (or impact) tests' to determine the likely impacts of policy proposals on smaller firms (see, for example: BRTF 2005; HM Treasury 2008; DBIS 2013; DTI 1985, 1986, 1988).With its sheer size and productivity, however, comes a drawback. While it is notoriously hard to measure, it is nevertheless accepted, as we observe in due course, that SMEs cumulatively produce a significant environmental impact that requires some form of intervention, management and regulation.

The issue of regulation in the context of SMEs, the focus of this thesis, is often seen, and is commonly represented, as giving rise to a tension. This tension can be explained, although somewhat crudely, in terms of regulation detractors and regulation supporters. Those who are more opposed to regulation can often highlight how it imposes costs on firms that impede productivity, efficiency, innovation, and the like. This is a common feature of policy discourse (BRE 2010a, BRE 2010b;BRTF 2005; DBIS 2011), where it is often claimed that regulation, among other things, takes away valuable resources from productive activities and may negatively affect the decision-making capabilities of the firm. On this matter, it is important to appreciate that the negative effects of regulation have a disproportionate impact on smaller firm because they are less well-equipped and have fewer resources to cope (Crain 2005;Crain and Hopkins 2001; BRTF 2005; BRE 2009; FSB 2004; European Commission 2007). On the other hand, there are those who stress the need for strong and effective regulation so as to achieve important environmental protection objectives. This claim too has some merit, since empirical evidence suggests that regulation is an important –and possibly *the* most important – driver of SME environmental behaviour and practices (Tilley 1999; Studer et al. 2006;Williamson et al. 2006; Petts 2000; Bradford et al. 2008). It is worth highlighting at this point that there is a more recent codicil to these more polarised views. There has developed the claim that appropriately framed regulations can generate 'win-win' outcomes, or 'greener' and 'better' firms (Porter and van der Linde 1995; Ashford et al. 1985;Jänicke 2008). This latter position, which is often framed in terms of ecological modernisation, has received little attention or analysis from the perspective of smaller firms.

This thesis adopts the view that there is a need for effective regulation to protect the environment. Yet, at the same time, it takes the view that existing and widely held views on the relationship between SMEs and regulation – that is, that regulation is a driver of behaviour – is less than complete and is in need of (constant) re-evaluation.

There is always scope to discover more about SME behaviour and responses so that we can design better approaches to regulation: approaches that may be more effective and responsive to the characteristics of smaller firms. There are at least three explanations for why our understanding of SMEs is not as robust as it could or should be. These will be outlined briefly.

Firstly, in relative terms the environmental impacts of SMEs have not long been on the policy or academic radar. For example, in the 1970s the pollution control and regulatory framework was (even) more sector-based than it is today (Weale 1992). Critically, the manner in which particular industries and issues were prioritised meant that the focus of regulatory and policy effort and resource, perhaps with forgivable intuitiveness, tended to be directed at a relatively limited number of larger enterprises that produced individually significant and perceptible impacts. Any interest in, or focus on, the environmental issues created or faced by smaller firms did not emerge until sometime later, and particular in the 1990s. As such, it could be argued that there is some catching up to do. Despite research in this area, there is still a need to develop more robust theoretical and evidence-based explanations for SME regulatory responses and practices.

Secondly, while research into SMEs and research into regulation are two fields that have gained some impetus, they are fields whose pathways have coincided only infrequently, and, it could be said, not always robustly. Stated simply, those who have considered SMEs have often adopted a narrow view of regulation, while those who have studied regulation have typically regarded SMEs, if indeed they have any regard for them at all, as a peculiar or marginal cohort of – typically homogenous – firms. Consider on the one hand the literature on SMEs. True, there is a growing body of work that considers how SMEs approach environmental or social issues (e.g., Lepoutre and Heene 2006; delBrío and Junquera 2003; Gadenneet al. 2009; Schaper2002; Aragón-Correa etal. 2008; Cassells and Lewis 2011). True, one of the central themes in this literature is regulation, and the way it can act as an important driver of behaviour and performance (Williamson et al. 2006; Tilley 1999; Studer et al. 2006; Studer et al. 2008; Petts 2000; Bradford and Fraser 2008; Patton and

Worthington 2003). But while regulation is often thought to have a central place, we remain in need of more theoretical explanations for how and why regulation drives behaviour. What also seems evident in the SME literature is that studies have tended to adopt a narrow or conventional view of regulation, and the forms it takes (i.e., command and control). This is an important point, for a key feature of the field of regulation is how it has evolved to embrace a range of legal as well as non-legal and governance-based approaches (Gunningham and Sinclair 1999; Hutter and Jones 2007; Gunningham 2009; Gunningham and Grabosky 1998;Grabosky 2013; Jordana and Levi-Faur 2004; Ashford 2002; Baldwin et al 2012; Lange and Gouldson 2010). Contemporary debates on regulation often deviate from centralist approaches and adopt pluralist constructions, embracing new sources of regulatory pressure, different instruments, and alternative stakeholders as regulators (e.g., the public acting a surrogate enforcers or regulators). The proclivity of policymakers to use – and of scholars to scrutinise – different forms of legal regulation and alternatives to legal regulation is a prominent feature of environmental regulation. It has been described as part of its ‘shifting architecture’ (Gunningham 2009). Thus, to claim that regulation drives behaviour may lack sophistication, for the claim fails to tell us whether different types of regulation drive behaviour or whether particular forms of regulation produce particular forms of behaviour (Lynch-Wood and Williamson 2011, 2014a, 2014b). On the other hand, if we consider the literature on regulation, then this has only relatively recently given proper consideration to some of the principal subjects: firms (Gunningham and Kagan 2005). Moreover, analyses have been inclined to treat firms homogenously, or to adopt a large firm perspective. When SMEs are considered, they are often treated incidentally (i.e., as a subset of firms requiring special analysis) and, as suggested earlier, homogenously. Generally speaking, despite the recognition that smaller firms may raise particular regulatory challenges (Fairman and Yapp 2005; Gunningham 2002;Hawkins 2002; Hutter 1997), there has been insufficient consideration of how size may influence regulatory responses.

The third explanation for our fragmented understanding concerns some of the difficulties and challenges of carrying out research into smaller firms. SMEs are not easy to examine, either as a sector overall or as individual firms. There might be problems when choosing which division of the sector to examine (Holliday 1995). SMEs can be divided into many different categories (e.g., micro, small, medium, manufacturing, retail, service, private limited, family owned, sole trader), so it would be almost impossible to devise one research project that is capable of exploring all pertinent issues and which would then offer a full understanding. Then, once a researcher has considered which group or groups of SMEs to study, he or she is faced with the hurdle of gaining access to SMEs so as to conduct a meaningful study (Curran and Blackburn 2001; Spence 1999).It is almost axiomatic that many SMEs have little spare resource capacity (e.g., managerial time) to engage in the research process with, say, university researchers, and so response rates and engagement are often poor. Macpherson and Wilson (2003), in considering the difficulties of engaging SME owner/managers in research, confirm that low response rates are common in SMEs research. The difficulties of securing access may cause researchers to study other subjects. Finally, once the subsector has been chosen, and access to a useful population of firms duly secured, it is then difficult to make any claim to understanding the sector as a whole. Thus, accessing a population of firms from a particular subsector makes general claims, claims that may overlook differences and subtleties, risky.

There are therefore a number of gaps in our knowledge that require further exploration. The following thesis does not make any claim that it plugs all of these gaps, but it does claim to contribute to knowledge by offering a more comprehensive explanation for how and why SMEs are likely to respond to a range of regulation instruments and regulatory pressures. It does this by showing in some detail, and through the use of various doctrinal and empirical methodologies, that SMEs' responses differ, and that their differences derive from their 'receptive capacities', with receptive capacity being a composite measure that includes the capabilities (e.g., resources, skills) and orientations (e.g., worldviews, attitudes) of firms. These differences have a critical impact on how regulatory measures, and approaches such as the smart mix, will function in practice.

