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**The Triangle of Institutional Change  
Public Discourse, Corporate Practice, and the Law**

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# The Triangle of Institutional Change: Public Discourse, Corporate Practice, and the Law

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PhD Thesis submitted to

**King's College London**

School of Management & Business

Faculty of Social Science & Public Policy

12 July 2016

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## Abstract

The literature has struggled to explain why the global financial crisis (GFC) of 2008-09, has failed to translate into major change to the neoliberal model of capitalism. Arguably, this is due to the literature's narrow conception of corporate power exerting itself through direct and purposive intervention in the policymaking process—the 'top-down' view of institutional change. The answer may lie in a broader understanding of corporate influence, incorporating the role of firm practices in shaping the law—the 'bottom-up' perspective. Despite mounting consensus on the mechanisms of such change, our wider understanding of it is still limited. In order to explore the role of bottom-up change in times of major crisis, we need to explore its firm-level antecedents and contextualize the dynamics of bottom-up change processes, i.e. how it is mediated by public discourse and crisis situations. Building on actor-centered institutionalism and incorporating aspects of constructivist and sociological institutionalism, this study contributes to this endeavor by examining a set of interrelated relationships, conceptualized as constituting a triangle between public discourse, corporate practice, and the law. The comparative, mixed-methods research design combines macro-level analysis of legal and regulatory change, micro-level analysis of changes in corporate practice, and change in public discourse in three institutional spheres (finance & accounting, corporate governance, labor relations) across four countries (Switzerland, Germany, United Kingdom, United States) over a 19-year period (1995-2013). While bottom-up change may be limited in scope under 'normal' circumstances, it is found to take on a central role during major crises. Direct and purposive channels of corporate influence on legal change become less effective in such circumstances, but the indirect channels of bottom-up change appear to open up and enable the perpetuation of corporate power throughout such events.

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## Acknowledgements

I would like to acknowledge the guidance, advice, and support of a number of people without whom writing this thesis would have been impossible.

Firstly, my deepest gratitude goes to Gerhard Schnyder, who as my first supervisor, provided tireless help along the way with thoughtful and detailed feedback, always encouraging me to do better, and having confidence in my abilities. Beyond being a supervisor, he has also been a friend whose door was open whenever I needed encouragement, advice, or even just the comfort of a cold pint. I can only aspire to become as good a teacher as he is.

Secondly, but not less important, very warm thanks also to Tony Edwards, who, as my second supervisor, kept an invaluable high-level perspective of my progress and helped me to take a step back from the detail, to see the forest when I occasionally became too lost among the trees. Without Tony's early support and encouragement, as well as a research assistant job offer after completing my MSc, I may never have begun this journey into academy, poised as I was on that path towards the riches of management consulting. This initial taste of the world of academic research opened my mind and changed my career trajectory onto a path of a different kind of enrichment – of the mind, for which I will always be grateful.

Special thanks goes also to Howard Gospel, for commenting on drafts, many stimulating discussions, and being a model of academic inclusiveness. Like Gerhard and Tony, Howard is a role model to me.

I am also grateful to Richard Deeg for hosting me as a Visiting Researcher at Temple University while writing this thesis and providing helpful feedback on aspects of this work, as well as making Temple feel like a home away from home.

This thesis has also benefitted from audience feedback at several conferences where I presented parts of this research over the years. My thanks to audiences at SASE's 24<sup>th</sup>, 25<sup>th</sup>, and 27<sup>th</sup> annual conferences at the Massachusetts Institute of Technology, the University of Milan, and the London School of Economics, respectively; at the University of South Australia's Forum on the Future of Management in the 21st Century; and at WINIR's inaugural conference at University of Greenwich.

My sincere gratitude also to the Economic and Social Research Council (ESRC) and the Graduate School at King's College London, without whose financial support I could not have undertaken this research.

My deepest thanks also to Michelle Cardwell for not only putting up with me in the end phases of writing this thesis—when I was far from pleasant company—but also for encouraging me to go on this journey and continue it through moments of doubt, as well as injecting me with a healthy dose of private sector project management when things seemed impossible to manage, and for being my toughest critic and copy editor. You're the best.

*Herzlichen Dank* also to my parents, Rudolf and Sylvia Kern, without whose help and support I would neither have been able to do a PhD, nor even made the move to London in the first place.

Finally, a big thank you to friends near and far, for bringing cake and laughter on dreary days in the office, making time for mid-day Hawksmoor 'research trips', and many other gestures of kindness that make all the difference.

# 1 Introduction

One of the defining socio-economic phenomena of our time, the global financial crisis (GFC) of 2008-09 has sparked a wave of research into its causes and effects, as well as proposals on restoring economic growth, stability, and avoiding the next global economic meltdown. Despite all this attention, however, the extent of reforms enacted in the wake of the crisis has been limited. The most immediate governmental responses to the GFC were concerned with economic ‘fire-fighting’ to save financial and industrial corporations deemed ‘too big to fail,’ reduce the fallout from the financial crisis onto other parts of the economy, and to “save the market from itself” (Gamble 2009, p.97). Governments approached these challenges in different ways, following a variety of ideological stances. The US approach of stimulus spending combined with quantitative easing followed a two-pronged fiscal and monetary approach, while the British government pursued a more monetarist approach. Such immediate emergency measures need to be conceptually separated, however, from permanent regulatory changes, intended to fix the perceived underlying issues that caused the crisis and place the economy on a steady footing in the long-term. Empirical evidence of changes in financial market regulation after the crisis suggests that governments enacted emergency legislation to stave off a deepening of the crisis, but produced few substantial reforms towards long-term change and reigning in of financial markets (Mayntz 2012).

In light of this, the literature has asked why the crisis, despite its magnitude, failed to translate into major changes to the neoliberal model of capitalism (Mayntz 2012; Schmidt & Thatcher 2013). A common refrain in this literature is that corporations have been underestimated as vastly powerful forces in modern capitalism, pointing to flaws in classic neo-liberal accounts that see markets as the dominant force. To use Crouch’s (2011) conception, the size

of modern corporations has shifted the balance of power between markets, the state, and corporations towards the latter, giving them vast influence on the polity and on setting the rules of the marketplace. Despite pointing to the crisis as accentuating the “series of comfortable accommodations” (Crouch 2011) between corporations, markets, and the state, this literature ultimately struggles to explain why more radical change failed to materialize. While there is agreement that corporations obstruct deeper change, the literature does not pin down exactly how they may exert influence during crises, especially in a time the literature predicts their influence should wane. After all, the GFC and ensuing political salience should have weakened the power of businesses to influence policymaking (Culpepper 2011) and created a window of opportunity for policymakers emboldened by public outrage and demand for change to enact radical reforms and tip the balance back in favor of other forces.

Although the above literature is moving in the right direction by emphasizing the role and power of corporations in explaining the stagnancy of modern capitalist models, it is constrained by its narrow conception of corporate power exerting itself primarily through purposive intervention in the policymaking process. Indeed, it is indicative of a wider limitation of the institutional change literature. While current approaches, such as actor-centered institutionalism (Scharpf 1997; Mayntz & Scharpf 1995), place the role of corporations in the front and center, they largely do so within the context of party and interest group politics as the origin of institutional change, influenced to some extent by direct intervention of business interests. This can be termed a ‘top-down’ view of institutional change. Increasingly, however, the literature is recognizing that those most affected by an institution hold a considerable degree of power to shape formal rules that goes beyond accepting or rejecting policymaker-decreed change and intervention in the policymaking process.

In this view, which will be called the ‘bottom-up’ perspective here, changes in corporate practice can become legitimated by lawmakers and ultimately institutionalized. The basis for corporate practices influencing formal

institutions are “the ‘gaps’ or ‘soft spots’ between the rule and its interpretation or the rule and its enforcement” (Mahoney & Thelen 2010a, p.14). On an individual level, exploiting these gaps hardly is powerful enough to cause institutional change. However, once a few powerful actors start acting in similar ways and gather critical mass, they can trigger change in their own institutional field, potentially even spreading into connected fields through a number of mechanisms that have been conceptualized and empirically tested (Mahoney & Thelen 2010a). This study proposes that it is here, in the role of corporate practices influencing legal change, where we may find an explanation for how corporations exert their influence in times of crisis and control the throttle of institutional change, but that we need to conceptually broaden this type of change.

This literature is usually referred to as the ‘incremental’ or ‘gradual’ institutional change literature and associated primarily with the work of Kathleen Thelen, Wolfgang Streeck, and James Mahoney (Streeck & Thelen 2005b; Mahoney & Thelen 2010b). It makes the case that piecemeal adjustments to institutions resulting from actors pushing at the boundaries of existing rules may be marginal at any one point in time, but can amount to transformative change over longer periods. While this is important step forward in the literature by breaking free from the older ‘punctuated equilibrium’ view of long periods of stability interrupted only rarely by bursts of ‘radical’ institutional change (Krasner 1984), it is also conceptually limiting: if we consider institutional change in terms of magnitude and pace, the question arises what type of change the ‘incremental’ label implies. As the aforementioned authors argue that incremental change may, over time, accumulate to become transformative, the magnitude of such change may thus be very similar to ‘radical’ change over a long time frame, but would be limited over a shorter period. The pace of change, on the other hand, is always viewed as limited in the incremental perspective by the marginal nature of adjustments arising from actors exploiting the ‘gaps’ between rules and their interpretation or enforcement. Hence, the ‘incremental change’ idea seems to imply that the leeway left by laws for ‘deviant’ behavior is naturally small—a

strong assumption to make. Indeed, certain laws may actually allow for a large number of very deviant behaviors, especially where law and regulation failed to anticipate new developments such as financial product innovation that allows banks to side-step existing rules. The ‘incremental change’ literature’s conception is a result its explicit focus on periods of institutional ‘stability,’ when the pace and magnitude of change brought about this way may indeed be limited in the short term. In times of crisis—the focus of this study—however, the magnitude and pace of such change may be much greater. As will be argued in full in the literature review, times of crisis could be highly conducive to institutional change arising from corporate actors pushing at the boundaries of existing rules, both by acting as a trigger for such change and by institutions being more ‘pliable’ under such circumstances. Consequently, despite the incremental change literature forming an important starting point for this study, the concepts to be developed here need to be delineated from the assumptions and constraints implicit in the ‘incremental change’ label. This study will thus use the term ‘bottom-up’ change to refer to institutional change arising from shifting patterns of behavior among corporate actors, regardless of the pace and magnitude of change resulting from it.

In order to explore to what extent bottom-up change plays a role in shaping institutional change during times of crisis, we need to strengthen our understanding of bottom-up processes of change more generally. Despite building consensus on mechanisms, the literature has so far not addressed some important aspects of bottom-up change that are of particular relevance for exploring its role during times of crisis. For one, existing models do not consider where change originates or why it occurs in the first place. As Vivien Schmidt (2012, p.709) puts it, these models deserve praise for conceptualizing mechanisms of institutional change, but while “this literature may help to describe change, it does not explain it, since to explain change, they would need to make reference to what actors think and say that leads to change.” In other words, we know little about the antecedents of bottom-up change, necessitating a deeper focus on what drives change in corporate behavior. Secondly, existing models of bottom-up change are not sensitive to context,

i.e. they do not consider the conditions under which bottom-up change may be more or less likely to take place. Consequently, we need to open up the firm level to the same analytical scrutiny as the policymaker level, if we are to take the role of corporate actors seriously and expand our understanding of how they shape their institutional environment beyond direct engagement in the policymaking process.

The overarching goal of this study is thus to further our understanding of bottom-up change, defined as change in formal institutions arising from or being shaped by corporate practices, and in particular explore the antecedents of such change and the circumstances under which it is more or less likely to occur. While the overall approach taken here builds on actor-centered institutionalism through its focus on corporate actors and their practices, it also draws on aspects of constructivist and sociological institutionalism to explain firm-level patterns of behavior and change as the antecedents of bottom-up change, particularly in times of severe crisis. Constructivist institutionalist approaches (Blyth 2002; Hay 2004; Schmidt 2010) offer a starting point for exploring how corporate practices change in reaction to public discourse and pressure, while processes of mimetic isomorphism (Meyer & Rowan 1977; DiMaggio & Powell 1991; Scott 1995; Westphal & Zajac 2001), as established in the sociological institutionalism literature, may explain how crisis and uncertainty lead to widespread change in firm practices and the formation of ‘critical mass’ that may ultimately translate into legal or regulatory change. On the question of the circumstances in which corporate practices may have more or less influence on legal change, the role of political salience will be the starting point, as it has been shown to influence the extent of power business holds in top-down types of change (Culpepper 2011).

The approach taken here borrows from several institutionalist traditions. This study defines institutional change as legal or regulatory change, placing the focus firmly on formal institutions only. Corporate practices are considered as an impetus or driver of legal/regulatory change through the various mechanisms of bottom-up change, i.e. reinterpretation, defection, displacement, and preemption, which will be discussed fully in chapter 2.4.2.2

below. These mechanisms rely on widespread adoption of deviant behavior in order to affect formal institutions, which in turn requires an understanding of how such ‘critical mass’ in changed corporate behavior builds. It is here, where this study draws on the insights of sociological institutionalism, as it offers just that in its conception of mimetic isomorphism. However, while corporate practices and their influence on legal and regulatory rules are the main subject of enquiry, they are not seen to constitute institutions in and of themselves for the purposes of this study. This is notably different from the established view in sociological institutionalism, where practices that become norms are seen as institutions as well. In other words, while this study leans on sociological institutionalism’s insights on how corporate behaviors spread and convergence in order to explain the antecedents of bottom-up change, it remains focused on formal institutions only.

Applying the insights of constructivist institutionalism and political salience-based models of institutional change to bottom-up change, we find a triangular relationship of institutional change emerging between the cornerstones of public discourse, corporate practices, and the law. Culpepper’s aforementioned work addresses two sides of this triangle—the relationships between public discourse and the law, and some aspects of the relationship between corporations and the law, albeit only in terms of direct engagement in the policymaking processes. To further our understanding of bottom-up change, this study focuses on the lesser explored aspects of this triangle:

- (1) the relationship between public discourse and corporate practices, as changing discourse may drive changes in corporate behavior;
- (2) the cornerstone of corporate practices to explore how change gains ‘critical mass’ and establishes new norms of firm behavior; and
- (3) the relationship between corporate practices and the law, in terms of how widespread changes in corporate behavior may translate into changes in formal institutions.



In focusing on these three relationships, this study seeks to establish the role of corporate practices and associated bottom-up processes more firmly in the institutional change literature. By extension, this could provide an explanation for how corporate power perpetuates itself even in major crises, when the existing literature would predict corporate power to decline.

The overarching methodological approach taken is a narrative account comparing and contrasting macro-level change of laws and regulations, micro-level change of corporate practices, and associated public discourse in three institutional spheres (finance & accounting, corporate governance, labor relations) across four countries (Switzerland, Germany, United Kingdom, United States) over a 19-year time frame (1995 to 2013). This timespan captures not only non-crisis years before and after the GFC, but also the dot-com boom and bust and the Enron scandal, which present additional crisis observation periods for the study. To justify the choice of the institutional spheres analyzed here, the former two spheres are tightly interconnected and have taken blame as causal factors in creating the GFC (Gamble 2009; Mayntz 2012). Bank capitalization, corporate risk-taking behavior, and executive compensation are some of the issues that have risen in political salience during and after the crisis, creating incentives for policymakers to target these areas for reform. Labor and industrial relations are not only tightly connected with finance and corporate governance (Gospel & Pendleton 2003), it is also an area that bears potential for conflict during times of crisis, when companies are under pressure to reduce costs and shed workers. The main institutional focus area is corporate governance, due to its crucial role in allocation of responsibility and resources within the firm (Gourevitch & Shinn 2005). The selection of countries begins with the expectation of institutional change as an actor-centered process to be mediated by the institutional environment, and to thus differ between liberal and non-liberal economies. Building on 'Varieties of Capitalism' (Hall & Soskice 2001), but employing Höpner's (2007) finer grained distinction of two dimensions of non-liberalism, coordination and organization, the four

countries chosen each occupy one quadrant of this 2-by-2 matrix, as will be discussed fully in the methodology chapter.