The ideas that are presented in the published work (Parts 2 to 5) have been developed over a number of years. Moreover, the ideas, as one might naturally expect, have evolved considerably over a period of time. Most of the ideas have derived from a series of empirical studies that I have had involvement with; either as project manager, researcher, or both. Some of the ideas start from a time, around early 2000, when I working with local (i.e. North Staffordshire) manufacturing firms to improve their environmental performance. A typical firm would be small (less than 50 people) and very 'lean' due to the cost pressures that they were facing, and the market environment that was affecting them. They also, and this was linked to their size and leanness, showed little inclination to improve their environmental performance. They were, as other studies have shown, reactive. As I investigated issues in more detail, I realised that the issue was more difficult and nuanced than I had originally thought, and I started to question an existing literature that was over-homogenising and over-generalising. The main reason was that firms differed from one another. Some smaller firms, for example, had more resources, and some confronted different external and supply chain pressures. Accordingly, there were firms who seemed to be more receptive to external market pressures than others. And there were some firms that appeared to be quite forward thinking from an environmental perspective, such as a small number of firms that had acquired ISO14001 certification. It was these observations that led me to look at organisational differences in a more detail. I wanted to better understand why it was that organisations differed and, moreover, I was keen to explore whether these differences had implications for existing views on regulation. The particular methodologies and approaches used are outlined in more detail in the published work itself, but here it is worth noting that during this time I have interviewed the owners and managers of more than 250 firms. The majority of these firms have been SMEs from the manufacturing sector in the West Midlands region of England, though I have also carried out interviews with a small number of owners and managers from retail and service sector SMEs. In addition, during this period I have interviewed senior managers from very large (and well-known) firms. This has added to the ideas pretended in this thesis, particularly in the later published pieces, as it has provided useful insight into the issues affecting SMEs and larger firms, and into how firms of different size might view and respond to different things.

A brief word on how the thesis is structured. There are five parts. This Part, Part 1, provides some context. It starts by providing an overview of the SME sector and an overview of why the study of SMEs is important. It considers the economic and environmental impacts of SMEs, and provides a brief outline of why they are different: i.e., why they should not be categorized as 'little big firms' (Tilley 2000) and, consequently, why they are appropriate research subjects. It then briefly outlines some of the key literature on SMEs and the environment, and considers what is said about how smaller firms respond to regulation. Following this, it goes on to consider how regulation is conceptualized in the published Parts of the thesis. This section has had to deal with an extensive literature, and so I have had to be brutal. It shows that regulation is seen as a broad concept, one that sees the sources and tools of regulation as diversifying beyond states' conventional boundaries (Hutter and Jones 2007). Importantly, the focus of this section is 'smart regulation', a concept that perhaps best captures the view that policymakers should use a broad mix of regulatory instruments. The final section of Part 1 contextualizes the published work. It summarizes what each paper is about and considers the contribution the papers make to our knowledge of how SMEs respond to different forms of regulation. Part 2 to 5 contain the published elements.

1.2. The Importance of SME Study: Impacts

One of the reasons we need to study SMEs is due to their economic and environmental impacts. After all, the significance of their impacts means we need to know as much as we can about SMEs, so that these impacts can be properly understood and managed in the most effective and efficient way. Getting things wrong through lack of understanding could cause significant damage to the economy, the environment, or both.

According to Acs (1992: see also Acs 1999; Acs and Audretsch 1998), in many States smaller firms have outpaced large firms in terms of innovation and job creation, thus making them critical to the global economy. Acs suggests that smaller firms tend to make at least four significant contributions to industrial markets. First, since they provide a major source of innovation, they play a key role in processes of technological change and innovation. Second, they generate 'market turbulence', which adds to competition and provides a mechanism for regeneration. Third, they promote competition through newly created niches, and, fourth, they tend to create a preponderant share of new jobs. In similar terms, the Organization for Economic Cooperation and Development has on a number of occasions pointed out that SMEs are a major source of growth in that they provide a significant share of the business sector economy, are responsible for most jobs created, and account for a significant proportion of private sector turnover (OECD 2002, 2012, 2009, 2006). The data on SME economic impacts are inclined to reinforce these claims. They suggest that SMEs constitute somewhere between 96% and 99% of firms in most OECD economies, and that they generate approximately 50% of GDP, 30% of exports and 10% of foreign direct investment (OECD 2006, 2002). In a European context, it has been suggested (at that point in time) there were well over 20 million SMEs, comprising over 99% of all EU firms (European Commission 2013). Micro firms comprised almost 19 million of these, while small firms comprised over 1million and medium firms over 200,000. When combined, they employed around 86.8 million people, representing 66.5% of all European jobs (European Commission 2013).Finally, in the UK, data from the Federation of Small Business1suggest that at the start of 2013 SMEs accounted for over 99% of all private sector firms, 59.3% of private sector employment, and 48.1% of private sector turnover. They employed around 14.4 million people. Regardless of the source, it is apparent that SMEs' contributions to the economy are sizeable.

This positive news is tempered by the negative environmental impacts of smaller firms. These impacts are difficult to determine. There is a lack of data (KPMG 1997) because of the problem of assessing the effects of many small and disparate impacts which collectively produce a large burden (Gunningham 2002; Hillary 1995). That said, sources suggest that their impacts are considerable. SMEs have been said to

[1] See http://www.fsb.org.uk/stats

produce around 64% of the industrial pollution in Europe, with sector variation generally being within the 60–70% range (Teknologist Institut 2010). There are other sources that suggest SMEs generate around 60% of carbon dioxide emissions from firms (Marshall Report 1998) and 70% of business pollution (Smith and Kemp 1998).

1.3. The Importance of SME Study: Differences

We will deal with this briefly, because the issue is dealt with more comprehensively in the published components of the thesis. So, the thesis starts with the assumption that firm size may be an important source of, or reason for, variation. But is there really a compelling case for such a view? Are SMEs really a separate group of firms, with their own special features, behaviours and characteristics? Is the fact that we still do not know everything there is to know about SMEs, that we need to consider their behaviour in light of regulatory change, a reason to study them as a group of firms that are distinct (i.e., from larger firms)? These are legitimate questions, for it is arguable that firm size in and of itself has little bearing on organizational behaviour. Firms, after all, are firms. They may have shared functions and aims. They may co-ordinate and monitor production or service provision. They may generate ideas and innovations. They place products or services on the market. And they could have objectives like survival, self-determination, autonomy, competitiveness, profitability, and so forth.

There is sufficient evidence to suggest that firms are not just firms; indeed, there is sufficient evidence to suggest that they differ. In fact, there are many reasons why firms may differ and that may provide interesting perspectives for study. As Nelson (2008) has noted for example, firms are likely to belong to a particular industry (e.g., chemicals, retail, engineering), with those industries employing different types of technologies and having different logistic chains, and so on. The geographic scope of the firm can be equally divergent; some firms will only service local needs, while others will provide for a regional, national or global marketplace. Firms may differ in terms of the resources they posses, which will impact on the firms' activities and performance. The resource-based theory of the firm would suggest that resource heterogeneity is responsible for variations in firm behaviour as exhibited in differing levels of success (Penrose 1959, Teece 1982, Rumelt 1984, Wernerfelt 1984). Size may be another possible source of variation. Indeed, it is now well established that SMEs are different and are a suitable subject for analysis. There is an established view that SMEs are not scaled-down versions of large firms (Westhead and Storey1996), and should not be treated as such. This is because the issues, pressures and influences facing smaller firms, and the features and characteristics of smaller firms that determine how they respond to these influences and pressures, differ from larger firms (Storey 1994; Wynarczyk et al. 1993).

There are in fact many ways in which SMEs may differ from large firms, and so a full outline of their differences goes far beyond the scope of this section. In brief, Edith Penrose (1959), in *The Theory of the Growth of the Firm*, identified the role of smaller firms in filling market spaces that large firms struggle to occupy, such as markets created by local customs, or luxury needs. As part of her work, Penrose suggested that the distinctions in the administrative structures of small and large firms are so great that the two species are not of the same genus. In a widely cited quote, she pointed out that "we cannot define a caterpillar and then use the same definition for a butterfly" (Penrose 1959: 19).Beyond these administrative structures, there are the common claims that small firms need to be treated as a separate category of firms since, compared to larger firms, they do not have the same level of resources, time, spare managerial capacity, expertise, knowledge, skills, and so on (Gunningham 2002; Lepoutre and Heene 2006;Lee et al 1999;Welsh and White 1981; Hillary 2000; Biondi et al. 2002).These important resource restrictions are thought to affect how they deal with a range of issues (e.g., the environment, employment, tax), and, as alluded to earlier, are an important feature of regulatory and public policy (see BRTF 2005; HM Treasury 2008;BRE 2009; BRE 2010a, BRE 2010b).Yet in addition to these more obvious resource differences, the literature highlights several ways in which, from a more behavioural and functional perspective, smaller firms may differ from large firms. For example, SMEs may be different because they are influenced by different external or societal factors, because they have better internal decision-making consistency, because they are more nimble and have greater flexibility and faster decision-making speed, because they have increased flexibility in production, because they can be faster implementers of competitive actions and processes, or because they possess a greater ability to effectively implement managerial decisions (Chen and Hambrick 1995;Welsh and White1981; Westhead and Storey 1996; Acs and Audretsch 1990, 1998; Yaprak 1985; Wang 2008; Ahire and Golhar 1996; Fiegenbaum and Karnani, 1991; MacMillan).Such ideas are disputed, but cumulatively there is more than enough evidence to suggest that SMEs are different and are therefore a worthy subject for further and independent analysis.

It is important to note that these differences are of course aggregate differences. There is no suggestion in this work, or indeed any other, that an SME with 249 employees would be different to a large firm with 251 employees, simply because one firm has two employees more than another. Such firms may differ in other ways (e.g., industry, age, technology), but size as measured by employee numbers is unlikely to be a factor. In this work, it is only suggested that SMEs on the whole will display different characteristics and behaviours which then makes them suitable for study.

I.4. SMEs, the Environment, and Regulation: Key Issues

Again, it is not necessary here to provide a detailed breakdown of the literature on SMEs, the environment and regulatory issues, for this is presented more thoroughly throughout the published work in Parts 2 to 5. An overview of some of the most important themes that have emerged in the literature, and which are set out in the published work, is nevertheless useful in order to provide some context for the reader.

There are a many studies, including those of my own, that have considered different aspects of the environmental practices and behaviours of smaller firms (Tilley 1999, 2000;Rutherfoord et al. 2000; Hillary 2000; Wilson et al. 2011, 2012; Worthington and Patton 2005;Gerstenfeld and Roberts 2000; Gadenne et al. 2009; Lepoutre and Heene 2006; del Brío and Junquera 2003; Schaper 2002; Aragón-Correa et al. 2008; Williamson and Lynch-Wood 2001; Williamson et al. 2006).One of the earliest and most important themes to emerge in the literature, and a themes that remained central to views of the SME-environmental relationship, is that SMEs tend to be unresponsive or reactive to environmental matters (Schaper 2002;Patton and

Worthington 2003; Worthington and Patton 2005; Revell and Rutherfoord 2003; Merritt 1998).Some of the earlier work of my own has reinforced the view that SMEs are environmentally reactive (Williamson and Lynch-Wood 2001). But how can we explain this view? What is it about SMEs that means they tend to lack environmental proactiveness?

When looking at why SMEs tend not to integrate environmental issues into business decisions, Gunningham (2002)highlights some of the 'unique' characteristics of SMEs that present a substantial policy challenge to the design of effective regulatory frameworks. In fact, Gunningham highlights several issues that are both internal (e.g., resource shortages) and external (e.g., lack of stakeholder pressure) to the firm and which can explain SME unresponsiveness. For Gunningham, such characteristics mean that the things that motivate and determine the responses of SMEs and their owners is likely to be different from the things that motivate and determine the responses of larger firms. This thesis suggests that it is the way these factors combine that explains why regulation is often seen as an important driver. We will briefly touch on each of these in turn.

It is probably not unreasonable to suggest that the first thing that is likely to spring to mind, and a theme consistent throughout the literature, is that SMEs lack resources, and that this lack of resources shapes their environmental performance. Resources are often interpreted broadly to include financial, human, or technological resources, and this lack of resources is commonly cited as an issue that hinders SMEs by restricting their ability to allocate human and financial capital and which then hinders their ability to invest in environmental improvements (Tilley 1999; Gunningham 2002; Hillary 2000). The issue of resources, which can explain why SMEs have low awareness of environmental (including regulatory) matters, poor compliance records, underdeveloped strategies, and lack of receptiveness to eco-efficiency initiatives, is well captured in the following quote from the OECD (2007, 14) which suggests smaller firms tend to be less equipped in terms of knowledge, skills, and resources to secure compliance:

> "SMEs are often ignorant about the legislation that governs their activities or do not understand what is required. The proliferation of laws or multiple amendments to improve them can create confusion and make it difficult to understand what compliance involves. Inaccessible and incomprehensible regulation particularly affects small business compliance rates. Many studies show that small businesses cannot keep up with the volume of regulations that is produced by many government authorities."

Of course, a shortage of resources might be one of the factors that can influence the mind-set of the owners and managers of smaller firms, particularly as it is likely to influence their decisions on how they allocate their scarce resources. Critically, this mind-set has been shown to prevent firms from making necessary environmental improvements or engagement in environmental initiatives (e.g., Williamson et al. 2006; Petts et al. 1999; Simpson et al. 2004; Revell and Blackburn 2007). The mind-set of owners and managers has also been shown to be shaped by other factors and contexts that relate to the firm. One view is that owner-managers often feel their firms have only negligible or no impacts, and this can be linked to owners' and managers' views that there is no real justification for investing in environmental improvements (Revell and Rutherfoord 2003; Lynch-Wood and Williamson 2014a). Why improve environmental performance, if there is no real need? Also important here is the evidence indicating that SME owners and managers are governed by market-based considerations that tend to override ecological or social concerns. These market-based considerations influence decision-making frames or SME owner-managers (Williamson et al. 2006), and even where owner-managers display sympathetic attitudes towards environmental issues, there are studies that reveal an 'attitude-practice' gap. This means that levels of performance rarely exceed compliance or the satisfying of basic efficiency measures (Tilley 1999;Cassells and Lewis 2011; Redmond et al. 2008; Petts et al. 1999).

Another critical and related factor, as Gunningham (2002) has alluded to, is that SMEs tend to have a lack of stakeholder pressures to improve their environmental performance. Firms' stakeholders can be an important influence on the behaviour of firms (Freeman 1984; Vogel 2005, 2010), and they can provide an important source of pressure which, under certain conditions, can incite positive environmental responses and actions. That said, it is argued, and evidence suggests, these stakeholder pressures tend to be weak for SMEs, often due to the fact that relevant stakeholders have little interest in, and create minimal pressure to improve, their social practices (Rowe and Enticott 1998; Thornton et al. 2009; Williamson and Lynch-Wood 2001). There is work that suggests, for example, that that there is little supply-chain pressure for SMEs to improve their environmental performance (see Thornton et al. 2009; Williamson and Lynch-Wood 2001; Lynch-Wood and Williamson 2014a). Critically, this lack of stakeholder concern can have the effect of reducing the environment as a priority for smaller businesses and possibly explains why environmental reputation is less important for SMEs than larger firms (Graafland and Smid 2004; Lynch-Wood et al. 2017)

Thus, an important segment of the SME research shows that SMEs are unresponsive and reactive, and that this lack of responsiveness helps to explain why more traditional types of regulation are often seen as an important driver, particularly when environmental improvements cannot be justified on economic grounds. This lack of responsiveness often explains why SMEs seek to achieve only basic levels of compliance, and they will not exceed compliance by, for example, installing unnecessary technologies or through voluntary environmental activities and initiatives.