The time period selected covers the years 1995 through 2013, thus including not only the GFC of 2008-09, but also the more cyclical dot-com crash of 2001. This longer time frame allows to observe processes of change in two major crises and also includes the growth period of the mid-2000s as a comparison to the crisis periods. The post-GFC years are 2010 to 2013. Arguably, this is a rather short post-crisis period to study, however, with high political salience a generally fleeting phenomenon and public and corporate mood returning to 'business as usual,' seeds for change, so they exist, will largely have been sown in the four post-GFC years.

Each of the three relationships of interest along the 'triangle of institutional change' requires a different approach, based on the research questions being asked, specificity of prior expectations, and type of data used. The central point of reference are corporate practices, which are measured quantitatively using 40 variables across the three aforementioned institutional spheres for a sample of the circa 130 largest publicly listed companies in each of the four countries. To estimate the relationship between these measures of corporate practice and public discourse, measured as newspaper coverage of related issues, a panel regression analysis approach is used. Testing for processes of mimetic isomorphism shifting firm practices in times of crisis is accomplished using analysis of variance (ANOVA). Finally, the relationship between firm-level change in practices and legal or regulatory change is analyzed using a qualitative, narrative-based approach as is common in comparative political economy.

The thesis is structured as follows:

Chapter 2 reviews the literature beginning with the neo-institutional foundations underpinning in this study, before discussing conceptions of the relationship between actors and institutions. Then, the state-of-the-art of the institutional change literature is discussed, pointing out shortcomings in our understanding of bottom-up change. Finally, the literature review introduces

the ‘triangle of institutional change’ as a conceptual framework for this study, drawing on various strands of related literatures to formulate propositions to guide analysis.

Chapter 3 discusses the methodological approach taken, introducing the firm-level measures and dataset, as well as specific methods used to analyze the three relationships of interest. The following three empirical chapters each discuss one of the focus areas of this study, beginning with the antecedents of bottom-up change.

Chapter 4 analyzes the relationship between corporate practice and public discourse and reports the panel regression results in order to establish to what extent and in what regard companies tend to react to public discourse and pressure.

Chapter 5 turns to firm-level processes of change driven by mimetic isomorphism in times of crisis, reporting the ANOVA results to analyze the extent to which such processes may shift firm behavior and thus produce ‘supply’ of bottom-up change.

Chapter 6 focuses on the relationship between corporate practice and legal or regulatory change, incorporating the findings from the previous chapters on the antecedents of bottom-up change. This chapter analyzes the conditions under which bottom-up change is more or less likely to take place.

Chapter 7 pulls the empirical findings together to reconstitute the ‘triangle of institutional change’, discussing implications for the literature and whether bottom-up change offers an explanation for perpetuation of corporate power in times of crisis.

Chapter 8 concludes, discussing contributions to the literature, limitations of the study, and avenues for future research.

## 2 Literature Review

### 2.1 Introduction

The fundamental claim of institutionalist approaches, that human behavior is conditioned by their institutional environment, has found application across a number of fields concerned with explaining certain aspects or outcomes of actors' behavior. From its beginnings in economics, political science and sociology, 'new institutionalism' has come a long way towards embracing the conception of actors and institutions as mutually constitutive of one another. Alongside this development, models of institutional change have matured as well. Traditional models of change focused on outcomes rather than processes, relying on shock events to explain radical change or historic contingency to explain stability. More recent approaches, however, emphasize gradual, over time transformative change, shifting the focus on process rather than outcome. State-of-the-art models of institutional change are therefore process-oriented and actor-centered, taking all relevant actors into account, including those most affected by an institution—corporations, in case of finance and accounting, corporate governance, and labor relations institutions.

Despite these advances, our understanding of how different actors interact with their institutional environment, what drives change from different sources, and when some issues may take primacy over others, is still limited by an overtly politics-focused, 'top-down' approach to institutional change. As a result, political actors are much better understood than corporate actors, which are often only considered in terms of how they influence policymakers through lobbying, interest groups or framing of the public debate, mostly ignoring the role of corporate behavior outside direct influence on the

policymaking process. A growing literature on ‘bottom-up’ change, however, contends that corporate practices play an important role in processes of institutional change by shifting interpretations of the law and what constitutes acceptable compliance, or derailing regulatory efforts through non-compliance. While mechanisms of bottom-up change have been theorized and some instances of it empirically demonstrated, a range of questions on how corporate practices are related to institutional change are yet to be explored.

For one, we need a fuller understanding of the antecedents of bottom-up change, i.e. the drivers of change in corporate practice, which then translates into bottom-up change. There are several promising points of departure on this issue, most importantly around how ‘critical mass’ builds on the firm-level and to what extent corporate practices are shaped by public discourse. We also need to know more about the circumstances under which bottom-up change is likely to occur—just as the power of firms to influence policymaking varies with a range of factors including an issue’s political salience, the company’s institutional environment and the country’s political system, we should also expect bottom-up change to be bound by circumstance. If we are to take the role of corporations in institutional change processes seriously, as state-of-the-art actor-centered institutionalism urges (Mayntz & Scharpf 1995; Scharpf 1997; Jackson 2010), these issues need addressing by opening up the firm level to the same scrutiny as the policymaker level.

In order to do this and develop a research approach, we consider the literature in the context of the issue of bottom-up change and firms, and utilize this to form this thesis’ research questions and formulate expectations. To shape this, this literature review first outlines the development of ‘new institutionalism’, pointing out the different assumptions and understandings underlying the three branches of neo-institutionalism that have a lasting impact on current approaches. It then focuses on the relationship between actors and institutions, tracing the path from unidirectional to interdependent approaches and actor-centered institutionalism as state-of-the-art. Subsequently, the literature on institutional change is examined, highlighting

the overt focus on institutional change as a politics-driven game and the shortcomings of our understanding of bottom-up change. The penultimate section explores the role of corporate actors in more detail, pointing to the centrality of their behavior for bottom-up conceptions of change. Finally, the ‘triangle of institutional change’ is introduced as a conceptual framework that guides this study’s efforts to deepen our understanding of bottom-up change.

## 2.2 New Institutionalism

New institutionalism can be understood as a revival or update of the ‘old’ or ‘classical’ institutionalism of Thorstein Veblen, Max Weber, and John Commons. These early approaches focused on formal institutions of the state and the bureaucracy, which were seen to create a set of rules so inevitable as to constrain individuals in an ‘iron cage’ (Weber 2002), or, more appropriately translated from Weber’s original German metaphor, a ‘shell as hard as steel’ (Baehr 2001). The ‘behavioral revolution’ of the post-war era (see Simon 1985) rejected this line of thought and focused on the behavior of individuals rather than their institutional surroundings. As a counter-reaction to the overt spotlight on individual behavior, which often downplayed or ignored structural constraints, scholars across disciplines sought to “elucidate the role that institutions play in the determination of social and political outcomes” (Hall & R. C. R. Taylor 1996). The result of this renewed emphasis on institutional factors was three major schools of thought under the ‘new institutionalism’ or ‘neo-institutionalism’ umbrella term, each with distinct analytical approaches: historical institutionalism (HI), rational choice institutionalism (RCI), and sociological institutionalism (SI). While each approach will be discussed in more detail, it is useful to first gain an overview of the commonalities and differences between the three types of new institutionalism.

Neo-institutionalism seeks to explain socio-economic outcomes, which it contends are a result of the choices made by a variety of actors—the state,

organizations and individuals—within the constraints imposed by their institutional environment. Actors' choices are therefore the proximate cause of outcomes, while institutions are a remote cause. All three strands of new institutionalism grant actors choice in their decision-making, but to varying extent and levels of awareness of institutional constraints. Institutions are generally seen as formal and informal rules and rule-like norms and expectations, which structure behavior and thereby reduce uncertainty and risk in interactions between actors. Despite these broad similarities, there are distinct differences between RCI, HI and SCI in terms of their conception of institutions—on what level they constrain actors and why actors comply—as well as their conception of actors—what their interests are and whether they are rule-makers or rule-takers.

The emphases on different aspects or types of institutions can be illustrated by the three institutional pillars, regulative, normative, and cognitive, first formulated by Powell and DiMaggio (1991). The regulative pillar has been the focal point in rational-choice theory based approaches and refers to the formal constraining, behavior-controlling element of institutions. Rule-making, supervision of compliance, and enforcement of adherence through sanctions are therefore essential elements of this pillar. The credible threat of sanctions affects actors' cost-benefit analysis and makes obeying the rules the rational course of action (Scott 1995). The normative pillar emphasizes the “prescriptive, evaluative, and obligatory dimension” of rules (Scott 1995, p.37). Normative aspects of institutions enable and constrain social behavior by defining rights and responsibilities, as well as acceptable and expected behavior in certain circumstances. Behavior in this regard is the result of purposive action based on a ‘logic of appropriateness,’ i.e. what they perceive to be appropriate action in a given situation (March & Olsen 1989). In other words, “actors conform not because it serves their individual interests, narrowly defined, but because it is expected of them; they are obliged to do so” (Scott 1995, p.39). The cognitive pillar, associated in particular with sociological approaches to new institutionalism, emphasizes the “collection of internalized symbolic representations of the world” (Scott 1995, p.40).

Cognitive aspects of institutions guide the behavior of actors by establishing taken-for-granted ways of doing things, which seem so natural to actors that they cannot even conceive of other choices. While this reduces the level of agency actors possess compared to the other institutional pillars, they do retain some free choice within those unconscious constraints. Actors interests are hereby seen as socially constructed and therefore context-dependent, resulting in some situations where individualistic goals take primacy over collective goals, and vice versa.

Each institutional pillar is associated with a basis for gaining legitimacy, which actors are assumed to seek in order to avoid the cost of deviant behavior. For the regulative pillar, legitimacy is created by adhering to rules and regulations, i.e. staying within the confines of the law. The normative pillar emphasizes “a deeper, moral base for assessing legitimacy,” which includes internalized as well as externalized rewards for compliance (Scott 1995, p.47). In the cognitive pillar, legitimacy arises from cognitive consistency, i.e. adopting an orthodox practice that allows the actor to blend in with others (Scott 1995).

Three classes of actors are generally distinguished in new institutionalism: the state, organizations and individuals, with the state constraining the latter two, and organizations constraining individuals who are part of them. Corporations, as organizations, should therefore not be seen as single coherent entities, but as as coalitions of groups including management, employees, shareholders, suppliers, (Cyert & March 1992). While management set overarching goals, implementation occurs at various levels throughout the organization, where divergent interests may come to the fore and require bargaining. Actions taken by the firm are thus the result of the ‘dominant coalition’ within the company (Cyert & March 1992).

Unlike sociological strands of new institutionalism, which “see all of these actors as embedded in something outside (culture and networks of social relations, variously), [...] [rational choice institutionalism] strips away those outside influences, and relies on the interplay among individuals, organizations, and states to explain institutions and behavior” (Ingram & Clay



2000, p.528). The different ontological assumptions supporting the three pillars determine their conception of the agency of actors. On one end of the spectrum, the regulative pillar is based on a social realist ontology, which assumes that actors are making rational decisions based on innate interests, motivated and bound by incentives and constraints within a 'real' environment that is part of the natural world. At the other end of the spectrum, cognitive theorists posit that "individuals do not discover the world and its ways, but collectively invent them. Such invention is not random and arbitrary, but itself arises out of and is informed and constrained by existing social arrangements and beliefs" (Scott 1995, p.50). The normative pillar finds itself in the middle of the spectrum.

### 2.2.1 Rational Choice Institutionalism

The foundations of rational choice institutionalism were laid in economics by Coase (1937; 1960), and built upon most significantly by Williamson (1975; 1981; 1985) and North (1981; 1986; 1990), but has also found application in political science (Shepsle 2006). The core contention of this perspective are rational actors, who seek to maximize their goals according to known and ordered interests, but who are bound in their rationality by "cognitive limits, incomplete information, and difficulties in monitoring and enforcing agreements" (DiMaggio & Powell 1991, p.3). The purpose of institutions in RCI is to reduce uncertainty in economic exchanges by limiting actors' leeway for opportunistic behavior, thereby reducing transaction costs. While there are some differences in the conception of transaction costs, they are generally seen to arise from opportunistic behavior, the acquisition and processing of information, and the costs of maintaining a system of property rights (Williamson 1981; North 1984). Due to the literature's focus on economic exchanges, the state is generally not given an important role. North (1990), however, recognizes that the state may play a crucial role in setting and enforcing property rights, acting as a third party for enforcing contracts. Enforcement mechanisms are an integral part of RCI, as their effectiveness determines the cost of violations and therefore the likelihood of transgressions.

Some parts of RCI take a functionalist view, in the sense that they see institutional arrangements as optimal outcomes, with competitive forces having replaced inefficient older arrangements (Williamson 1985). Others recognize the historic trajectories of institutions, limiting the choices available to actors while still serving the purpose of reducing uncertainty “by establishing a stable (but not necessarily efficient) structure to human interaction” (North 1990, p.6). The nature of institutions as largely efficient creations of boundedly-rational actors is one of the core contentions of RCI.

Still one of the most widely-used definitions of institutions, North (North 1990, pp.3-4) defines them as “the rules of the game in a society or, more formally, the humanly devised constraints that shape human interaction” and “define and limit the set of choices of individuals.” North considers both formal and informal institutions, the former in the form of laws and regulations, the latter in norms and conventions. Rather than simply distinguishing between formal and informal institutions, Ingram and Clay (2000, p.530) offer “a more fine-grained categorization based on two dimensions, who makes the rules (the state or some other, private entity) and how are they made and enforced (in centralized or decentralized fashion).”

In acknowledgement of the shortcomings of RCI, Ingram and Clay (2000) call for a deeper integration with sociological insights. They argue that this may provide a better explanation of how preferences are formed through societal processes, and explore the interdependencies between different types of institutions. However, North argues that rational choice theory, as a basis for institutional theory, is “essential because a logically consistent, potentially testable set of hypotheses must be built on a theory of human behavior” (North 1990). In other words, North argues that institutions, as human creations, must be based on an understanding of human behavior. Conceding the inadequacy of some of the assumptions underlying rational choice theory, North hints at the role of past choices and social constructs in conditioning behavior. Past choices manifest themselves in the status quo of the institutional configuration, which firms rely on to make profits. He thus deems radical change based on firm action unlikely as they would destroy their own source

of income. Social constructs are considered only in the form of norms, which are seen to constrain behavior along with formal rules.

In North's model, institutional change is mainly a result of "changes in rules, in informal constraints, and in kinds and effectiveness of enforcement" (North 1990, p.6). In this sense, North also lays the groundwork for interdependent approaches, by describing the interaction between institutions and organizations. Institutions define opportunities and constraints that organizations take advantage of. Organizations are reliant on the continued existence of the institutions they use. As organizations evolve over time they may perceive that "they could do better by altering the existing institutional framework at some margin" (North 1990, p.8). The changes they seek to bring can be suboptimal due to their cognitive limitations and incomplete information. Ultimately, institutional change in North's (1990) model is a deliberate strategy pursued by actors to increase productivity, but may also bring with it unintended consequences that can be detrimental to that goal.

For the purposes of this study, an RCI-based approach is ill-suited. While its central tenet of boundedly-rational, purposive action may be congruent with conceptions of institutional change arising from and resulting from bargaining in the political arena, it is at odds with this study's emphasis on the role of corporate behavior. Despite the aforementioned 'wiggle room' afforded to organizations in RCI, their ability to shape their institutional environment in any meaningful way is significantly constrained by the notion of actors pursuing continuity in order to maintain their sources of income. To be sure, RCI may offer insights into actors' behavior under 'normal' circumstances, but it reaches its limits when it comes to explaining corporate behavior in times of major crisis. As will be discussed later in more detail, crises are situations of intense uncertainty which may even confuse actors over what their interests actually are (Blyth 2002). Hence, behavior in such circumstances cannot be understood on a basis of rationality and forestalls deeper examination of firm-level processes of change based on normative or cognitive aspects of behavior.

## 2.2.2 Historical Institutionalism

Historical institutionalism is a branch of new institutionalism emphasizing historical contingency and path dependency. The approach is closely associated with scholars of comparative politics, including Suzanne Berger, Peter Hall, Peter Katzenstein, and Theda Skocpol. An important contribution is Steinmo and Thelen's (1992), who synthesized previous applications of the perspective to present a coherent model of historical institutionalism. A product of political scientists building upon RCI, historical institutionalism is primarily concerned with the question how institutional environments mediate political processes.

One of the early key contributors to this literature, Shepsle (1986) sought to explain stability in political systems, which previous explanations based on atomistic views of action (political outcomes as an aggregate result of rational individuals' decision-making, without regard for social context) could not accommodate. Most early contributors to this field have emphasized the structures of the political system, including the "distribution of agenda-setting powers, the sequence in which proposals must be made, and the allocation of veto rights" (DiMaggio & Powell 1991, pp.5-6), as an important factor in explaining institutional resilience (Shepsle 1986; Shepsle & Weingast 1987). "The structure of political rules is fairly resilient to the ebbs and flows of the agendas of politicians, and the rules can easily live on when the original support for them wanes. As a result, legislative rules are seen as robust, resistant in the short run to political pressures, and in the long run, systematically constraining the options decision makers are free to pursue" (DiMaggio & Powell 1991, p.6). This reflexivity, whereby actors are active creators of their institutional environments, but at the same time bound by their past choices, is at the heart of HI.

Historical institutionalism considers both formal and informal institutions, which, following Hall (1986, p.19), are defined as "the formal rules, compliance procedures, and standard operating practices that structure the relationship between individuals in various units of the polity and economy."

Thelen and Steinmo (1992) note that some ambiguity surrounds the question precisely what institutions should be included in this definition, the consensus being that “rules of electoral competition, the structure of party systems, the relations among various branches of government, and the structure and organization of economic actors like trade unions” are included, while there is debate over whether norms should be included. The institutional setting is seen to “shape the goals political actors pursue and the way they structure power relations among them, privileging some and putting others at a disadvantage” (Thelen & Steinmo 1992, p.2).

As in other neo-institutional approaches, historical institutionalism does not argue that institutions determine outcomes, but rather that they constrain and structure them. The ‘relational character’ of institutions (Hall 1986), structuring political interactions, is of central importance hereby. A good example for this type of institutions are veto points, i.e. “points in the policy process where the mobilization of opposition can thwart policy innovation” (Thelen & Steinmo 1992, p.7). In sum, the core characteristics of historical institutionalism are “the emphasis on intermediate institutions that shape political strategies, the ways institutions structure relations of power among contending groups in society, and especially the focus on the process of politics and policy-making within given institutional parameters” (Thelen & Steinmo 1992, p.7).

Unlike rational choice institutionalism, which sees actors as rational, self-interest maximizing players, historical institutionalism recognizes the cognitive aspect of institutions, establishing taken-for-granted ways of doing things that actors follow without questioning, even if it is not necessarily in their self-interest. This difference also illustrates a central point of divergence between RCI and HI—preference formation. The former approach sees it as a non-issue by assuming that actors maximize their self-interest, which is deduced from the situation at hand; the historical approach, however, sees preferences and goals as shaped by the institutional context. In other words, “for historical institutionalists, institutions ‘structure’ individuals’ preferences, whereas for rationalists, the preferences of individuals ‘structure’ institutions”

(Blyth 2002, p.19). As Thelen and Steinmo (1992, p.9) argue, this one of the main strengths of HI, as “broad assumptions about ‘self-interested behavior’ are empty. [...] We need a historically based analysis to tell us what they are trying to maximize and why they emphasize certain goals over others.”

Historical institutionalism’s hallmark features—the focus on historical contingency and path dependency—are rooted in the recognition that past choices influence the choices available to actors in the present and future. Thelen and Steinmo (1992, p.22) argue that empirical work using the HI approach has shown that “broad policy paths can follow from institutional choices,” as “the existence of certain institutional structures shapes subsequent policy battles.” This view implies that the outcomes of policy struggles will continue to work in the interest of the winners, perhaps even after they have left power. Thus, the institutions created by actors also constrain them in the long run, or in other words, demonstrate “humans both as agents and subjects of historical change” (Thelen & Steinmo 1992, p.27).

Four distinct sources of institutional dynamism can be distinguished in historical institutionalism. The first source is latent institutions becoming more important due to changes in socioeconomic or political context. Second, institutions being used to new ends not originally envisioned due to socioeconomic or political changes. The third source of dynamism are exogenous changes leading to new goals and strategies adopted by actors. Lastly, dynamism can result from actors adjusting to institutional changes caused by dramatic events (‘punctuated equilibrium’) or more incremental “strategic maneuvering within institutional constraints” (Thelen & Steinmo 1992, p.17). This makes HI the perhaps most reflexive of the three neo-institutionalist approaches, as actors are neither largely rule-makers as in RCI, nor often unwitting rule-takers as in SI, but creators of their institutional environments constrained by circumstances resulting from their past makings.

The reflexivity of HI, affording actors leeway in changing their institutional environment while still being constrained by it, combined with a broader conception of the sources of institutional change, makes this approach a more

suitable starting point for this study. However, two issues with traditional forms of HI remain. First, by not separating structure and agency more clearly, the approach risks falling into a circular logic: if institutions constrain the behavior of actors, which in turn shape institutions, how can change truly deviate from the ‘path’? A promising approach to solving this problem is actor-centered institutionalism, which builds on HI but separates structure and agency more clearly, and is discussed fully later. The second issue concerns the neglect of non-purposive aspects of behavior. For this study, however, they should be considered for their ability to explain how behavior spreads among actors and how they react to situations of uncertainty, such as major crises. Sociological Institutionalism focuses on these aspects of behavior.

### 2.2.3 Sociological Institutionalism

Unlike RCI, which regards institutions as “the products of human design, the outcomes of purposive actions by instrumentally oriented individuals” (DiMaggio & Powell 1991, p.8), neo-institutionalism in the sociological tradition largely rejects this notion of free choice. Instead, norms and expectations shape what responses actors deem as appropriate, and which choices they even conceive of. Sociological institutionalism goes beyond economic and politic rules to also consider any behavior which becomes rule-like and taken-for-granted:

“The constant and repetitive quality of much organized life is explicable not simply by reference to individual, maximizing actors but rather by a view that locates the persistence of practices in both their taken-for-granted quality and their reproduction in structures that are to some extent self-sustaining” (DiMaggio & Powell 1991, p.9).

An early and highly influential contribution to sociological institutionalism is Meyer and Rowan’s (1977) study of ‘formal organizations’ and how they internalize their highly institutionalized environments. Previous explanations of the question why organizations formalize their structures in similar ways

relied heavily on Weberian bureaucracies in assuming that rationalized formal structures represent the most effective way of coordination and control of activities. A crucial implication of this assumption is that day-to-day activities within the organization follow this formal organization, however, in practice, this link is not always seen. Building on research showing a gap between formal organization and practice, Meyer and Rowan seek alternative explanations why organizations adopt formalized structures. They argue that the “rules, understandings, and meanings attached to institutionalized social structures” (Meyer & Rowan 1977, p.343) have been neglected as explanatory variables in the process of formalization of structures, but should be taken seriously, as “the elements of rationalized formal structure are deeply ingrained in, and reflect, widespread understandings of social reality.” Institutionalization in the organizational context can be defined as “(a) a rule-like, social fact quality of an organized pattern of action (exterior), and (b) an embedding in formal structures, such as formal aspects of organizations that are not tied to particular actors or situations (nonpersonal/objective)” (Zucker 1987, p.444).

Organizations are driven to internalize institutionalized forms of organization as a way to signal compliance and increase their legitimacy. However, these institutionalized forms of organization are not necessarily efficient in the circumstances of the organization, leading to potentially conflicting pressures—the normative pressure to comply with institutionalized rules and organizational forms to gain legitimacy, and the pressure to increase efficiency as a result of the underlying assumption of utility-maximizing rationality. Due to this conflict, “organizations that reflect institutional rules tend to buffer their formal structures from the uncertainties of technical activities by becoming loosely coupled, building gaps between their formal structures and actual work activities” (Meyer & Rowan 1977, p.341). These loosely coupled organizations may produce internal inefficiencies, but by adhering “to the larger rationalities of the wider structure, they may maximize long-run effectiveness” (Meyer & Rowan 1977, p.360). This room for maneuver between the self-interest of micro-efficiencies and the normative pressures to



adhere to larger, societal goals has been and continues to be a central point of debate in the institutionalist literature. While large swaths of the literature assume actors to be rational utility-maximizing creatures, who can only be compelled to place societal goals above their own through the superior power of the state (Höpner 2007), there is evidence of firms doing so on their own terms without force (Etienne & Schnyder 2014).

The impact of Meyer and Rowan's (1977) work goes beyond the concept of 'loosely coupled organizations;' by theorizing the normative aspects of institutions they also created a line of enquiry on institutions as taken-for-granted practices that become self-sustaining by creating legitimate practices actors tend to follow. DiMaggio and Powell (1991) pick up on this line of research, theorizing more explicitly the types and predictors of organizational isomorphism by focusing on the maturity of a field or industry. They argue that organizational fields emerge and become institutionalized through a process of "structuration," whereby organizations interact more with each other, define structures between them, and acknowledge that they are part of a common endeavor.

After the establishment of an organizational field, a number of isomorphic forces emerge, compelling firms to become more like each other. Early in an organizational field's development, new structures are adopted in a quest for higher performance; yet, over time, these structures gain a symbolic element that goes beyond the technical rationale for efficiency, and become a tool for gaining legitimacy as a member of the field (Meyer & Rowan 1977). "Strategies that are rational for individual organizations may not be rational if adopted by large numbers. Yet the very fact that they are normatively sanctioned increases the likelihood of their adoption" (DiMaggio & Powell 1991, p.65). At a later stage of a field's development, some "older, larger organizations reach a point where they can dominate their environments rather than adjust to them" (DiMaggio & Powell 1991, p.66). This would suggest that large, established firms have considerable power in shaping legitimate organizational forms and practices in their field, which are then adopted by smaller firms or new entrants.

DiMaggio and Powell (1991) identify three types of isomorphism: coercive, mimetic, and normative isomorphism (also, respectively: regulative, cognitive, normative). “Coercive isomorphism results from both formal and informal pressures exerted on organizations by other organizations upon which they are dependent and by cultural expectations within the society within which organizations function” (DiMaggio & Powell 1991, p.67). Direct pressure may come from the state in form of laws and regulation, or through relationships of authority between firms. Mimetic isomorphism results from uncertainty, for instance “when goals are ambiguous, or when the environment creates symbolic uncertainty, organizations may model themselves on other organizations” (DiMaggio & Powell 1991, p.69). It can be intentional, as is often the case with firms implementing innovations in production systems or HRM to signal that they are at the ‘cutting edge’, or unintentional, through workers diffusing practices when they change employers. Normative isomorphism is generated through professionalization, i.e. “the collective struggle of members of an occupation to define the conditions and methods of their work, [...] and to establish a cognitive base and legitimation for their occupational autonomy” (DiMaggio & Powell 1991, p.70). Crucial bodies for creating such professional norms are educational institutions, professional bodies and trade associations.

A number of firm-level predictors of isomorphism are hypothesized (DiMaggio & Powell 1991). Organizations will become more like each other where they depend on each other; for example, firms which are more dependent upon their suppliers will mimic them. The more uncertain the connection between means and ends, or the more ambiguous a firm’s goals, the more firms will imitate successful organizations in their field. Where academic or professional qualifications are crucial for success, the more firms participate in trade associations and adapt to other organizational forms in their field. Field-level predictors include the resource dependence of a field on a small number of sources, and the proximity of the field to the state. Isomorphic change will be faster if few alternative organizational forms are conceivable or perceived, and if technologies or goals are ambiguous. Finally,

fields will become more homogenous the greater professionalization and structuration (DiMaggio & Powell 1991).

Isomorphic processes are often unconscious, almost automatic responses by organizations reflecting ‘the way things are done.’ Even where firms knowingly and willingly adopt practices to gain legitimacy, it is often seen as inevitable. Hence, actors are largely rule-takers in SI; only some powerful, large organizations are able to break from these constraints and can establish new accepted forms of organization, which may spread to other organizations and become institutionalized. Incorporating aspects of SI in this study is thus a promising approach to understanding how practices spread on the firm level, and how corporations are likely to respond to the uncertainty created by situations of crisis—by imitating each other’s behavior.

## 2.3 Actors and Institutions

As the previous section has outlined, the three strands of new institutionalism make different claims on the direction of causality between institutions and the behavior of actors. In the early formulations of neo-institutionalist theory, the relationship between actors and institutions is seen as largely unidirectional. Rational choice and game-theory approaches see institutions as a strategic choice of actors or an optimal outcome of an economic game. The institutional environment is therefore the result of deliberate creation by rule-making actors, who can change institutions freely if circumstances change and render previous arrangements sub-optimal. Sociological institutionalism, on the other hand, rejects the idea of actors having a free choice in creating institutions and instead sees them as principally rule takers who are unknowingly constrained by taken-for-granted rules, norms and expectations of appropriate behavior. Historical institutionalism takes a middle of the road stance, emphasizing both the active role of actors in creating institutions, but also cognitive aspects of institutions and the constraining power of past choices.

As these approaches have matured over the last two decades, they have shed some of their more extreme positions and moved towards an understanding of actors and institutions as mutually interdependent, with causality running both ways. However, the legacy of unidirectional conceptions of the relationship between actors and institutions is still present, if only implicitly, in fairly recent and widely-used parts of the literature.

### 2.3.1 The Legacy of Unidirectional Approaches

The conception of actors as rule-takers is the implicit basis for some influential frameworks concerned with the relationship between economic actors, the institutional environment, and economic outcomes. One example is the ‘Law and Finance’ literature associated with LaPorta *et al* (1998; 1999), which promises to explain outcomes through observable criteria on the macro level, i.e. common or civil law systems. However, this focus on explaining outcomes comes at the expense of studying processes, resulting in overly static models incapable of explaining change, particularly the incremental kind resulting from inherent agents of change. While the parsimony offered by such approaches is appealing and reveals clearly some important causal relationships, they also tend towards determinism, denying actors a role as rule-makers.

The ‘comparative capitalism’ literature, most widely represented by Peter Hall and David Soskice’s (2001) ‘Varieties of Capitalism’ (VoC), also has an ‘actors as rule-takers’ bias. This is perhaps most obvious in this literature’s core contention that by comparing national business systems, with their formal rules and informal norms, we can explain firm-level choices and outcomes. The implication, thereby, being that firm behavior is strongly conditioned, or in other words constrained and enabled, by national institutions. VoC uses the national level of analysis to evaluate how firms, which are deemed the most important economic actors, establish relationships with all parties they interact with, such as workers, clients, suppliers and governments, in order to form their core competencies. Building these

relationships presents challenges to firms, however, as a firm's "success depends substantially on its ability to coordinate effectively with a wide range of actors" (Hall & Soskice 2001, p.6). Institutions, in turn, influence their success.