That SMEs are, in a broad sense, driven by regulation, has no doubt been an important feature of the literature. Some of the studies highlighted in this thesis are important, for they show that regulation is one of the most important drivers of the environmental practices of most SMEs. Yet there have been several gaps in the literature, for studies have tended not to inform us about the different types of regulation that affect firms (e.g., market-based, command-based) or whether those particular forms of regulation might produce particular forms of behaviour. The assumption, often made, is that firms which are driven by regulation are driven for the same reasons and also in the same ways. These studies tell us very little about how the different characteristics of SMEs interact with forms of regulation to produce different types of behaviour. There has been a tendency to homogenize the behaviour of SMEs, and in so doing to downplay the effect of differences across this classification of firms.

In view of this, there is lack of knowledge about how regulatory behaviour varies between different types of SMEs, and on which forms of regulation drive those behaviours. It is these differences, and how they influence responses, which this thesis helps us to better understand. Before looking at the published work, however, it is important to say a little about the regulatory context for this work.

1.5. The Regulation Context: The Smart Mix

This thesis adopts the view that regulation is pluralist and embraces measures that are command-based, market-based, or based on principles of self-regulation. Indeed, it takes the position that regulation – or views of what it means 'to regulate' or 'to be regulated' –deviates from a legal centralist construction and leans towards a more pluralist approach, embracing new sources of regulatory pressure, different types of instrument, and different stakeholders as regulators. This view is popularly conceptualised as a 'smart mix' approach, which is an important context for this thesis. It is important, therefore, to look at the smart mix in a little more detail.

It is possibly to be expected that there is no consensus on the appropriate regulatory conditions for successful regulation. In some contexts, we see environmental governance and soft laws emphasised more than direct regulations, and considered more conducive to eco-innovation, while in other contexts the reverse is observable. The common ground it seems is one that draws from principles of 'smart regulation' (Gunningham and Grabosky 1998). In its most rudimentary and perhaps common form, the smart regulatory approach is a mix of instruments (Gunningham and Grabosky 1998;Jänicke 2008;Jänicke and Lindemann 2010). Indeed, Jänicke and Lindemann (2010), in advocating a smart regulation approach to tackling environmental problems, suggest strategies are most likely to succeed if market-based 'trend steering' via economic instruments is complemented with direct regulation, and flanked by supporting tools such as green procurement and ecolabelling. This, to all intents and purposes, is a pithy and useful summation of the smart mix.

The smart mix approach to tackling social problems has, in one form or another, been a feature of policy strategies for at least twenty five years. Nowadays, such is the popular endorsement of the smart mix, and the acceptance of the logic that underpins it, that it has become something of an established policy refrain. The stock retort to questions regarding appropriate policy design is that a smart mix is required. Identifying the origins of the smart mix is a difficult task, not helped by the fact that it is one of several popular terms, each with their own particular roots, that share one or more common features or values. While they each have their own unique features, terms like 'smart regulation', 'better regulation', 'governance', 'co-regulation', 'responsive regulation', and 'regulatory pluralism', share at least one of the features of the smart mix. These include: using multiple styles and tools of regulation; incorporating multiple actors and stakeholders into regulatory processes (e.g., standard setting, monitoring enforcement); and increasing levels of regulator sensitivity to the regulated settings. The seeds of a smart mix, it could be argued, were sown by the debates, particularly during the 1970s and 1980s, which pointed to the inadequacies of top-down command-and-control regulation and which, in response, advocated alterative solutions, particularly through the use of market-based instruments such as taxes and charges. These debates saw the emergence of serious advancements over the effectiveness of different approaches to regulation, particularly in the area of environmental protection. The origin of the smart mix has also been linked to early ideas around the notion of effective governance and the processes and procedures necessary for making and implementing effective decisions (New Cities Foundation 2012). There are elements of a smart mix idea in Nonet and Selznick's (1978) 'responsive law' concept, though it would be hard to argue that they lay any claim to the more common notion of the smart mix approach. Nonet and Selznick claim that a responsive institution retains a grasp on what is essential to its integrity, while taking account of new forces in its environment. Linked to this, responsive law should build upon openness, and perceive social pressures as sources of knowledge and opportunities for self-correction. It could also be asserted that the smart mix properly emerged out of, and as a solution to, the intellectual impasse between those who supported robust State regulation and those who advocated deregulation (see Van Gossum et al. 2010: see also Ayres and Braithwaite 1992; Gunningham and Grabosky 1998).The idea of 'responsive regulation' as developed by Ayres and Braithwaite (1992) also made an important breakthrough by transcending the 'compliance versus deterrence' stalemate. Not only does a responsive form of regulation urge synergy between punishment and persuasion, but, significantly, it is also underpinned by the principle that regulators should have a range of tools with which to deal with offenders.

Though it would seem to have a somewhat scattered genealogy, probably the most explicit statement of the smart mix approach has been provided by Gunningham and Grabosky (1998).Smart Regulation, which is the title of their book, is now a well-used term that essentially mirrors the smart mix. In their book Gunningham and Grabosky present a compelling case for designing effective combinations of policy instruments tailored to particular goals and circumstances. Their idea of smart regulation was constructed around the need for a pluralistic set of interventions and approaches characterised by mandatory, self-regulatory, and market-based measures, as well as public and private orderings (see also, Van Gossum et al. 2010; Gunningham and Grabosky 1998; Gunningham and Sinclair 1999; Gunningham and Young 1997; Howlett and Rayner 2004; Kinderman 2016). Yet smart regulation goes farther than advocating a broad or pluralistic range of instruments (Gunningham and Grabosky 1998; Gunningham and Sinclair 1999; Van Gossum et al. 2010).It is said to require a careful selection of the most appropriate institutions to regulate policy, and advocates the use of third parties in setting and enforcing regulatory standards. It requires policymakers to incorporate motivational and informative instruments (Gunningham and Young 1997) to further enable policy to shape the behaviour of regulatees (Van Gossum et al. 2010). And it is said to prefer less interventionist measures, so long as they are capable of delivering policy outcomes (Gunningham and Sinclair 1999; Van Gossum et al. 2010).

Statements of the smart mix are found across several areas of social and regulatory policy, particularly within a European context. An early proclamation can be seen in the sustainable development policies of the early 1990s, and the move to broaden the range of instruments available to promote sustainable development goals. The European Commission's (1993) fifth environmental action programme, entitled Towards Sustainability, advocated 'broadening the range of policy instruments' to include mandatory and voluntary approaches. In its strategy for promoting corporate social responsibility, the European Commission (2011) confirmed the importance of smart mixes, suggesting public authorities: "should play a supporting role through a smart mix of voluntary policy measures and, where necessary, complementary regulation, for example to promote transparency, create market incentives for responsible business conduct, and ensure corporate accountability". The Commission has since further highlighted the importance of instrument mixes in a statement on better regulation (European Commission 2015) and the way policy-makers should design policy. It says policy designers should always consider alternative policy instruments (e.g. non-regulatory alternatives; self- or co-regulation, market-based solutions, regulatory alternatives; international standards), and, critically, they should also think about 'their mix.' Moreover, the smart mix has been given continued momentum by the Guiding Principles on Human Rights (Ruggie 2011), for this is an important feature of the State's duty to protect rights. The Guiding Principles point out that "States should not assume that businesses invariably prefer, or benefit from, State inaction, and they should consider a smart mix of measures – national and international, mandatory and voluntary to foster business respect for human rights." Importantly, then, while States have discretion over how to safeguard rights, consideration should be given to different options, including regulation and voluntary measures. More recent supporting advice on the Guiding Principles (United Nations 2014, 21) has reinforced the importance of smart mix regulation, suggesting: "States have a range of legal, policy and economic tools at their disposal to ensure business respect for human rights. The principles on the State duty to protect call for incentives as well as sanctions, with room for guidance, support and capacity-building alongside regulatory and punitive approaches, where needed. States should use a variety of measures in combination, as relevant to ensure adequacy and effectiveness. This is what is referred to as a smart mix of measures."