Following North (1990), Hall and Soskice (2001, p.9) define institutions as "a set of rules, formal or informal, that actors generally follow." The most important institutions for comparative analysis are those conditioning strategic interaction between economic actors, such as "institutions providing capacities for the exchange of information, monitoring, and the sanctioning of defections relevant to cooperative behavior among firms and other actors" (Hall & Soskice 2001, p.10). The focus on economic exchanges and the choice of North's definition of institutions appears to indicate an affinity for RCI, however, there are crucial differences between RCI and VoC. How institutions change, and whether they change in reaction to deliberate choices of actors, is addressed only on the margins, but it is implicitly evident that VoC does not see actors as free-reigning masters of their institutional environment the way RCI would. Institutional change in VoC is mainly described as resulting from external shock events, as incremental change is constrained through cultural norms and the concept of institutional complementarities.

Hall and Soskice (2001, p.6) identify five spheres "in which firms must develop relationships to resolve coordination problems." These five spheres are:

- (1) industrial relations, which refers to wage bargaining, working conditions and labor representation;
  - (2) vocational training and education, including how firms access skilled labor and whether workers acquire general or specific skills;
  - (3) corporate governance, which is concerned with how firms secure finance and how investors ensure returns on investments;
  - (4) inter-firm relationships, with other companies, suppliers and clients;
- and

- (5) employees, which is primarily concerned with how the firm ensures the cooperation of its workforce.

While not considered an institutional sphere in its own right, culture is seen to play an important role. “Many actors learn to follow a set of informal rules by virtue of experience with a familiar set of actors and the shared understandings that accumulate from this experience constitute something like a common culture” (Hall & Soskice 2001, p.13). Culture is therefore a determining factor in what actions actors perceive as available options in responding to a coordination problem, highlighting the limited agency VoC ascribes actors.

VoC conceives of these institutional spheres not as separate entities, but as complementary in the sense that the presence of one institution increases the returns or the efficiency of another. The concept of institutional complementarities, particularly those between different institutional spheres, “suggests that nations with a particular type of coordination in one sphere of the economy should tend to develop complementary practices in other spheres as well” (Hall & Soskice 2001, p.18). Institutional complementarities cause firms to exhibit similar approaches to resolving coordination issues across all institutional spheres by using one of two basic ways to coordinate; contractual relations and strategic coordination. Economies where firms rely primarily on the former are termed liberal market economies (LME), while economies whose firms mainly use the latter are called coordinated market economies (CME). Hall and Soskice (2001, p.8) argue that LMEs and CMEs are not exclusive types of economies, but merely “constitute ideal types at the poles of a spectrum along which many nations can be arrayed.” In other words, hybrid systems are possible and exist, but are seen as suboptimal because they cannot fully take advantage of institutional complementarities. Another implication of the concept of complementarities is that they inhibit piecemeal change in institutions, as changes in one sphere would trigger related changes in other spheres if suboptimal arrangements are to be avoided.

The core contentions of VoC have been subject to empirical analysis. Hall and Gingerich (2004; Hall & Gingerich 2009) find strong evidence suggesting that “the varieties of capitalism literature has identified important differences among political economies” (Hall & Gingerich 2004, p.37). The authors also empirically confirm the concept of institutional complementarities (Hall & Gingerich 2009, p.480). While its core contentions have largely been empirically confirmed, VoC has been criticized for a number of issues. One of the main critiques has been regarding VoC’s relatively static analysis that does not include a comprehensive theory of institutional change (Deeg & Jackson 2007). Rather, due to their rigid concept of institutional complementarity, they downplay incremental change and subscribe to a punctuated equilibrium view. Criticizing VoC along similar lines, Streeck and Thelen (2005a, p.5) write, “While providing a compelling account of observed institutional resiliency, the theory is much less suited to understanding contemporary changes.”

Crouch (2009) criticizes VoC for sacrificing accuracy for parsimony. He argues that both the LME and CME typologies suffer from serious shortcomings; the former by being effectively defined *ex post* by the institutional features of the US, the latter by masking up serious differences within the wide range of countries it is applied to. The solution proposed by Crouch (2009) is that “empirical cases must be studied, not to determine to which (singular) of a number of theoretical types they should each be allocated, but to determine which (plural) of these types are to be found within them, in roughly what proportions, and with what change over time.” Crouch concedes that such an approach is less parsimonious, but allows to take change within countries and systems into account, which VoC struggles with.

Other critiques of VoC have shown the shortcomings of its rather simplistic and deterministic argument on how the institutional arrangements of LMEs and CMEs lead to different sets of comparative advantages, which manifest themselves in radical innovation in LMEs and incremental innovation in CMEs. If this is accurate, Crouch (2009, p.80) points out, it would lead to the eventual demise of the CME model:

“However, those [comparative advantages] of the CME form are located solely in minor adaptations within traditional and declining industries, while LMEs have assigned to them all future-oriented industries and services sectors. In the end therefore this is a neo-institutionalism that fully accepts the logic of neoclassicism set out above: in the long run all institutions other than the pure market fail to cope with the future.”

The implication that a CME-country like Germany is incapable of radical innovation is not only hard to square with historic evidence (Crouch 2009), but the empirical evidence brought forward by Hall and Soskice (2001) in support of the argument has been shown to be flawed (M. Z. Taylor 2009).

Varieties of Capitalism has, without doubt, many achievements worth pointing out, including the parsimonious elegance of its argument, the uncovering of coordination as a crucial dimension in the interaction between actors and, by extension, explaining differences between national institutional systems. However, there are also significant drawbacks to the approach, many of which can be traced to its implicit actors-as-rule-takers view. By neglecting the role actors play in changing their institutional environment, VoC locks itself into a static analysis focused on outcomes rather than processes. The VoC approach would thus benefit from a richer conception of actor-institution interactions that considers the role of actors more fully in shaping their institutional environment. Despite these issues, VoC’s insights on the interaction between actors needs to be considered in this study, as it may inform differences in the way corporate behavior changes in reaction to pressures—an issue picked up again later.

### 2.3.2 Interdependent Approaches

As the previous section has argued, unidirectional views of the relationship between actors and institutions—actors as rule-takers or rule-makers—are incomplete and would benefit from integrating insights from one another. The literature in economics, political sciences and sociology has come to acknowledge this, leading to a forming consensus that actors and institutions



are mutually constitutive of each other. A useful definition for such an interdependent approach comes from Gregory Jackson (2010, p.65), who writes, “a constitutive approach conceptualizes actors and institutions as being mutually interdependent and reflexively intertwined with one another.”

In economics, Masahiko Aoki’s (1988) work on institutionalization of corporate organization laid the foundation for a game-theoretic approach which “has now developed into an integrated framework for understanding how institutions constrain actors and how actors reproduce and change institutional environments” (Jackson 2010, p.66). In Aoki’s model, actors continuously reproduce institutions, yet they see them as exogenous factors they have to take into account when making choices. Longer term, institutions cease to be exogenous factors and become rather more pliable and subject to change.

Political science contributed to the creation of a mutually interdependent conception of actors and institutions. Historical institutionalism, the most reflexive of the three neo-institutionalist approaches, has its roots in comparative political sciences and likely owes its reflexivity to having been focused on processes from the outset, rather than the more outcome-oriented beginnings of RCI and SI. As rational-choice based models, HI sees institutions as the intentional creation of actors, but rejects both the notion of free choice and of predetermined goals and interests. Instead, HI recognizes the cognitive aspect of institutions, similarly to SI, and the path dependency created by historic choices as factors constraining the choices actors available to actors. In other words, HI sees actors as the creators of their institutional environments, as well as the subjects of their current and past creations (Steinmo et al. 1992).

Yet, the circular logic of this argument is problematic, as it raises the questions how actors may deviate from a path if their interests and choices are conditioned by their past actions. Hence, HI is better suited to explain stability rather than change. More recent HI approaches have attempted to solve this problem through the role of ideas—understandings and perceptions of the

world—in delegitimizing established practices and in filtering which new practices are deemed appropriate replacements and may thus become institutionalized (Campbell 2002). These newer versions of HI are also more agency-oriented, seeing institutional change as the result of deliberate political strategies of institutionally-situated actors (Bell 2011; Campbell 2004).

In comparative law, Milhaupt and Pistor (2008) develop a reflexive model of actors and institutions, encompassing legal institutions and market-oriented economic institutions. In contrast to the Law & Finance literature, they do not think of economic outcomes as a function of legal rules and appropriate enforcement. Instead, they conceive of the relationship between actors and institutions as “rolling,” i.e. dynamic and reacting to each other through human and institutional mediation. In their model, market change occurring as a result of an event, such as a demand shift or a financial crisis, raises questions and uncertainties. Legal actors (legislators, bureaucracy, judiciary) respond to this through new laws, codes of conduct, or court decisions. Markets adapt to the new framework and “push at the margins of the new legal order” (Milhaupt & Pistor 2008, p.28).

Organization studies, which is concerned with ‘organizational embeddedness’ in the institutional environment, has closely followed the sociological strand of new institutionalism. An early and highly influential contribution, focusing on processes of institutionalization—the internalization of institutionalized forms of organization and practice—comes from Christine Oliver (1991). Starting from the assumption that firms are interest-seeking actors with active agency, Oliver seeks to model the strategies organizations employ in reaction to institutional pressures arising from other actors, including the state, interest groups, and professional bodies, as well as public opinion. Assumed to be seeking stability and legitimacy, organizations often conform with institutional rules through “the reproduction or imitation of organizational structures, activities, and routines” (Oliver 1991, p.149). However, such ‘blind conformance’ is only predicted “when their ‘social fact’ quality renders them the only conceivable, ‘obvious,’ or ‘natural’ way to conduct an organizational activity” (Oliver 1991, p.148), otherwise, actors pursue more active strategies

in response to institutional pressures. Such responses include firms defying pressures by ignoring norms, challenging rules and attacking the source of pressure, as well as their efforts to manipulate pressures through co-optation, influence and controlling tactics.

While Oliver's earlier model (1991) conceptualized the role of corporations primarily as reactive to institutional pressures, her follow-on work (1992) explores the notion of 'deinstitutionalization', i.e. why companies move away from previously common and entrenched practices. She argues that deinstitutionalization of firm practices results from three types of pressures emanating from both within the firm as well as from its environment. The first, political pressure, includes performance crises, conflicting interests, increasing pressure to innovate, and changing external dependencies. Second, functional pressure encompasses changing economic utility, increasing technical specificity, heightened competition for resources, and emerging events and data. Social pressure, the third category, refers to increasing social fragmentation, decreasing historical continuity, changes in institutional rules and values, and structural disaggregation (Oliver 1992).

One of the main contributions of Oliver's (1992) model of organizational change is to illuminate the 'black box' of firm agency by theorizing the reasons for which organizations may break free from institutional pressures and conventions. In this way, Oliver's contribution was at the forefront of paving the way towards seeing firms not as mere rule-takers, whose practices are derived from their institutional environments, but as having scope to implement change leading to the dismantling of previously institutionalized organizational structures and practices—a necessary antecedent of asking how these changes on the firm level may lead to larger institutional changes.

### 2.3.3 Actor-centered Institutionalism

A central and recurring theme across all neo-institutional approaches is the balance of structure and agency, i.e. to what extent political, economic, or organizational processes and outcomes are determined by the institutional

structure actors are embedded in, and to what extent actors have the ability to act independently from these constraints. A promising attempt at solving the problem of structure versus agency is ‘actor-centered institutionalism’ (Mayntz & Scharpf 1995). This approach describes institutions as a context for the interaction of actors, shaping their choices, perceptions and goals without determining them. Hence, “actors retain scope for choice within constraints or even alter those constraints by strategic or interpretative acts” (Jackson 2010, p.70).

The foundations of actor-centered institutionalism are in political science, and hence the historical branch of neo institutionalism, which focuses on processes rather than outcomes and recognizes structure (political system) as well as rules (institutions). The rule-making process is shaped not only by political structures, but also dominant interests of actors, which are in turn shaped by their institutional context. Thus, the approach regards institutions both as explanatory variables and as something to be explained; they do not determine outcomes, but are a constraining and enabling context (Mayntz & Scharpf 1995, p.43).

Actor-centered institutionalism emphasizes all actors that are relevant to a certain field of regulation or policy, so rather than only looking at state actors, it takes both state and economic actors (corporations) into account. Within this framework, the definition of institutions is limited to the coercive, regulatory aspects. Indeed, Mayntz and Scharpf (1995) criticize approaches that widen their scope to normative and cognitive elements for leaving almost no level of agency to the actors:

“Such a [wide] conceptualization may be useful for sociological theories interested in (average) behavior of individuals. For explaining processes of control and self-organization at the macro-level of societal sectors, however, a tighter institutional understanding is more appropriate. This allows seeing actors’ behavior as an independent variable and, consequently, analyzing situations of significantly changed patterns of action despite fundamentally unchanged institutional contexts” (Mayntz & Scharpf 1995).

Actor-centered institutionalism thus seeks to integrate structure and agency in an effort to move beyond the debate over which takes precedence. The deliberate actions of actors are thereby seen as a proximate cause, while the institutional context is seen as a remote cause. Actors are bound by coercive institutions and the enforcement of sanctions, but they retain considerable scope for free decision-making. Similarly, structure establishes some institutionalized connections and relations between actors, but leaves room for informal or even illegal interaction.

While actor-centered institutionalism represents an important step towards developing a mutually interdependent conception of actors and institutions that integrates structure and agency, some questions remain. The approach requires further theorizing of how interests are formed beyond simply being shaped by institutional context. Also, by restricting itself to regulative aspects of institutions, the approach ignores some of the important contributions made by the historic and sociological strands of institutionalism—which are of particular interest on the firm-level—such as isomorphic processes to reduce uncertainty and gain legitimacy, or the normative pressures on firms to act in appropriate ways that arise from public pressure and other sources. In other words, if we are to take the role of corporate actors seriously, we should not ignore such firm-level processes, as they are important antecedents of bottom-up processes of change.

In summary, new institutionalism has come a long way from its beginnings of unidirectional accounts of actors and institutions by developing an interdependent, reflexive conception of their relationship. However, there is still a proclivity in the field of comparative institutional analysis to explain outcomes through national institutional arrangements, hence seeing actors as mere subjects of rules and downplaying dynamism and change. Actor-centered approaches represent a promising path forward, if we are to “see institutionalization as dynamic and actor-centered social process, recognizing the duality of structure and agency, as well as the material and cognitive aspects of institutions,” as Jackson (2010, p.66) calls for. Shifting the focus to actors and seeing them as institutionally-situated also enables us to move

beyond the focus on political struggles as the main sources and determinants of institutional change, towards a more nuanced understanding of institutional change that opens up the firm level to the same scrutiny as the policymaking level.

## 2.4 Conceptions of Institutional Change

Theories of institutional change are necessarily closely related to how one conceives of institutions and their relationship to economic and political actors. While the institutionalist literature was traditionally more concerned with explaining the status quo of institutional arrangements than explaining how systems change, the three major strands of new institutionalism each have their own conception of what enables and constrains change, thus creating different starting points for the debate on institutional change. The central claims of these approaches—the role of history in constraining today’s choices, the assumption of rational, utility maximizing actors with fixed preferences, or the normative influence of societal rules or expectations—are still subject to debate, although current approaches seek to draw from and reconcile them.

This section outlines the development of the literature’s approach to understanding institutional change from early ‘punctuated equilibrium’ models, the legacy of which is still felt in the current literature, through to incrementalist models that emphasize endogenous sources of change, and to current reflexive approaches that seek to integrate different modes and sources of change. The section ends by discussing where our current understanding of bottom-up change stands, and where further research is needed.

### 2.4.1 Punctuated Equilibria and Their Legacy

When ‘the state’ received renewed attention as an analytical subject in the 1970s and 1980s, it brought with it a wave of research that investigated how

political and social structures and the relationship between the state and its environment change over time. As Stephen Krasner (1984) discusses, the dominant conception at the time was one of clearly demarked times of institutional change and of institutional stasis. The causal factors that explain the origin and development of institutional structures were seen to be distinct from the causal factors that explain institutional stability over time.