As a final point, despite the lack of specificity over what it means with respect to properly applied policy interventions, the smart mix is an established part of regulatory and social policy. It has undoubtedly grown in importance, in both theoretic and policy terms. Not only is the term widely used, but it is often presented as established, and indeed indubitable, wisdom. As Kinderman (2016, 29) says, the smart mix is often presented as combining "the best of both worlds: the flexibility, dynamism, innovativeness, reflexivity and adaptability of voluntary market-based solutions and the authoritativeness, scope, and binding force of legal regulation." But is it really the elixir? Does it properly merit such strong and widespread support? Can it provide the environmental solutions we need? This is an important feature of this thesis, for it could be suggested that the smart mix represents a default position when confronted with regulatory complexity – or to express it in a different way, a failure of regulation when faced with complexity.

1.6. Published Components

Having provided the background and context for the research, we should now introduce and contextualise the published components found in Parts 2 to 5.

To summarise, Part 2 looks generally at the environmental behaviour of SMEs, while Part 3 considers the social and market pressures that can shape the environmental behaviour of firms. Part 4 considers differences across both large and small, and goes on to suggest that the SME sector is a diverse sector that contains firms that have the capacity to respond to regulation in different ways. Part 4 is thus a central component of this thesis, and contains the critical theme. Finally, Part 5 provides an empirical analysis of how differences shape SME responses. All Parts of the thesis contain many relevant issues and arguments that relate to how SMEs behave and respond to different regulation issues. While they are part of an integrated whole, however, some of the ideas about the way SMEs behave and respond, as has been indicated earlier, have naturally changed and matured over the years. In this respect, the issue that emerges and which dominates, and which I want to draw out in this thesis, is that when it comes to the issues of regulatory responses, differences are important. Indeed, differences matter more than perhaps we thought, and more than many studies of SMEs have tended to acknowledge. Differences are more complex and nuanced than the traditional highlighted variations between, say, firms that are 'large' and 'small'. Moreover, these differences, as some of the papers show, present real problems for the design of effective regulatory interventions.

To expand a little, the earlier work that is presented in this thesis contains what I believe are some essential messages that generally and continue to hold considerable truth. This earlier work suggests that SMEs are generally reactive and unresponsive to environmental issues, that they are driven by regulation and business or market pressures, and that, generally speaking, broader societal pressures for 'social good', as it were, have only a limited impact. Part 2, which contains the first two empirical pieces (Williamson and Lynch-Wood 2001 (PAPER 1); Williamson et al 2006 (PAPER 2)) are more general papers that tend to support these points. These two papers consider, in relatively basic terms, the more general environmental behaviour of SMEs. The first quantitative study (PAPER 1) of 40 manufacturing firms shows that the environmental practices of SMEs, on the whole, are reactive and that environmental issues tend to assume a relatively low priority. Indeed, the data suggest that the low commitment levels that are demonstrated by SME owners and managers are supported and reinforced by firms' reactive practices. PAPER 2, which is a more sophisticated qualitative analysis of 31 manufacturing firms from the North Staffordshire region, starts to develop a more nuanced view by showing that SMEs' environmental practices are driven by two important considerations; 'business performance' and 'regulation'. That said, this paper suggests that regulation tends to produce the higher levels of environmental activity.Importantly, these issues are explained by considering the decision-making frames that tend to influence SMEs, because these frames are heavily influenced by free market values and the competitive environment in which firms function. The concept of frames, and the way in which they influence decision-making processes, has been extensively explored in the psychology field (Buechler, 2000; Gray, 2003;

Roth and Sheppard, 1995). Frames are important because they provide a perspective that people use when gathering information and solving problems, and accordingly the process of framing can lead people to exhibit or avoid certain types of behaviour (Lewicki et al. 1999). The concept of frames, and decision-making, leads us nicely to the next point.

Looking at this from a slightly different perspective, Part 3 also reinforces the previous message that SMEs are generally reactive and unresponsive to environmental issues and that their decisions are affected by the environment in which they function. It contains one paper (Lynch-Wood and Williamson 2007 (PAPER 3) that is more conceptual and which contains some core themes on the nature of interactions between smaller firms and their economic and social stakeholders. This paper concerns civil or 'social licence' pressures and the way these pressures can act as a potential regulatory trigger or motivator. It therefore adopts a stakeholder perspective of the firm, and so take the view that civil society members can act as regulatory agents and can support broader regulatory and social objectives. The nature of civil regulation is that it draws on those market forces and norms that encourage certain types of behaviour. As with other forms of regulation, there are sanctions for failing to comply with social licence conditions because firms can suffer financially as a result of damage to their reputation. Firms may respond to these perceived sanctions by, amongst other things, displaying positive behaviour and going beyond compliance. The general conclusion from PAPER 3 is that size, and the factors that relate to size, will often shape how civil regulation affects the firm. As a rule, it is suggested that civil regulation signals are weak in the context of SMEs and so there is little incentive for them to engage in the types of environmental activities that are not related to compliance or short- to medium-term profitability. Moreover, the lack of resources in SMEs is an important factor as it means they are unlikely, and possibly unable, to embark on the types of strategic thinking that is required to develop beyond compliance environmental responses. Importantly, however, this paper leaves open the possibility that SMEs may differ in this respect.

It is the later work that starts to provide a more sophisticated picture of how SMEs interact with regulation. This work shows that differences across SMEs may be important in how determining responses and actions. I try to show this both theoretically and doctrinally, through the literature (see Part 4: Lynch-Wood and Williamson 2010 (PAPER 4), Lynch-Wood and Williamson 2011 (PAPER 5), Williamson and Lynch-Wood 2012 (PAPER 6)),as well as empirically (see Part 5: Lynch-Wood and Williamson 2014a (PAPER 7) and Lynch-Wood and Williamson 2014b (PAPER 8)).SMEs differ not only in terms of the types of factors, pressures and characteristics that shape their behaviour, but also in terms of how they respond to these difference pressure and influences. Inevitably, these differences shape how they respond to different regulatory pressures. The papers in Part 4 (PAPER 4 to 6) thus provide a greater focus on regulation and the way and the manner in which organizational differences shape the way firms respond to different types of regulation. These papers try to answer the 'why' question: why do SMEs differ from larger firms and why do they differ amongst themselves. Each of the papers follows a similar format by using the Bansal and Roth (2000) model of organizational environmental behaviour to understand how firms behave.

Thus, the essence of these papers, which were intended to improve our understanding of why firms differ and the contexts in which regulation will be effective or ineffective as a consequence of these differences, is as follows. They show that firms' responses are determined by their receptive capacities (a composite measure that includes the capabilities (e.g., resources, skills, knowledge) and orientations (e.g., views) of firms). While there is, as is indicated, a potentially enormous range of receptive capacities, since no two firms are identical, it is suggested that there are firms within identifiable groups that will respond to things in broadly similar ways. In other words, there are sufficient commonalities across some firms that we can understand them as groups – groups of individual firms that have some common characteristics. The papers each look at these issues in the context of different forms of regulation – in essence, the smart mix approach. Part 5 (PAPER 7 and PAPER 8) develops these points further by presenting two empirical papers which show that there are important differences across SMEs, and that smaller firms tend to differ in terms of how they respond to different forms of regulation, including civil regulation. These papers present data on the environmental practices and regulatory responses of 110 manufacturing small and medium enterprises (SMEs). The empirical data, which were gathered over a five-year period (2004–2009), are drawn from three studies. Although each was an independent study, required to satisfy different outputs and objectives, they had a shared theme since each was focused on SME environmental behaviour.

Together, the papers produced here provide a detailed picture of how SMEs respond to different pressures and how their differences can shape responses. While the complete definition and exhaustive application of how different firms is beyond the scope of a single body of work, these papers address and illustrate various issues that are important for the study of regulation.

1.7. Final Remarks

There has been a tendency, from both a pedagogic and policy perspective, to look at SMEs as a homogenous group of firms. This thesis has tried to create critical inroads into this view, and to outline some of its pitfalls when it comes to tackling important environmental objectives. If it is possible to develop an appropriate conclusion to the diverse work presented in this thesis, it is this: SMEs' responses to regulation differ in important ways. The differences identified provide us with a more sophisticated view of how SMEs are influenced by, and respond to, regulatory pressures and instruments. As such, the thesis makes an important contribution to both the literature on SMEs and the literature on regulation, for it shows that we have probably underestimated the significance of variations across firms, and how such variations shape the performance of(environmental) regulation.

The findings raise issues that will inevitably require further exploration. Do these differences affect all firms in different sectors? In what ways, if at all, do large firms differ in their responses to regulation? How do these differences affect the performance of different types of regulation in different fields of activity (e.g., health and safely, employment law?) And is it possible to more effectively regulate to counter the effects of these differences? The papers in this thesis do not necessarily address this latter question, and so it is on this particular matter that I would like to offer some brief and final reflections.

The ideas and findings presented here might allow us to see why the existing evidence on regulatory approaches has not fully explained variations in compliance and conformity. Moreover, having laid bare the inevitability and extent of variations in firms' practices and responses, we can start to see why regulation, which presupposes certain conditions (i.e., knowledge, resources, acceptance) being in place (Williamson and Lynch-Wood 2017), is likely to continue to underperform. For example, if a regulatory approach requires from firms a certain level of resource, we can start to see why all firms may not possess that resource or may not be willing to allocate that resource to compliance, thus giving a regulation deficit. In the same way, if a particular instrument requires from firms a certain willingness to participate (e.g., self-regulation), we can start to see why all firms may not possess that requisite willingness (see Williamson and Lynch-Wood 2017), which again creates a regulation deficit. Moreover, the fact the we have considerable variety in regulation, as reflected in the smart mix approach, might unfortunately create another set of issues that we have to be mindful of, as regulation will always underperform to some extent. That is, there will inevitably be different responses (positive, negative) to different forms of regulation. Building on this point, and perhaps most importantly, we can begin to see that attempts to address regulatory underperformance by introducing additional layers of regulation, which typically seek to address the shortcomings of pre-existing regulations by filling in the regulatory gaps, end up addressing some problems while at the same time opening up other difficulties when these regulations are met with further non or poor performance. It is therefore at least possible that the introduction of additional regulations will increase overall compliance, but also increase non-conformity of individual regulations. A potential implication of the above paradox is that so-called smart approaches to regulation, which tend to use multiple forms of regulation, will only be partially successful. They may also be needlessly expensive. So, multiple forms or regulation, in the form of the smart mix, while popular, might contain an important contradiction. This becomes most apparent in complex regulatory contexts, when there is no obvious consensus on what constitutes compliance. For instance, there is likely to be a more popular consensus on what constitutes 'murder' than there is on environmental pollution or human rights. In those less clear situations, the temptation is to address different perceptions on what constitutes acceptable behaviour (which arise because firms differ) by having additional forms of regulation. This translates to an increase in regulation in an ongoing quest to address a deficit in compliance and underperformance. Unfortunately, this never fully addresses the deficit problem. At best it is subject to a law of diminishing regulatory returns due to the inability of firms to satisfy the conditions required of regulation. Furthermore, and this is somewhat ironic, by increasing the number of regulations to address a regulatory problem we increase the complexity of the regulated area, which potentially creates the conditions for new regulatory deficits and compliance problems.

As a final thought, then, there are inevitable tradeoffs when regulating, and this work has highlighted even more how important those tradeoffs may be. This work enables us to see some of the challenges that are raised when designing and implementing a more effective approach to the regulation of a range of economic and social matters.

1.8. References

Acs Z, 'Small business economics: a global perspective' (1992) *Challenge* 35(6): 8-44.

Acs Z, 'Small Firm Innovation and Public Policy' (1999) *Science Policy* 26(4): 247-258.

Acs Z and Audretsch D, Innovation and Small Firms (MIT Press 1990);

Acs Z and Audretsch D, 'Innovation and Firm Size in Manufacturing," (1998) *Technovation* 7: 197-210.

Ahire S and Golhar D, 'Quality management in large vs. small firms' (1996) *Journal of Small Business Management* 34(2): 1-13;

Aragón-Correa J, Hurtado-Torres N, Sharma S, and García-Morales V, 'Environmental strategy and performance in small firms: a resource-based perspective' (2008) *Journal of Environmental Management* 86(1): 88-103.

Ashford N 'Government and environmental innovation in Europe and North America' (2002) *American Behavioral Scientist* 45(9): 1417-1534.

Ashford N, Ayers C and Stone R, 'Using regulation to change the market for innovation' (1985) *Harvard Environmental Law Review* 9(2): 419-466.

Ayres I and Braithwaite J, *Responsive Regulation: Transcending the Deregulation Debate* (Oxford University Press 1992).

Ayyagari M, Beck T and Demirgüc-Kunt A, 'Small and medium enterprises across the globe' (2007) *Small Business Economics* 29(4): 415-434.

Baldwin R, Cave M and Lodge M, *Understanding Regulation: Theory, Strategy, and Practice* (Oxford University Press: Oxford, 2012).

Biondi V, Iraldo F, Meredith S, 'Achieving sustainability through environmental innovation: the role of SMEs' (2002) *International Journal of Technology Management Volume* 24(5/6): 612-626

Bradford J and Fraser E, 'Local authorities, climate change and small and medium enterprises: identifying effective policy instruments to reduce energy use and carbon emissions (2008) Corporate Social Responsibility and Environmental Management 15(3): 156-172.

BRE (Better Regulation Executive), *Striking the Right Balance* (BRE Annual Review, 2009)

BRE (Better Regulation Executive), *Reducing Regulation Made Simple: Less Regulation, Better Regulation and Regulation as a Last Report* (December, 2010a).

BRE (Better Regulation Executive), *Lightening the Load: The Regulatory Impact on UK's Smallest Businesses* (November, 2010b).

BRTF (Better Regulation Task Force), *Regulation – Less is More: Reducing Burdens, Improving Outcomes* (March, 2005).

Cassells S and Lewis K, 'SMEs and Environmental Responsibility: Do Actions Reflect Attitudes?' (2011) *Corporate Social Responsibility and Environmental Management* 18: 186–199.

Chen M and Hambrick D, 'Speed, stealth and selective attack: how small firms differ from large firms in competitive behavior' (1995) *Academy of Management Journal* 38(2): 453-482.

Crain M, *The Impact of Regulatory Costs on Small Firms* (Small Business Administration, 2005).

Crain M and T Hopkins, *The Impact of Regulatory Costs on Small Firms* (Small Business Administration, 2001).