“New structures originate during periods of crisis. They may be imposed through conquest or be implanted by a particular fragment of the existing social structure. But once institutions are in place they can assume a life of their own, extracting societal resources, socializing individuals, and even altering the basic nature of civil society itself” (Krasner 1984, p.240).

Borrowing a term from evolutionary theory, Krasner refers to this concept of institutional change as a ‘punctuated equilibrium.’ The punctuated equilibrium view of institutional change tends to come in concert with a view of strong path dependence in institutional development.

“It is not possible in human affairs to start de novo with every change in wants, needs, and power capabilities. Past choices preclude certain strategies or make them very costly. Institutions generated by functional demands of the past can perpetuate themselves into a future whose functional imperatives are radically different” (Krasner 1984, p.240).

In sum, the key aspects of the punctuated equilibrium view are the distinction between long times of institutional stability and self-perpetuation, punctuated only rarely by short bursts of institutional change. As a result, the punctuated equilibrium model focuses on external shock events to explain change, as only events of great magnitude are able to break path dependency by stressing institutional structures to the point of breaking, triggering institutional reevaluation and replacement.

North (2005, p.51), who quips that the term ‘path dependence’ has been “used, misused, and abused,” proposes a more comprehensive definition of the term, in which “the institutions that have accumulated give rise to

organizations whose survival depends on the perpetuation of those institutions and which hence will devote resources to preventing any alteration that threatens their survival.” In other words, North places a great deal of power on organizations, presumably both private and public, to whom significant deviations from ‘the path’ would be risky and costly.

While this may be a plausible scenario for some instances of change, it raises some questions. For one, companies may well be supportive of liberalization that gives businesses more leeway in pursuing strategies of their choice, or allows them to opt-out of costly coordinating institutions such as collective bargaining arrangements or union representation. Indeed, companies in highly coordinated institutional systems have been shown to be supportive of liberalization and thus of significant change to their institutional environment (Kinderman 2014). There is also evidence of organizations pursuing a course of reform in one area that actively undermines stated goals of keeping with established institutions in another, such as the case Callaghan and Höpner (2012) discuss on trade unions pushing for financialization despite it undermining industrial relations. This indicates that we cannot jump to conclusions regarding whether firms are aware of institutional benefits, their interests or whether their actions necessarily make rational sense. Firms may thus support or inhibit change in unexpected ways, casting doubt on the assertion that firms are the main drivers of path dependence and road blocks to change.

While the punctuated equilibrium view has undoubtedly generated insights into processes of institutional change initiated by external shock events, it has been criticized for a number of reasons. First, its black-and-white view of times of change versus times stasis cannot account for incremental change: “The path dependence that results typically makes change incremental. [...] But change is continually occurring (although the rate will depend on the degree of competition among organizations and their entrepreneurs) as entrepreneurs enact policies to improve their competitive position” (North 2005, pp.2-3).



Second, the focus on exogenous shocks downplays the power of endogenous agents of change. A crucial contribution to addressing this issue comes from Baumgartner and Jones (1993), who develop a model that, while still dichotomous between periods of stability and change, consider endogenous sources of change. Stability, therein, is based on powerful elites creating policy monopolies undergirded by powerful ideas. Drawing on the agenda-setting model of the political process, Baumgartner and Jones argue that groundbreaking new ideas can destabilize policy monopolies over time. “As disadvantaged policy entrepreneurs are successful in convincing others that their view of an issue is more accurate than the views of their opponents, they may achieve rapid success in altering public policy arrangements, even if these arrangements have been in place for decades” (Baumgartner & B. D. Jones 1993, p.4). Baumgartner and Jones’ model hence takes endogenous sources of change into account, which can trigger radical change once a ‘tipping point’ is reached—a crucial step towards a reflexive understanding of institutional change.

Third, the punctuated equilibrium perspective has been criticized for being deterministic. Blyth (2002) argues that punctuated equilibrium models fall flat as they follow a *post hoc, ergo propter hoc* logic. “Unfortunately, that which comes after does not explain that which comes before, unless one can specify the causal links between the former and latter objects” (Blyth 2002, p.8). Punctuated equilibrium models see the type of institutional change resulting from shock events as determined by the exogenous event, as if there was only one possible outcome.

“Theoretically, no exogenous factor can in and of itself explain the specific forms that institutional change takes. While the destabilization of existing institutions can be exogenously driven, moving from such a position to a new stable institutional order must be seen as an endogenous process. Specifically, how agents redesign and rebuild institutional orders, and the conditions under which these activities take place, need to be analyzed” (Blyth 2002, p.8).

In other words, an exogenous shock is neither a guarantee for radical institutional change, nor can it predict the outcomes of the institutional rebuilding process it triggers.

The punctuated equilibrium perspective has been widely adopted, explicitly or implicitly, with its legacy still felt across the literature. Varieties of Capitalism (VoC) is one of these cases. Hall and Soskice (2001) justify their position through their model of institutional complementarities, whereby “two institutions can be said to be complementary if the presence (or efficiency) of one increases the returns from (or efficiency of) the other” (Hall & Soskice 2001, p.17). Based on this definition, Hall and Soskice predict not only the persistence of LME and CME models, but also high institutional cohesion and homogeneity, as institutional features incompatible with other institutions would reduce the efficiency of the overall system. Hence, VoC sees incremental change and resulting hybrid-systems as suboptimal, emphasizing radical change after shock events, when multiple institutional logics can be changed in accord to create a new coherent whole. Hall and Thelen (2009) develop a more nuanced model of change within the VoC framework, allowing for endogenous change based on institutional contestation through defection, reinterpretation and reform. This effort to work a model of incremental change into the previously radical change-dominated VoC framework is representative of an overall shift in the literature towards recognizing and theorizing incremental change in response to endogenous agents of change.

#### 2.4.2 Corporate Actors in Institutional Change Processes

The move away from a pure punctuated equilibrium perspective opens up the possibility of endogenous forces gradually changing institutions. However, this raises the question what exactly those endogenous forces are that can effect institutional change. While there is little doubt that policymakers are formally endowed with the power to create, change and abolish formal institutions in

the form of law, regulations and policies, there is less consensus on the role of other actors in institutional change processes.

#### 2.4.2.1 Top-Down Change

One line of thought, which can be termed the ‘top-down’ view, holds that party politics and interest group alliances, e.g. between investors and managers, are the main impetus for change. Hereby, policymakers are seen to produce formal institutional changes, which are then implemented in practice on the firm level. In other words, formal change precedes informal change. Amable and Palombarini’s (2009) ‘neorealist’ model of institutional change, for instance, is based on political power and alliances. They predict institutional change if and when it meets the interests of political leadership. This conception is reminiscent of the traditional model of self-interested political actors, who want to guarantee their political survival and reelection. In a similar vein, Cioffi (2010) conceives of corporate governance reforms as a political game between political parties and interest groups. Corporate interests play a somewhat larger role here than in Amable and Palombarini’s model, but their influence is said to have waned with rising political salience of corporate governance over the past decade as a result of a series of corporate scandals. Because firms squandered their influence over policymaking, they are only seen as background noise in Cioffi’s politics-centered approach. “The primacy of politics in corporate governance reform should come as no surprise. The corporation, by definition, is a creation of the law; law, in turn, is a product of politics” (Cioffi 2010, p.7).

The literature recognizes three main ways for corporate actors to influence the policymaking process: lobbying, private interest committees and press framing (Culpepper 2011). Lobbying draws its power not from the money that is involved, but from the expertise of managers that politicians could only contest at great commitment and expense—and they have no incentive to do so as long the issue is not of particular public importance. Private interest committees are tasked by governments to issue reports on likely implications of proposed policy changes such as the Cadbury Report in the UK which led

to the creation of what is now called the UK Corporate Governance Code. Often these committees are established with the intent purpose of protecting business interests or harnessing what has been deemed 'best practice' and to turn it into law. Culpepper points out that these committees are "a way for managerial interests to appear to relent to calls for greater regulation without transferring such regulation to an unpredictable forum like a legislature. Instead, a private interest body can move at its own speed, delivering its findings at a moment when the temporary rise in public salience has dissipated" (Culpepper 2011, p.9). The third method is press framing, which refers to managers exploiting their superior expertise to highlight certain aspects of an issue. This allows them to steer media reporting and, consequently, to align public opinion with their own interests. Overall, firms have a number of tools available allowing them to engage in the policymaking process, through more direct means such as lobbying or interest group committees, but also indirect means aimed at influencing the behavior of policymakers through shifting public opinion in their favor. However, firms do not necessarily have to engage in the political game to bring about change, by making use of bottom-up methods of change.

#### 2.4.2.2 Bottom-Up Change

Proponents of the 'bottom-up' perspective contend that the ones most affected by an institution hold a considerable degree of power that goes beyond accepting or rejecting policymaker-decreed change. How firms may have the power to change institutions through their practices alone is fairly straightforward when it comes to informal institutional arrangements. Culpepper (2011) points to the example of French firms own undoing of takeover protections during the 1990s, when firms created institutional change by eroding ownership concentration and cross-shareholdings. Culpepper highlights that the low-salience nature of some issues is the cause of informal institutions' continued existence, as lawmakers show deference to managers' expertise. When salience rises though, managers would oppose any government intervention into privately regulated issues (Culpepper 2011).

However, even when firms themselves are the guardians of such informal institutionalized arrangements, change does not necessarily come easily. Normative pressures make deviant behavior not only costly, but also frowned upon by their peers.

The basis for corporate practices influencing formal institutions are “the ‘gaps’ or ‘soft spots’ between the rule and its interpretation or the rule and its enforcement” (Mahoney & Thelen 2010a, p.14). On an individual level, exploiting these gaps is not likely to be powerful enough to cause institutional change. Once a few powerful actors start acting in similar ways and gather critical mass, however, they can trigger change in their own institutional field and possibly even connected fields (Mahoney & Thelen 2010a, p.30). In other words, the real impact of a piece of legislation is not fully determined by its text, but by its organizational interpretation. Organizational interpretations of formal rules, once they reach ‘critical mass’ within a field, become institutionalized among firms and eventually recognized by courts as legitimate ways of compliance. However, the new interpretation does not necessarily have to spread widely, but can come from a small number of influential firms with strategies quite different from the rest of the field (Funk & Hirschman 2012). This process, often termed ‘endogenous legal change,’ has the power to shift the meaning and impact of legislation over time based solely on firm practices, i.e. without intention to produce legal change. Edelman (2011, p.890) describes the process as “everyday organizational practices, routines, and structures subtly influence legal thinking, legal categories, and legal logic.” For the purposes of this study, bottom-up change is defined as this type of change, i.e. corporate practices influencing law or regulations.

Corporate practices can be understood as the outcome of decision-making and bargaining between a ‘coalition of groups’ within the corporation, including management, employees, shareholders, suppliers, etc. (Cyert & March 1992). While those in charge of companies—management—set overarching goals, implementation occurs at various levels throughout the organization, where divergent interests may come to the fore and require

bargaining. While mapping the behavior of each of these internal groups is impossible within the scope of this study, it is important to keep in mind that companies are not unified singular entities. Consequently, corporations' actions result from the 'dominant coalition' within companies, which includes management and possibly other powerful groups within the company. Management, especially of the large publicly listed firms studied here, are of course part of a corporate élite—the term 'bottom-up change' thus does not refer to change arising from the 'bottom' of society, but rather as arising from those affected by a law rather than those formally in charge of making the law.

While the gap between rules on paper and their interpretation and conversion into practice forms the basis of bottom-up approaches, it is not without criticism. Amable and Palombarini (2009, p.126) see it as a "confusion between rules and practices," which, they argue, "leads to the overestimation of the importance of the interpretation made by firms in the process of institutional change" and the neglect of the unilateral power of the state. Indeed, this critique is quite similar to Actor-Centered Institutionalism's rejection of normative and cognitive aspects of institutions (Mayntz & Scharpf 1995; Scharpf 1997), as discussed earlier. While there can be little doubt that policymakers are formally endowed with the power to create, change and abolish formal institutions in the form of law, regulations and policies, a black-and-white view of rules and practices is hardly as clear-cut in reality. For one, it neglects rule-like practices as embodiments of informal institutions—ways of doing things not mandated by law or regulation, but often subject to consequences when not being followed. An example could be cross-shareholding systems that make access to financing from the banks at the center of the network much more difficult if firms leave the network. Secondly, as Culpepper (2005, p.178) argues, rules are not relevant for their own sake, but for the way they systematically shape behavior. While without doubt an important debate and issue in broadening our understanding of institutional change to include a stronger focus on corporate behavior, the issue is sidestepped for the purposes of this study by focusing only on formal

institutional change effected or influenced by corporate practices. To be sure, normative and cognitive aspects of behavior are important aspects in this study in terms of explaining how practices change in reaction to crises and public discourse, and how they spread among firms. However, whether and to what extent corporate practices constitute institutions in their own right is not considered here.

The literature differentiates four mechanisms of bottom-up change: reinterpretation, defection, displacement, and preemption. With mounting consensus on these mechanisms conceptually and empirical evidence demonstrating them in practice, they are not the focus of this study but nevertheless worthy of brief discussion in the interest of completeness.

Reinterpretation of the law, or 'conversion' in Streeck and Thelen's (2005a) terminology, is hinged upon firms exploiting ambiguities in the law to interpret it in a favorable way, or pursuing a judicial strategy where they expect a decision in their favor, thus creating new legal precedent (Funk & Hirschman 2012). Interpretations and expectations of the law become even more important when new ambiguous legislation is passed. In such situations, firms look towards each other in search of best practice in complying with the new law: "These field-wide efforts to reduce environmental uncertainty lead organizations to develop common signals of compliance - such as formal policies and procedures - even when they are not legally mandated" (Funk & Hirschman 2012, p.5).

Defection refers to large-scale deviance, or several powerful firms ignoring a rule or regulation, which may contribute to an institution's exhaustion (Streeck & Thelen 2005a). Over time, the rule might cease to be enforced or taken off the books entirely. It is usually assumed that firms prefer stable institutional environments, which would counter the idea that firms intentionally destabilize legal institutions they have learned to deal with. Funk and Hirschman (2012) argue that firms are willing to cause destabilization when it promises to further their interests or when another related field is

already destabilized. These 'cascades of change' are thus more likely the tighter the connection between two fields.

Displacement refers to 'dormant' institutional forms, i.e. "possibilities of action that institutions neither prescribe nor eliminate," replacing the dominant form (Streeck & Thelen 2005a, p.20). These secondary logics of action may come from exogenous sources in form of imported institutional forms, or from reactivating "suppressed historical alternatives" (Streeck & Thelen 2005a), which could be a return to more prudent approaches after an event like the GFC. Finally, displacement can result from innovating around the law, taking advantage of policy drift (Streeck & Thelen 2005a), for example to design new financial investment products not covered by existing legislation.

Preemption is not so much a method for changing formal institutions as it is a way of inhibiting the formation thereof through self-regulation on the firm level. Issues may be kept outside of formal regulation entirely through setting up industry-wide sets of rules along with professional bodies that can enforce those rules and sanction transgressions (Culpepper 2011). An example for such 'self-policing' would be the Institute of Chartered Accountants in England and Wales (ICAEW), which has the right to first address its members' lapses, before they are conferred to the governmental accounting disciplinary board.

Empirical evidence for bottom-up change is fairly new and sometimes limited to specific cases, but nonetheless convincing and deserving of close attention. Schnyder (2010) points to evidence of cases where firm practices change before legal changes were made to reflect them (Coffee 2001; Cheffins 2000), as well as firm practices defying legal changes (Culpepper 2005; Culpepper 2007). In some cases, firms may even adopt practices symbolically, but subvert them substantively, in order to respond to institutional pressures and signal compliance to other actors (Börsch 2007). Westphal and Zajac's (2001) work on this phenomenon, termed corporate decoupling, shows that the signaling function of symbolic practices works even when actual practices differ. This is



an important finding, as it highlights that the publicly projected practices of corporations can influence other actors—investors, peers or even policymakers—regardless of whether they represent actual corporate practices.