Curran J and Blackburn R, *Researching the Small Enterprise* (London: Sage, 2001).

DBIS, (Department for Business, Innovation and Skills), *Let's Get Down to Business: Smart Regulation, More Growth, Better Europe* (November 2011).

DBIS (Department for Business, Innovation and Skills), *Better Regulation Framework Manual* (July, 2013).

Del Brío J and Junquera B, 'A review of the literature on environmental innovation management in SMEs: implications for public policies' (2003) *Technovation* 23(12): 939–948.

DTI (Department of Trade and Industry), *Lifting the Burdens on Business: Report of a Scrutiny of Administrative and Legislative Requirements* (London, 1985).

DTI (Department of Trade and Industry), *Building Businesses, Not Barriers* (London, 1986).

DTI (Department of Trade and Industry), *Releasing Enterprise: Guide to Compliance Cost Assessment* (London, 1988).

European Commission.1993.Towards Sustainability: A European Programme of Policy and Action in Relation to the Environment and Sustainable

European Commission, *Models to Reduce the Disproportionate Regulatory Burden On SMEs* (Enterprise and Industry, May, 2007).

European Commission. 2011. A renewed EU strategy 2011-14 for Corporate Social Responsibility (Brussels, 25.10.2011 COM(2011) 681 final)).

European Commission.2015.Commission Staff Working Document: Better Regulation Guidelines (Strasbourg, 19.5.2015 SWD (2015) 111 final.

European Commission, *A recovery on the Horizon?* (Annual Report on European SMEs 2012/2013, 2013).

European Commission, *Annual Report on European SMEs 2015/2016* (November 2016).

Fairman R and Yapp C, ‘Enforced self-regulation, prescription, and conceptions of compliance within small businesses: the impact of enforcement’ (2005) *Law & Policy* 27(4): 491–519.

Fiegenbaum A and Karnani A, ‘Output flexibility – a competitive advantage for small firms’ (1991) *Strategic Management Journal* 12(2): 101-114.

Freeman R, *Strategic Management: A Stakeholder Approach* (Boston: Pitman/Ballinger, 1984.

FSB (Federation of Small Business), *Better Regulation is Better ForBusiness* (Written by Professor R Baldwin, 2004).

Gadenne D, Kennedy J and McKeiver C, ‘An Empirical Study of Environmental Awareness and Practices in SMEs’ (2009) *Journal of Business Ethics* 84(1): 45–63.

Gerstenfeld O and Roberts H, ‘Size matters: barriers and prospects for environmental management in small and medium-sized enterprises’. In R Hillary, ed., *Small and Medium-Sized Enterprises and the Environment: Business Imperatives* (Greenleaf: Sheffield, 2000) 106–118.

Grabosky P, ‘Beyond responsive regulation: the expanding role of non-state actors in the regulatory process’ (2013) *Regulation & Governance* 7(1): 114-123.

Graafland, J. and Smid H, ‘Reputation, corporate social responsibility and market regulation’ (2004)*Tijdchriftvoor Economieen Management* 49: 271-308.

Gunningham N, ‘Regulating small and medium sized enterprises’ (2002) *Journal of Environmental Law* 14 (1): 3–32.

Gunningham N, ‘Environment law, regulation and governance: shifting architectures’ (2009) *Journal of Environmental Law* 21(2): 179-212.

Gunningham N and Grabosky P *Smart Regulation* (Oxford University Press, 1998).

Gunningham N and Kagan R, ‘Regulation and business behaviour’ (2005) *Law & Policy* 27(2): 213-218.

Gunningham N. and Sinclair D, ‘Regulatory Pluralism: Designing Policy Mixes for Environmental Protection’ (1999) Law & Policy 21(1): 49-76.

Gunningham N and Young M, ‘Toward Optimal Environmental Policy: The Case of Biodiversity Conservation’ (1997) Ecology Law Quarterly 24(2): 243–298.

Hawkins K, Law as Last Resort: Prosecution Decision-Making in a Regulating Agency (Oxford University Press, 2002).

HM Treasury, Enterprise: Unlocking the Talent (Office of Public Sector Information, March 2008).

Hillary R, Small Firms and the Environment: A Groundwork Status Report (The Groundwork Foundation 1995).

Hillary R, Small and Medium-Sized Enterprises and the Environment: Business Imperatives (Greenleaf Publishing, 2000).

Holliday R, *Investigating Small Firms: Nice Work?* (Routledge, 1995).

Howlett, M. and Rayner, J. 2004. “(Not so) ‘smart regulation’? Canadian Shelfish Aquaculture Policy and the Evolution of Instrument Choice for Industrial Development,” Marine Policy 28(2): 171–184.

House of Commons Library, Briefing Paper: Business Statistics (Number 06152, 23 November 2016).

Hutter B, Compliance: Regulation and Enforcement (Oxford University Press, 1997).

Hutter B and Jones C, ‘From government to governance: external influences on business risk management’ (2007) Regulation & Governance 1(1): 27-45.

Jänicke, M. ‘Ecological Modernisation: New Perspectives’ (2008) Journal of Cleaner Production 16(5): 557-565.

Jänicke, M. and Lindemann, S. ‘Governing Environmental Innovations’ (2010) 19(1) Environmental Politics 127–141;

Jordana J and Levi-Faur D, eds, The Politics of Regulation: Institutions and Regulatory Reforms for the Age of Governance (Edward Elgar, 2004).

Kinderman D,. “Time for a Reality Check: Is Business Willing to Support a Smart Mix of Complementary Regulation in Private Governance?’ (2016) Policy and Society 35(1): 29-42

KPMG, The Environmental Challenge and Small and Medium-sized Enterprises in Europe (KPMG Environmental Consulting: The Hague, 1997).

Lange, B. and Gouldson, A. (2010) ‘Trust-Based Environmental Regulation’ Science of the Total Environmental 408: 5235-5243.

Lee K, Lim G and Tan S, ‘Dealing with resource disadvantage: generic strategies for SMEs’ (1999) Small Business Economics 12(4): 299-311.

Lepoutre J and Heene A, ‘Investigating the impact of firm size on small business social responsibility: a critical review’ (2006) *Journal of Business Ethics* 67(3): 257–273.

Lynch-Wood G and Williamson D, ‘The receptive capacity of firms – why differences matter’ (2011) Journal of Environmental Law 23(3): 383-413.

Lynch-Wood G and D Williamson, ‘Understanding SME Responses to Environmental Regulation’ (2014a) Journal of Environmental Planning and Management 57(8): 1220-1239.

Lynch-Wood G and Williamson D, ‘Civil Regulation, the Environment, and the Compliance Orientations of SMEs’ (2014b) Journal of Business Ethics 125(3): 467-480.

Lynch-Wood G, Williamson D and Horton D, ‘Perspectives on civil regulation, firms, and the environment.’ In Asquer, A., F. Becchis and D. Russilillo. Eds. The Political Economy of Local Regulation: Theoretical Frameworks and International Case Studies (Palgrave Macmillan, 2017) 127-146.

Macpherson A. and Wilson A, ‘Enhancing SMEs’ Capability: Opportunities in Supply Chain Relationships?’ (2003) Journal of Small Business and Enterprise Development 10(2): 167–179.

MacMillan I, ‘How business strategists can use guerilla warfare tactics’ (1980) Journal of Business Strategy 1(3) 63-65.

Marshall Report, Economic Instruments and the Business Use of Energy (Report to Chancellor of the Exchequer, HM Treasury: London, 1998).

Merritt , ‘EMS into SME won't go? Attitudes, awareness and practices in the London Borough of Croydon’ (1998) Business Strategy and the Environment 7(2): 90-100.

Nelson R, ‘Why do firms differ and how does it matter? A revisitation’ (2008) Seoul Journal of Economics 21(4): 607-619.