Reinforcing Culpepper's (2007) criticism that the interaction of firm-level changes of practice and legal changes are ill-understood, Schnyder (2010) closely examines the role of firm practices in corporate governance reforms in Switzerland, finding that "as an increasing number of companies introduced more investor-friendly corporate governance practices, their opposition to the legal reform became meaningless and reform became possible" (Schnyder 2010, p.592). An important takeaway from this is that Switzerland's consensual polity influenced the directionality of change. With large coalitions necessary to implement reforms, the support, or at least non-resistance, of business was necessary for institutional change to take place. Hence, this case is not only important evidence for bottom-up change, but also highlights the need to deepen our understanding of such processes of change—what drives them and how they are bound by the structure of the institutional environment and political system.

In summary, the literature is increasingly focused on the role of corporate actors in institutional change processes and has made significant strides in conceptualizing the various mechanisms of bottom-up change. Yet, despite these advances, the models of endogenous or bottom-up institutional change elaborated by Streeck and Thelen (2005a), Mahoney and Thelen (2010a), and Funk and Hirschman (2012) are still limited in some ways. For one, they are not sensitive to context, i.e. they do not consider the conditions under which bottom-up change may be more or less effective. This is crucial, however, if we seek to understand the role such change may play in times of crisis. Perhaps even more importantly, existing models do not consider where change originates or why it occurs in the first place. As Vivien Schmidt (2012, p.709) details, these models deserve praise for conceptualizing mechanisms of institutional change, but while "this literature may help to describe change, it does not explain it, since to explain change, they would need to make

reference to what actors think and say that leads to change.” We therefore need to open up the firm level to the same analytical scrutiny as the policymaker level.

The following section considers these issues in more detail, drawing on the existing literature and insights from top-down change to formulate propositions on the drivers of bottom-up change and the conditions under which it may be more or less effective.

## 2.5 The Behavior of Corporate Actors

A starting point for deepening our understanding of bottom-up change is the behavior of corporate actors, as it underlies this types of institutional change. Different literatures conceive of the driving forces behind actors’ behavior in distinct, but often related ways. While political science places the focus usually on preferences and ideas, sociological and critical studies have shown the important role of discourse in enabling and constraining the behavior of corporate actors. This section will discuss these concepts, how they are related, and why they are important for the purposes of this study—forming a theoretical starting point for the empirical investigation in chapter 4.

### 2.5.1 Preferences

The literature generally sees actors’ behavior as driven by their preferences. As Katznelson and Weingast (2005, p.2) argue, “preferences are foundational for any theory that relies on agency. We know too little about preferences, where they come from or how they are generated.” Without understanding what it is actors want and why they want it, we cannot begin to understand and predict their actions in a model that affords them a level of agency, i.e. freewill in decision-making. Hence, Katznelson and Weingast (2005, p.7) offer a definition that focuses on tendencies to act in a certain way rather than an inevitable outcome: “Preferences signify propensities to behave in

determinate circumstances by people who discriminate among alternatives they judge either absolutely or relatively.”

The key question with regards to preferences is how they are formed. The literature distinguishes between three approaches to understanding preference formation:

- (1) assertive theory, i.e. actors have a set of preferences determined by the theory;
- (2) preferences as a result of historical development;
- (3) social processes, interaction with institutions lead actors to adopt certain preferences.

Each approach has versions with more or less determinism, i.e. to what extent actors have free choice (Katznelson & Weingast 2005).

These different conceptions can be mapped to the three main varieties of neo-institutionalism. In rational-choice institutionalism, actors' preferences are understood to be pre-determined and amount to little more than self-interested utility-maximizing. The other two approaches see preferences as shaped by the institutional environment in more (HI) or less conscious (SI) ways. Consequently, “for historical institutionalists, institutions ‘structure’ individuals’ preferences, whereas for rationalists, the preferences of individuals ‘structure’ institutions” (Blyth 2002, p.19). This notion of purely rational actors, however, is problematic: “The rationality assumption is not wrong, but such acceptance forecloses a deeper understanding of the decision-making process in confronting the complex world we have created” (2005, p.5). As a result, modern rational-choice institutionalist models (cf North 2005) reject purely rational notions in favor of boundedly rational choice-within-constraints understandings of actors' behavior. Consensus has thus formed around institutions as shaping and constraining preferences.

Examining managerial preferences in specific, Culpepper (2011) argues that they are a result of the strength of workplace labor representation, i.e. works councils. In systems where works councils have strong veto power over

organizational change, such as Germany and the Netherlands, they limit management's ability to execute swift organizational change. Such change, however, would be a requirement of catering to shareholder pressure. Due to the advantages of strong works councils and the high costs of abandoning them, managerial preferences in those systems are to defend the status quo and oppose legislative change facilitating the creation of a market for corporate control (Culpepper 2011). However, this view of the source of managerial preferences is not uncontested. Schnyder (2012b) makes the case that the means of insider control is an important determinant of managers' preferences. This is based on the widely accepted idea that managers' primary interest is to keep control over their business and will thus oppose threats to their autonomy. Schnyder finds that the extent to which insider power is based on legal control enhancing mechanisms is connected to their preferences: Where managers derive their autonomy largely from legal devices, they will be opposed to reforms threatening their power; where their power is rooted in informal institutions, they tend to be more open to corporate governance liberalization (Schnyder 2012b).

Despite the advances in the literature in moving from preordained preferences towards seeing them as shaped by the institutional environment, some important questions remain. For one, these explanations follow a circular logic, whereby institutions shape preferences that in turn inform actors' behavior, which then shapes institutions. This logic is perfectly suited for institutionalist accounts focused on path dependency and incremental change, but is incapable of explaining radical change that deviates from the historic path. Secondly, and relatedly, these explanations are difficult to square with the previously discussed evidence of bottom-up change, whereby corporate actors were found to actively seek to change their institutional environment away from the status quo. These problems have triggered the search for an extraneous variable that can explain changes in preferences and ultimately institutions; this may have been found in the role of ideas.

## 2.5.2 Ideas

Constructivist institutionalism (cf Blyth 2002; Hay 2004; Schmidt 2010) links preferences to ideas, the former being derived from the latter. Ideas can be thought of as basic conceptions of how, for instance, the economy or the political system, works and how they should work. Preferences or interests—used here interchangeably—are formed based on these ideas and the goals the firm wants to realize. Indeed, the literature is increasingly utilizing the constructivist approach in order to gain a better understanding of the behavior of actors: “The ‘reality’ of a political-economic system is never known to anyone, but humans do construct elaborate beliefs about the nature of that ‘reality’—beliefs that are both a positive model of the way the system works and a normative model of how it should work” (North 2005, p.2). Incorporating ideas therefore offers an extraneous variable that mediates the mutually constitutive relationship between actors and institutions as the basis of actor’s behavior.

A key question, then, is how ideas change. The constructivist institutionalism literature primarily points to major crisis events as triggers for ideational change. “If interests are a function of beliefs and desires, and if agents are confused about their desires - for example, in situations of high uncertainty - then logically agents’ interests must be unstable too” (Blyth 2002, p.30). Blyth conceives of crises as situations of ‘Knightian’ uncertainty, “that is, situations regarded by contemporary agents as unique events where the agents are unsure as to what their interests actually are, let alone how to realize them” (Blyth 2002, p.9). Consequently, agents’ interests are not a given, but something to be explained. Also, the very nature of what an economic crisis actually is cannot be presumed. “Agents must argue over, diagnose, proselytize, and impose on others their notion of what a crisis actually is before collective action to resolve the uncertainty facing them can take any meaningful institutional form” (Blyth 2002, p.9).

Ideas, then, take on a central role by allowing actors to diagnose a crisis, assessing how the crisis came to be, and how it can be resolved. “The diagnosis

of a situation as a ‘crisis’ by a particular set of ideas is a construction that makes the uncertainty that agents perceive explicable, manageable, and indeed, actionable” (Blyth 2002, p.10). This means that ideas contain value statements, e.g. what source of economic growth is the most important, as well as the trade-offs associated with them, giving actors both a ‘scientific’ understanding of how things work and a ‘normative’ understanding of how they should work. Consequently, “if agents’ interests in such situations [of Knightian uncertainty] can be defined only in terms of their ideas about their interests, then the outcomes that such situations produce will also be a function of those ideas” (Blyth 2002, p.33). This follows Hahn & Solow’s (1997) line of reasoning: “The way the economy actually does work can depend on the way agents believe the economy to work.” In other words, when ideas change, the foundation of actors’ behavior changes as well, as they may have different preferences and seek out new goals.

Criticism of the constructivist approach has centered largely around the level of agency. In his critique of the constructivist approach, Bell (2011, p.888) wonders whether “the new constructivist institutionalism [is] ‘institutionalist’ in any significant sense.” He argues that “the constructivists in question have a somewhat confused understanding of constructivism, excessively privilege agency, and lose sight of the significance of institutional and wider structural variables, which inevitably shape agency and institutional change processes” (Bell 2011, p.884). While there is scope for the argument that we need a better understanding of the mechanisms of how ideas, interests and institutions interact, Bell’s criticism that “according to Blyth, the mechanisms of crisis and uncertainty largely serve to erase existing institutional conditions” (Bell 2011, p.887) is difficult to sustain. Blyth does not make the case that crises present an institutional tabula rasa, but rather that they lead to a reevaluation of institutional arrangements because of the uncertainty of the crisis situation and the perceived institutional failure.

Reevaluations are based on ideas of how the economy works, the perceived causes of the crisis, and understandings of what needs to be done to remedy the situation. By definition, a reevaluation cannot start from a clean slate - it

is always informed by existing institutions. Rather than understanding Blyth's argument as 'institutional erasure' in times of crisis, as Bell (2011) does, we could think of crises as a trigger that allows institutional change beyond the constraints of usual path dependence. When institutional failure and uncertainty call the previous *modus operandi* and the associated ideas into question, actors may question previously accepted ways of doing things and become subject to changed expectations of their behavior, weakening the cognitive and normative constraints of previous institutional arrangements.

### 2.5.3 Public Discourse

Integrating the role of ideas in our conception of bottom-up institutional change therefore holds tremendous promise, as they represent an extraneous variable that can explain why corporate actors may or may not seek to change their institutional environment. The difficulty of doing so, however, is that ideas are deep-seated beliefs that may not have a public expression, making them difficult to measure. The basic premise of constructivist institutionalism—that ideas and institutions are socially constructed—offers a solution to this problem, however. An important avenue for processes of social construction is public discourse, which both reflects and influences ideas. Indeed, some parts of the literature have integrated the role of public discourse in institutional change process, through 'political salience.'

Well established in political science, the concept of political salience states that not all issues are of equal presence in the public mind; issues will rise and fall based on crises, scandals, or other events. As a consequence, political actors prioritize issues that are salient, usually operationalized in terms of volume of public discourse, in order to meet public demands for action and, ultimately, increase their chances of reelection (Schattschneider 1960; M. A. Smith 2000; B. D. Jones & Baumgartner 2005). In other words, when saliency is high, it can act as a "stimulus for action by key players, driving the search for solutions to problems, though not determining outcomes" (Gospel & Edwards 2012).

Culpepper (2011) presents a model of institutional change that takes this concept into account, arguing that power will shift between party politics and interest groups, and managerial interests, depending on an issue's political salience. Culpepper shows that in areas of low political salience, such as regulation on corporate control, firms heavily influence policy due to "their superior lobbying capacity and the deference of legislators" (Culpepper 2011). This allows "managerial groups, which both understand the issues of corporate control and care about them a great deal, to wield disproportionate political influence" (Culpepper 2011, p.8). While Culpepper's model shows the role of public discourse in institutional change processes very effectively, it does so from a top-down view of change only, conceiving of institutional change as a purely political game that allows corporate actors influence in the right circumstances.

## 2.6 The Triangle of Institutional Change

Applying the insights of constructivist institutionalism and political salience-based models of institutional change to bottom-up change, a triangle emerges between the cornerstones of public discourse, corporate practices, and the law. The triangle serves as the conceptual framework of this study, showing how the various elements examined here are related and where the relationships of interest lie. Institutional change in the triangle is equated with legal change, which may of course arise from a large number of sources not mapped on this triangle—these have been omitted in the triangle for clarity and focus on the relationships and elements involved in bottom-up change.



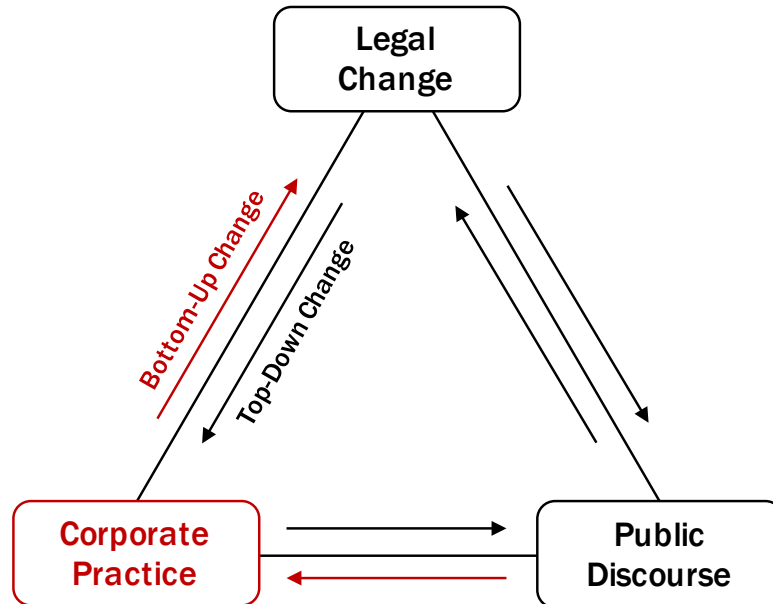


Figure 1: *The Triangle of Institutional Change*

Culpepper’s aforementioned work addresses two sides of this triangle—the relationships between public discourse and the law, and some aspects of the relationship between corporations and the law, albeit only in terms of direct engagement in the policymaking processes. To further our understanding of bottom-up change, the three relationships along this triangle of main concern are:

- (1) the relationship between public discourse, operationalized as political salience, and corporate practices, as changing discourse may drive changes in corporate behavior; and
- (2) as an intermediary step, the cornerstone of corporate practices deserves particular attention, as it is here that change needs to gain ‘critical mass’ in order to affect institutions; and
- (3) the relationship between corporate practices and the law, as widespread changes in corporate behavior may translate into legal or

regulatory change—equated here to institutional change—through mechanisms of bottom-up change.

Each of these three relationships is explored in more detail in the following sections, drawing on various parts of the literature to form propositions on how we may expect these relationships to be structured.

### 2.6.1 Public Discourse and Corporate Practice

As is apparent from the previously discussed literature, the link between public discourse and corporate practices has not been an area of intense focus in the institutional change literature. However, the literature offers some points of departure:

- (1) around the role of corporate practices as signaling devices; and
- (2) around the institutional mediation of external pressures.

The literature has shown that corporations sometimes adopt practices symbolically, but subvert them substantively, in order to respond to institutional pressures and signal compliance to other actors (Börsch 2007). This phenomenon, termed corporate decoupling, points to the signaling power of symbolic corporate practices even when actual practices differ (Westphal & Zajac 1994; Westphal & Zajac 2001). This is an important finding, as it highlights that the publicly projected practices of corporations can influence other actors—investors, peers, policymakers, or the public—regardless of whether they represent actual corporate behavior. The basis for this line of thought is Meyer and Rowan's (1977) concept of the 'loosely coupled organization.' Organizations are driven to internalize institutionalized forms of organization as a way to signal compliance and increase their legitimacy. However, these forms of organization are not necessarily efficient for every company, leading to potentially conflicting pressures—the normative pressure to comply with institutionalized rules and organizational forms to gain legitimacy, and the pressure to increase efficiency as a result of the underlying assumption of utility-maximizing rationality. Due

to this conflict, “organizations that reflect institutional rules tend to buffer their formal structures from the uncertainties of technical activities by becoming loosely coupled, building gaps between their formal structures and actual work activities” (Meyer & Rowan 1977, p.341). These loosely coupled organizations may produce internal inefficiencies, but by adhering “to the larger rationalities of the wider structure, they may maximize long-run effectiveness” (Meyer & Rowan 1977, p.360).

Applying this argument to the relationship between public discourse and corporate practices, we can form some expectations. First, it offers a basic rationale for companies to yield to public debate. While the law defines absolute boundaries for what constitutes compliance and legitimate behavior, acceptable behavior within those boundaries is socially constructed. As a public expression of ideas, discourse reflects changing perceptions of what constitutes acceptable compliance and legitimate behavior. Crises may act as a trigger for public debate, for instance by raising questions on bank capitalization or risk-taking, or it may shift the nature of public discourse. For example, high CEO pay was legal before the GFC and remained legal after the crisis, but public debate shifted high executive pay from an obscure issue to something deemed excessive and inappropriate. Public discourse has many facets, including media coverage, public sentiment, or more focused interventions such as NGO campaigns. For the purposes of this study, it is conceptualized more narrowly as media coverage in form of newspaper articles, following Culpepper (2011). Consequently, increasing public criticism of a behavior or negative discussion of an issue is seen to pressure corporations to reduce the associated controversial practice. We may thus expect companies to be generally reactive to public discourse and adjust their behavior in order to signal continued compliance and legitimacy. As will be discussed more fully below, major changes in discourse and in what is perceived as appropriate behavior could therefore lead to shifts in corporate practice among companies particularly exposed to and pressured by public discourse, which could initiate processes of mimetic isomorphism among firms that may establish new norms of behavior. However, the extent of such

reactiveness is likely mediated by the ability of companies to decouple their practices on the issue in question.

Arguably, the ability to decouple practices is related to an issue's operational embeddedness within the firm, which can be conceptualized as the extent to which an issue structures the company's relationships with its stakeholders and thus influences its strategic and operational capabilities. This conception draws on the literature on the 'dynamic capabilities' of corporations (Teece et al. 1997; Dosi et al. 2001; Whitley 2007), which can be defined as "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. Dynamic capabilities thus reflect an organization's ability to achieve new and innovative forms of competitive advantage" (Teece et al. 1997, p.516). In essence, dynamic capabilities are thus concerned with a company's ability to harness its relationships with financiers, owners, suppliers, employees, and other stakeholder groups to adapt to changing circumstances and realize new opportunities. Consequently, practices that structure these relationships can be seen as deeply strategically or operationally embedded—such as providing shareholder value in order to secure continued access to capital and finance new projects, or reliance on short-term or zero-hour contracts in order to gain staffing flexibility and react to changes in demand.

On such deeply embedded issues, companies are unlikely to find behavioral signals that would satisfy public pressure without also having to fundamentally change their strategy and risking to alienate groups they rely on for their strategic or operational capabilities. In other words, issues that are deeply operationally embedded are unlikely to change with shifts in public discourse. On the other hand, issues that are less embedded, such as board composition or executive pay, are more likely to be affected by public discourse as they allow companies to signal compliance with public expectations without affecting their strategic or operational capabilities.

Of the issue areas considered here, we could consider risk-taking behavior, ownership structure, shareholder orientation, and labor relations as deeply

embedded issues. The first three issues are central to the company's relationship with investors and thus determine future access to capital, while the latter issue area is related to the company's ability to recruit and retain appropriately skilled staff and maintain employment flexibility. Accountability and transparency, board composition, executive pay could be seen as less embedded, as these issues have strong external signaling power but more limited impact on the company's stakeholder relationships and thus strategic or operational capability. To be sure, this classification of issues as more or less embedded is an oversimplification; an issue's actual operational embeddedness can be expected to vary on a company-by-company basis. For instance, retail companies may depend heavily on employment flexibility in order to adjust to seasonal shifts in demand, while concerns over short-term labor flexibility may be of little concern to investment banks. Such fine-grained assessment of embeddedness is beyond the scope of this study, however.

*Proposition A-1: Higher levels of public discourse are more likely to lead to corporations reducing associated controversial practices the less operationally embedded these practices are.*

If we see firms as institutionally embedded (Aguilera & Jackson 2003; Jacoby 2004), we should also expect the institutional environment to mediate the impact of public discourse on corporate practices. The literature on the convergence of national business systems shows how uniform external pressures on corporations lead to different outcomes depending on the institutional setup of the country the firm operates in. "[T]here is substantial variation among countries in the meaning of various work practices depending on the institutional context and history. We also observe substantial diversity even within firms (or plants) that are following a particular pattern of work practices" (Katz & Darbishire 2002, p.13). Goyer (2002) also finds that despite firms being subject to very similar pressures of institutional investors originating in Anglo-Saxon countries, firm-level reactions tend to vary. Goyer attributes this to the constraining element of existing institutions, arguing that firms' choices are informed and delimited by national institutional contexts. "In other words, national institutions mediate the

impact of external stimuli but the presence of institutional complementarity does not inhibit adjustment” (Goyer 2002, p.23). Hence, even global trends and events, such as the GFC and associated rise in public discourse on similar issues across different countries, the implementation and effects of those patterns have to be understood in the context of their national institutional environment.

A useful starting point for forming more detailed expectations is Varieties of Capitalism (Hall & Soskice 2001) and its central dimension of coordination. Firm-level mechanisms of coordination provide institutionalized avenues for stakeholders to influence corporate behavior. Board-level codetermination and works councils, for instance, allow employees to voice their concerns and work out compromises with management. Blockholder ownership structures and network reputational monitoring, to use a further example, are means for insider owners to wield enhanced control over management. In other words, these well-institutionalized ways for corporations to take the demands of the ‘affected public’ into account should result in public discourse being less likely to impact corporate behavior. We may thus expect companies in CMEs to display less reactivity to public discourse than their counterparts in LMEs, where the lack of coordinating institutions means that firms have to rely on public channels, i.e. public discourse, to meet expectations of affected parties.

*Proposition A-2: Higher levels of public discourse are more likely to lead to corporations reducing associated controversial practices in LME countries.*

Taken together, we may expect public discourse to exert some influence over corporate practices, but this is likely to be mediated by the operational embeddedness of the issue in question and the institutional environment. Given the lack of in-depth research on the relationship between public discourse and firm practices in the institutional change literature, these propositions remain fairly broad. An exploratory element to analyzing this relationship will therefore be required.

## 2.6.2 Firm-Level Processes of Change

If, as the previous section has proposed, rising public debate indeed leads to shifts in corporate practices, we also need to ask how such firm-level shifts may coalesce into new norms of behavior. This section, which can be situated in the ‘corporate practice’ cornerstone of the ‘triangle’ of institutional change, examines how spikes in public discourse during or following major shock events such as economic crises or corporate scandals may lead to establishing new behavioral norms amongst corporate actors—which is an important precursor for bottom-up institutional change.

Institutions are generally understood to be devices reducing uncertainty in economic exchanges by limiting actors’ leeway for opportunistic behavior, thereby reducing transaction costs (North 1984; North 1990; Williamson 1981). Firms thus have an incentive to work towards maintaining those institutional arrangements, both to reduce the chances of opportunistic behavior of others, but also because they benefit from exploiting the status quo of the institutional set-up for their own gain. While historic institutionalist approaches reject this purely rational choice-based explanation of why actors seek to maintain the institutional status quo, they arrive at similar conclusions by emphasizing institutional path dependence. As noted, both older punctuated equilibrium models of institutional change and more recent incrementalist approaches point to major shock events as being able to break these institutional and path dependence constraints. The key question for furthering our understanding of bottom-up change, then, is how such events impact corporate behavior and whether they may trigger bottom-up change.

In times of severe crisis, institutions may lose their uncertainty-reducing properties. For one, institutions that are seen as instrumental in causing the crisis may lose support from the public, policymakers, or even the firms affected. With mounting normative pressure to reevaluate and change the institutions, actors may start to defect from them, turning the institutions from uncertainty reducing into uncertainty-causing devices. In the case of the GFC, this applies primarily to informal rather than formal institutions—systemic,

irresponsible risk-taking behavior of financial firms received a larger share of blame for causing the crisis than regulatory failure. Consequently, certain institutionalized practices and the companies mainly associated with them become discredited and a source of uncertainty, prompting other corporations to defect. In the first instance, this is likely to lead to a splintering of practices, as the defecting companies pursue various alternatives to the previously engrained practice.

*Proposition B-1: Institutions and practices discredited due to crisis become a source of uncertainty, initially leading to larger variation of practices.*

Times of severe crisis can be understood as situations of severe uncertainty (Blyth 2002, p.9). Hence, crises spread a ‘great confusion’ of sorts, leaving actors without their usual compass directing them on what behaviors are appropriate or even in their interest. One important way firms regain their footing is through following the lead of large, successful companies—role models that are seen as ‘best practice’ examples of how to cope with the crisis and the uncertainty surrounding it. What constitutes ‘best practice’ may not be immediately clear, but could crystallize over time or in reaction to regulatory proposals or public discourse.

Called mimetic isomorphism, this process tends to occur for its uncertainty-reducing properties: “Individuals and organizations deal with uncertainty by imitating the ways of others whom we use as models. The underlying logic is often one of orthodoxy: We seek to behave in conventional ways, in ways that will not cause us to stand out or be noticed as different. Also involved are status processes. We attempt to imitate others whom we regard as superior, as more successful” (Scott 1995, p.45). Westphal and Zajac (2001) discuss evidence showing such behavior in the face of institutional uncertainty among firms with network ties to each other. Organizational isomorphism is of course not limited to situations of crisis but occurs for different reasons in a number of forms. Organization studies has shed light on the question why firms often exhibit similar behavior despite the large variety of institutional contexts and possible behaviors, with explanations generally focusing on legitimacy,



reduction of uncertainty and taken-for-granted practices (Meyer & Rowan 1977; DiMaggio & Powell 1991). The variation of corporate practices after a severe crisis can therefore be expected to show a pattern of initial spread and increased heterogeneity, followed by convergence on the practices of a small number of new role models.

*Proposition B-2: Once new role models emerge, corporations start to mimic their behavior in order to blend in with perceived best practice. This leads to a convergence of corporate practices.*

Patterns of mimetic isomorphism are likely to be related to internationalization processes, both through MNCs as conduits of mimetic isomorphism and through determining which national business model is considered best practice. Dominance effects establish an international hierarchy of economies, whereby “those in dominant positions have frequently evolved methods of organising production or the division of labour which have invited emulation and interest” (C. Smith & Meiksins 1995, p.256). Smith and Meiksins argue that such borrowing of what is perceived to be ‘best practice’ is intensified with increasing global economic integration. This implies that the effect is stronger in highly internationalized sectors, such as the financial sector, than in more nationally-bound sectors such as manufacturing.

*Proposition B-3: Mimetic isomorphism is stronger in highly internationalized sectors, such as the financial industry.*

An important vehicle for the diffusion of the best practice of the time are MNCs, who transplant their home practices to host countries, albeit with some local ‘flavor’ to make them compatible with local legal and normative requirements. Dominance effects “create pressures to diffuse best practice, but competition between dominant countries means there is never a single model of this, and uneven development ensures that there is a turnover in practices” (C. Smith & Meiksins 1995, pp.258-259). Dominance effects exist at all times, but severe crises may create a new hierarchy of economies. As some economies suffer more than others, the previously dominant model may

become discredited and replaced by an economic model that fared better throughout the crisis. Since the 2008 financial crisis and the ensuing global economic downturn, Germany has often been heralded as a new role model, having performed better than most other advanced capitalist economies. Some governments such as the British, have voiced their aspirations to become more Germanic, i.e. export-led economies with strong apprenticeship and training systems (Volkery 2013; Groom 2013). This perhaps signals that the German economy and by extension the practices of German firms have climbed the hierarchy to replace the Anglo-Saxon style of capitalism as the role model. A crisis can ‘dethrone’ the clear dominator, but a new single best model may not immediately emerge. In this case, the ideological affinity actors have towards one or the other contender, sectoral differences, and general ambiguity may lead to increased heterogeneity of practices. The following propositions can therefore be made regarding international influences on patterns of mimetism:

*Proposition B-4: Crises may establish a new hierarchy of dominant economies, creating new role models both in terms of economic policy and associated corporate practices.*

We can identify three types of mimetic isomorphism: within-group mimetism, outside-of-group mimetism, and cross-border mimetism. The first type, within-group mimetism, is similar to Abrahamson’s (1991) fad perspective, referring to companies copying the behavior of their immediate peers. Explanations of this behavior have focused on gaining legitimacy by adhering to emergent norms (DiMaggio & Powell 1991; Meyer & Rowan 1977) or on economic interests by avoiding the risk that competitors might gain a competitive advantage through an innovation (Abrahamson 1991). Reputation-based explanations, whereby firms imitate others with better reputations than their own (DiMaggio & Powell 1991) have also been advanced for political actors, showing that policy diffusion in the US spreads after highly-reputed states implement a new policy (J. L. Walker 1969). As mimetic isomorphism occurs for legitimacy, status or reputational reasons at all times and therefore reduces heterogeneity of firm behavior within a peer

group, changes in firm behavior induced by within-group mimetism are likely incremental.

*Proposition B-5: Changes in firm behavior induced by within-group mimetism are likely incremental, as firms within the same group are already relatively similar.*

Outside-of-group (or between-group) mimetism corresponds to Abrahamson's (1991) fashion perspective, whereby fashion-setting organizations such as consulting firms, business schools or business mass media promote certain administrative technologies as part of their business. Organizations adopt their recommendations because of the trust they inspire, the knowledge they exude, and the reach they have. The practices promoted by these opinion-leaders are not necessarily efficiency-enhancing, but serve an innovation-signaling purpose that tends to lead to rejection over time as they lose their innovative edge. Consultancies, business media, business associations and other opinion-leaders provide guidance and advice on how to react to a crisis or scandal or how to ensure compliance with legislation that may be under particularly close scrutiny after said event. It is in the business interest of consultancies, advisory bodies and the specialist media to sell advice that is far enough from common wisdom to be perceived as a 'product' or 'solution,' yet not too unorthodox as to be perceived as unfeasible or to attract unwanted regulatory scrutiny. However, as the advice given is the product sold to businesses and thus generally not made public, this data is next to impossible to acquire. For the purposes of this study, outside-of-group mimetism is thus conceptualized and operationalized as mimetic isomorphism between sectors, i.e. between the financial and industrial sectors. During the GFC, financial firms have become under increasing scrutiny and their practices associated with excessive risk-taking, which could conceivably lead to financial firms imitating the behavior of industrial companies. As financial and industrial firms are likely to differ in some of their practices, this type of mimetism bears a larger potential for shifting firm practices in a radical way than within-group mimetism.