New Cities Foundation. 2012. Smart Regulation, ‘Explaining Key Concepts for the City of Tomorrow’ Series (Discussion Paper #1).

Nonet P and Selznick P, Law and Society in Transition: Toward Responsive Law (Harper/Colophon, 1978).

OECD, Small and Medium Enterprise Outlook (OECD Publications Service 2002).

OECD, The Athens action plan for removing barriers to SME access to international markets (Adopted at the OECD-APEC Global Conference in Athens, November 2006).

OECD, Small Businesses and Environmental Compliance: Review and Possible Application of International Experience in Georgia (2007).

OECD, The Impact of the Global Crisis on SME and Entrepreneurship Financing and Policy Responses (Centre for Entrepreneurship, SMEs and Local Development, 2009).

OECD, Financing SMEs and Entrepreneurs 2012: An OECD Scoreboard (OECD Publications Service, 2012).

Patton D and Worthington I, 'Researching the drivers of SME environmental behaviour: a study of the UK screen-printing sector' (2003) Environment and Planning C: Government and Policy 21(4): 549–566.

Penrose E, TheTheory of the Growth of the Firm (Oxford University Press, 1959)

Petts J, 'The regulator-regulated relationship and environmental protection: perceptions in small and medium-sized enterprise' (2000) Environment and Planning C: Government and Policy 18(2): 191–206.

Petts J, Herd A, Gerrard S, and Horne C, 'Theclimate and culture of environmental compliance within SMEs,(1999) Business Strategy and the Environment 8 (1): 14–30.

Porter M and van der Linde C, 'Green and competitive: ending the stalemate' (1995) Harvard Business Review, September–October: 120–134.

Redmond J, Walker E and Wang C, 'Issues for Small Businesses with Waste Management' (2008) Journal of Environmental Management 88 (2): 275–285.

Revell, A., and R. Blackburn. 2007. "The Business Case for Sustainability? An Examination of Small Firms in the UK's Construction and Restaurant Sectors". Business Strategy and the Environment 16 (6): 404–420.

Revell A and Rutherfoord R, 'UK environmental policy and the small firm: broadening the focus' (2003) Business Strategy and the Environment 12(1): 26-35.

Ruggie, J.2011.Guiding Principles on Business and Human Rights: Implementing the United Nations 'Protect, Respect and Remedy' Framework (A/HRC/17/31, March 2011).

Rhodes C, Small Business and the UK Economy (House of Commons Library: Economic Policy and Statistics 2012).

Rowe J and Enticott R, 'Evaluating the links between locality and environmental performance of SMEs: some observations from survey and partnership programmes in the Greater Bristol Area' (1998) Eco-Management and Auditing 5(3): 112-125.

Rumelt, R Towards a strategic theory of the firm. In R. Lamb (ed). Competitive Strategic Management (Prentice-Hall: Englewood Cliffs, N.J 1984): 556-570.

Rutherfoord R, Blackburn R and Spence L, 'Environmental management and the small firm: an international comparison' (2000) International Journal of Entrepreneurial Behaviour and Research 6(6): 310–326.

Schaper M, 'Small firms and environmental management: predictors of green purchasing in Western Australian pharmacies' (2002) International Small Business Journal 20(3): 235-251.

Simpson M, Taylor N and Barker K, 'Environmental Responsibility in SMEs: Does it Deliver Competitive Advantage' (2004) Business Strategy and the Environment 13 (3): 156–171.

Smith M and Kemp R, Small Firms and the Environment 1998: A Groundwork Report (Birmingham, Groundwork 1998)

Spence L, 'Does size matter? The state of the art in small business ethics' (1999) Business Ethics: A European Review 8(3): 163-174.

Storey D, Understanding the Small Business Sector (Routledge, 1994).

Studer S, Welford R and Hills P, 'Engaging Hong Kong businesses in environmental change: drivers and barriers' (2006) Business Strategy and the Environment 15(6): 416-431.

Studer S, Tsang S, Welford R and Hills P, 'SMEs and voluntary environmental initiatives: a study of stakeholders' perspectives in Hong Kong' (2008) Journal of Environmental Planning and Management 51(2): 285–301.

Teece D, 'Towards an economic theory of the multiproduct firm' (1982) Journal of Economic Behaviour and Organization I 3(1): 39-63

TeknologistInstitut, SMEs and the Environment in European Union (Main Report Produced for the European Commission 2010).

Thornton D, Kagan R and Gunningham N, 'When social norms and pressures are not enough: Environmental performance in the trucking industry' (2009) Law and Society Review 43 (2): 405–435.

Tilley F, 'The gap between the environmental attitudes and the environmental behaviour of small firms' (1999) *Business Strategy and the Environment* 8(4): 238-248.

Tilley F, 'Small firm environmental ethics: how deep do they go?' (2000) *Business Ethics: A European Review* 9(1): 31-41.

United Nations, *Frequently Asked Questions About the Guiding Principles on Business and Human Rights* (United Nations Human Rights. Office of the High Commissioner. New York and Geneva, 2014)

Van Gossum, P, Arts B and Verheyen K, 'From "Smart Regulation" to "Regulatory Arrangements"' (2010) *Policy Science* 43:245–261

Vogel D, *The Market for Virtue:* The Potential and Limits of Corporate Social Responsibility (Brookings Institution Press, 2005).

Vogel D, 'The Private Regulation of Global Corporate Conduct: Achievement and Limitations' (2010) *Business and Society* 49(1): 68-87.

Wang C, 'Entrepreneurial orientation, learning orientation, and firm performance' (2008) *Entrepreneurship Theory and Practice* 32(4): 635–657;

Weale A, *The New Politics of the Environment* (Manchester University Press, 1992).

Welsh J and White J 'A small business is not a big business' (1981) *Harvard Business Review* 59(4): 18-32.

Wernerfelt, B (1984) 'The resource based view of the firm' (1984) *Strategic Management Journal* 5(2): 171-180

Westhead P and Storey D, 'Management training and small firm performance: why is the link so weak?' (1996) *International Small Business Journal* 14(4): 13-24.

Williamson D and Lynch-Wood G, 'A new paradigm for SME environmental practice' (2001) *The TQM Magazine: The International Journal of Total Quality Management* 13(6): 424-432.

Williamson D, Lynch-Wood G and Ramsay J, 'Drivers of environmental behaviour in manufacturing SMEs and the implications for CSR' (2006) *Journal of Business Ethics* 67(3): 317–330.

Williamson D and Lynch-Wood G, ‘Ecological modernisation and the regulation of firms’ (2012)*Environmental Politics*21(6): 941-959

Williamson D and Lynch-Wood G, ‘The Global Compact and the governance of situated firms’. In Gudić, M., Flynn P and T. Tan. Eds. The Global Compact (Greenleaf Publishing 2017): 156-166.

Wilson C, Williams I and Kemp S, ‘Compliance with producer responsibility legislation: experiences from UK small and medium-sized enterprises’ (2011) Business Strategy and the Environment 20(5): 310-330.

Wilson C, Williams I and Kemp S, ‘An evaluation of the impact and effectiveness of environmental legislation in small and medium-sized enterprises: Experiences from the UK (2012) Business Strategy and the Environment 21(3): 141–156.

Worthington I and Patton D, ‘Strategic intent in the management of the green environment within SMEs: an analysis of the UK screen-printing sector’ (2005) Long Range Planning 38(2): 197-212.

Wynarczyk P, Watson R, Storey D, Short H and Keasey K, The Managerial Labour Market in Small and Medium Sized Enterprises (Routledge 1993).

Yaprak A, ‘An empirical study of the differences between small exporting and non-exporting us firms’ (1985) *International Marketing Review* 2(2): 72-83.