*Proposition B-6: Outside-of-group mimetism has the potential to shift firm practices in a more radical way than within-group mimetism.*

With increasing global integration of business and trade, mimetic processes are not limited to the nation-level. MNCs may not have any domestic peers, making it likely that they orient themselves towards their international peers and international opinion-leaders. If the crisis triggers a reshuffling of the hierarchy of economies, new political and corporate role models may emerge and become a template for governments and firms further down the hierarchy to imitate. Where firms import practices through cross-border mimetism, friction with home-country institutions can be expected. Practices imported from other institutional contexts may be very different from domestic norms, but to what extent they may run afoul of domestic rules will depend on the home-country's regulatory system. The UK's 'comply or explain' approach to corporate governance regulation, for instance, is much more permissible to deviant behavior than other, more prescriptive systems. The potentially large difference in the institutional systems of the role model and imitator makes cross-border mimetism rare, as institutional 'distance' is often seen as a barrier to mimetism, but also giving it the largest potential for radically changing firm practices. A further contributing factor to the potency of cross-border mimetism is the institutional disconnectedness of MNCs that results from their global orientation placing them beyond the reach of any single government. In exceptional circumstances, Hage and Mote (2008, p.313) argue, institutionally disconnected organizations have "the capacity to transform [their] institutional environment with discontinuous changes in normative patterns or institutional rules." The three types of mimetic isomorphism and their relative power to change corporate practices can be summarized through the following propositions:

*Proposition B-7: Cross-border mimetism has the largest potential for radically changing firm practices.*

In summary, processes of mimetic isomorphism are important and powerful mechanisms that spread change in corporate practices. Crises, scandals, and

the associated public discourse that comes with such major events may discredit previous norms, leading to uncertainty about how to signal compliance and legitimacy under those new circumstances. Once large and influential companies adopt new practices, others are likely to follow those leaders in order to blend in and reduce the uncertainty emanating from the crisis or scandal. Mimetic isomorphism therefore enables widespread change in corporate practice and may coalesce into new norms. Such 'critical mass' is an important condition for bottom-up change to occur.

### 2.6.3 Corporate Practice and Legal Change

If public discourse and mimetic isomorphism are drivers of widespread changes in corporate practices, the question arises how this impacts the institutional environment. As discussed previously, the literature has theorized several mechanisms for how changes in corporate practice can affect formal institutions and has produced some empirical evidence for such instances of change. This bottom-up relationship is situated in the 'triangle' of institutional change as the arrow pointing from corporate practices to legal/regulatory change.

We can conceptualize different modes of influence running in this direction: corporate practices may cause change, pre-empt change, or shape the content of change. In the first case, corporate behavior is the impetus for legal or regulatory change, i.e. firm-level change precedes legal-level change. Hereby, lawmakers or regulators react to shifts in the behavior of firms, either to formally make new norms acceptable forms of compliance or to restrict behavior seen as undesirable. The second case is similar to the first in that corporate-level adjustments also take place first; however, here they lead to the abandonment of mooted or planned legal or regulatory change. This may occur if lawmakers or regulators see firm-level change as sufficient and deem formal legal change unnecessary. In the third case, firm-level and legal-level change co-evolve, with corporate shifts in practice changing the content of legal or regulatory changes in progress. Here, changes in corporate behavior

may convince lawmakers or regulators to adapt aspects of planned changes, whether to the advantage or disadvantage of businesses.

While we are able to conceptualize different modes of influence running from the firm level to the legal level, the literature has not considered some important questions on bottom-up change that are of particular relevance for a time period that includes a major financial crisis as an event of uncertainty and potential trigger for corporate-level change:

- (1) How does political salience and public discourse affect bottom-up change?
- (2) How does the nature of severe crises impact bottom-up change?
- (3) How does the structure of the political system mediate bottom-up change?

Fundamentally, these three issues are concerned with the conditions under which bottom-up change is more or less likely to occur. While all three questions have received considerable attention in top-down conceptions of change, they remain ill-understood for bottom-up change. This section draws on insights from top-down change and other parts of the literature to formulate propositions.

The concept of political salience has been integrated into some conceptions of institutional change to great effect, showing how power shifts between corporate actors and policymakers based on issue salience. Culpepper's (Culpepper 2011) work, briefly discussed earlier, has been at the forefront of this development. He argues that party politics and interest group coalition-driven perspectives of legal change are flawed as they "treat corporate control like any other high-profile battle in democracies, where public opinion and legislative votes are the most valuable currencies" (Culpepper 2011, p.3). For issues that are not in the public conscience, however, pressure for change is unlikely to come through these avenues, opening the door to corporate influence.

Culpepper distinguishes two dimensions that determine how powerful managers are in influencing the policymaking process on a given issue. The first is political salience, which is measured as the volume of public debate taking place on a certain issue. The more salient an issue, the more politicians start paying attention to public opinion and business interests lose power. An issue can become salient through a crisis (e.g. Enron, financial crisis) or mobilization through a political entrepreneur (e.g. Ralph Nader). As the media starts to pick an issue up, the public becomes aware of it and forms an opinion, leaving politicians little room for maneuver if they want to be reelected (Culpepper 2011).

The second, closely related dimension is issue complexity. The higher an issue's complexity (e.g. corporate governance technicalities such as takeover defenses), the harder it is for the media and the public to engage with and understand it, thus giving managers the role of undisputed experts on the matter. Consequently, low salience and high complexity are an "ideal combination of circumstances for managerial groups, which both understand the issues of corporate control and care about them a great deal, to wield disproportionate political influence" (Culpepper 2011, p.8). However, when salience flares up, for example during a hostile takeover attempt being reported in the news, high complexity is only a shield for managerial interests as long as salience is fleeting, so media and politicians have no incentive to become thoroughly informed on the issue, and is not a result of perceived managerial incompetence, as in the case of the Enron debacle or the financial crisis (Culpepper 2011). While this model shows how the power of corporate interests to influence the policymaking process falls with rising political salience, it does not consider the role of bottom-up change. However, some propositions can be made.

It stands to reason that a similar relationship exists for bottom-up change. As the previously elaborated mechanisms of bottom-up change—reinterpretation, defection, displacement, and preemption—require implied or explicit consent of regulators, courts or policymakers in order to make the changed behavior an accepted form of compliance, political salience is likely

to play a role here too. When salience is low, regulators and policymakers may not pay much attention to shifts in how rules are interpreted on the firm level, and how corporate behavior vis-a-vis those rules is changing. As a result, changed practices could become established and institutionalized, making it more likely that they become formally accepted as compliant with the rules. Corporate scandals, public outrage, or other events that increase issue salience, however, could lead to increased scrutiny of corporate practices and a clamp-down on deviant behavior. Generally, we may therefore expect the power of bottom-up change to decline as salience rises.

*Proposition C-1: Higher issue salience reduces the ability of bottom-up mechanisms to change formal institutions.*

The dynamics may be different, however, under specific circumstances—times of severe crisis. Crises may offer a conducive environment for bottom-up change for two main reasons. First, processes of crisis-induced mimetic isomorphism can greatly accelerate the formation of ‘critical mass’ on the firm-level, shifting corporate behavior from previous norms to new ways of doing things. Especially where such mimetism occurs outside of the peer group or even internationally, it may change firm practices in significant ways, increasing the possibility that corporate practices push at the boundaries of the law. In other words, major crises may increase the ‘supply’ of bottom-up change.

*Proposition C-2: Severe crises increase the ‘supply’ of bottom-up change as they trigger change in corporate practices and accelerate the formation of new norms of behavior.*

Second, crises could increase the likelihood of corporate practices changing formal institutions. As Blyth (2002) argues, major crises are socially constructed, both in terms of perceived causes and perceived solutions. Hence, issues deemed to be directly linked to causing or solving the crisis rise in public discourse and political salience. Governments will prioritize the most salient issues on their agenda, which are likely to be emergency countermeasures to the crisis, crowding out other matters of lower priority (Kingdon 1995). For lower salience issues, this may open a window of



opportunity to establish new forms of compliance ‘under the radar,’ i.e. while governments are occupied with other problems. In such cases, crises may make bottom-up change less visible and increase its chances of success. Even for higher salience issues, however, where regulators or policymakers are more likely to observe changes in corporate behavior, crises may work in favor of bottom-up change. As corporations converge on new best practice, they can make a credible case to lawmakers that lessons have been learned and no deep reforms are needed. Policymakers, whose agendas are dominated by macro-economic concerns rather than the specifics of, say, corporate governance legislation, can then point to those corporations as examples of effective self-regulation. Whether this works will depend on other actors, mainly policymakers and opinion leaders, seeing the changes in corporate behavior as desirable and sufficient. Policymakers, especially those of a pro-business disposition, may be willing to accept such ‘self-regulation’ in lieu of formal regulation, freeing their agendas at a time of competing priorities (Mayer 2013). As a result of these factors, crises may enhance the influence of corporations through bottom-up processes of change—unlike in the political arena, where crises tend to lower the power of corporate actors (Culpepper 2011).

*Proposition C-3: In times of severe crisis, bottom-up change may be more likely to lead to legal change than in non-crisis situations, regardless of issue salience.*

The impact of bottom-up change on formal institutions may also be enhanced in times of severe crisis due to institutional ‘softening.’ Institutional strength can be seen as comprising of two dimensions—enforcement and stability (Levitsky & Murillo 2009). Highly developed nations typically feature high enforcement and high stability, but crises can chip away at both. Weak enforcement of rules can result from ‘window dressing,’ i.e. law or regulation enacted primarily to appeal to others without intention of enforcing it (Levitsky & Murillo 2009). Policymakers engage in ‘symbolic policymaking’ as a way of signaling to the public that the government is doing what is morally right, e.g. by clamping down on excessive risk-taking, while at the same time putting business interests at ease by implementing weak monitoring and

enforcement mechanisms (Suárez 2014). Weak enforcement may also be a result of governments lacking the power to enforce even if they wanted to. The reach of the state might be lower in some sectors than in others—highly internationalized and ‘footloose’ sectors such as finance, or highly complex sectors such as investment banking, for example. Finally, when actors perceive rules as unfair, they are more inclined to not comply with them, making effective monitoring and enforcement costly and in turn rule violations more likely. Lawmakers, who may well be inclined to crack down on the perceived causes of an economic crisis, thus risk higher violation rates if firms do not perceive the new rules as fair.

Institutional instability may also result from a number of sources. Time is one of those factors and highly relevant to situations of crisis. Levitsky and Murillo (2009, p.123) argue that “the pace of institutional design may affect stability,” as quickly-designed ‘emergency legislation’ does not give actors enough time to calculate its potential impact and how it affects their interests, increasing resistance to the new rules. Institutions imported from abroad may also be weakened, either on the policy level or the corporate practice level, due to poor fit with the domestic institutional context. Just as corporations seek to reduce uncertainty through imitating best practice of their peers, policymakers may also adopt what they perceive as the best way of handling the crisis. Adopting perceived ‘best practice’ solutions from other countries could boost confidence among businesses, investors and consumers, regardless of how fitting the rules may be to the domestic context. These imported policies may have the desired signaling effect, but are also liable to being exposed as ill-suited to the domestic context. Whether institutions are weakened by poor enforcement or instability, Levitsky and Murillo (2009) argue that it makes them more vulnerable to change. In advanced democracies, this cannot be expected to lead to institutional breakdown and replacement, but it may have a large enough effect to enhance the power of bottom-up methods of change by making formal institutions more malleable in times of crisis. Taken together, the following propositions regarding how crises affect bottom-up change can be made.

*Proposition C-4: Institutional softening may enhance the impact of bottom-up modes of change in times of crisis.*

In addition to the factors discussed so far, bottom-up change is also likely to be mediated by structural features of the political system, which formally defines some aspects of the relationship between different actors and their power relations. We can distinguish three main types of political systems: majoritarian democracies, consensus democracies, and presidential systems (Leijphart 1999). In the broadest terms, a majoritarian (or Westminster) system of democracy, as in the UK, features a powerful, usually single political party in power, which can quickly enact legal changes due to the fusion of executive and legislative powers. This makes British policymakers very powerful vis-à-vis other actors. A consensus-type democracy, as in Germany, is designed to represent as many people as possible, resulting in coalition governments, which have to compromise in order to pass legislation through the federal, bicameral system. The division between *Bund* (federal government) and *Länder* (state governments) further dilutes power and increases the need for compromise in the German system. Hence, policymakers are subject to intervention from a number of sources before legislation passes—at so-called ‘veto points’ (Immergut 1990; Immergut 2008; Tsebelis 2000; Tsebelis 1995). A presidential system, as in the US, has features of both systems, but is potentially even more open to disruption in the policymaking process, as there are more ‘policy entrepreneurs,’ weak party control, and strong separation of powers. An important concept of the American political system is the idea of ‘checks and balances’ or the separation of powers between the three branches of government (Congress, President, Courts) and the mechanisms designed to allow each branch to check the powers of the others. For example, Congress can impeach the President; the President can veto a bill passed by Congress; and the Courts can declare laws or government actions unconstitutional (Wilson et al. 2010).

Milhaupt and Pistor’s (2008) framework on the relationship between legal systems and institutional change is a useful starting point in forming expectations on how the structure of the political system is likely to affect

bottom-up change. It incorporates four dimensions: organization, functions, the political economy for law production and enforcement, and the demand for law. In terms of organization, they differentiate between centralized and decentralized systems; the former with law-making in the legislative or executive branches and central enforcement, the latter with law-making extending to multiple, including private, agents. They describe four functions of legal systems: allocation and protection of property rights, coordinating actors to bargain over outcomes, signaling to induce behavioral change, and credibility enhancing to increase the efficiency of government policy. The former two functions are described as the most important distinguishing factors. One may dominate and can vary between areas of law, but both usually coexist. Centralized systems tend to be coordinating, decentralized systems tend to exert more protection of property rights. The third dimension, the political economy for law production and enforcement, differentiates systems based on the contestability of law, i.e. to what extent law is subject to a process of creative destruction via private, social and government actors, as opposed to pure governmental, unilateral action. Centralized systems tend to favor governmental actors, while decentralized systems tend to favor self-organized groups and individuals. The demand for law, the last dimension in their framework, changes according to the previous three dimensions and as socio-economic conditions of actors change (Milhaupt & Pistor 2008).

Drawing on this approach, we can differentiate between two main forms of organization of the political system: centralized and decentralized (Milhaupt & Pistor 2008). Germany is considered a typical case of a highly centralized system, while the US is a prime example of a decentralized system. Switzerland and the UK are somewhat more mixed cases. The UK is best classified as a centralized system, allowing a government holding a majority in the lower house (House of Commons) relatively unencumbered power over the law-making process given the weak role of the upper house (House of Lords) and the rubber-stamping process of Royal assent. Switzerland is best described as a decentralized system, as a fairly devolved federal republic and strong elements of direct democracy. We may expect decentralized systems to

be more receptive to bottom-up change. In such systems, power is less concentrated and policymaking more open to actors outside central government. As a result, policymaking is more open to disruption from a variety of actors, increasing the chances that some actors recognize firm-level change as sufficient self-regulation or as an acceptable form of compliance. Furthermore, the more complex and disruption-prone policymaking process in decentralized systems is also likely to soak up more governmental resources, hence exacerbating the previously discussed resource and agenda-setting constraints that may increase the efficacy of bottom-up change.

*Proposition C-5: Higher decentralization of the political system increases the efficacy of bottom-up change.*

To summarize, the ability of bottom-up mechanisms to change formal institutions may depend on a number of factors. First, increasing political salience is likely to reduce the power of bottom-up change—as it does for the power of corporate interests in top-down change. Second, however, major crises may change the dynamics of bottom-up change in a number of ways that make its occurrence more likely. Crises not only increase the ‘supply’ of bottom-up change, but also mitigate the effect of political salience, allowing corporations to establish new forms of compliance ‘under the radar’ and changes in practice being seen as effective self-regulation. Institutional softening in times of crisis may further increase the power of bottom-up change. Finally, the structure of the political system can be expected to influence bottom-up change, with more decentralized systems being more receptive to such change.

## 2.7 Summary

The literature is increasingly focused on the role of corporate actors in institutional change processes and has made significant strides in conceptualizing the various mechanisms of bottom-up change. Yet, despite these advances, existing models of endogenous or bottom-up institutional

change are still limited in some ways. For one, they are not sensitive to context, i.e. they do not consider the conditions under which bottom-up change may be more or less effective. Perhaps even more importantly, existing models do not consider where change originates or why it occurs in the first place, as they do not open up firm-level processes of change to the same scrutiny as the policymaking-level.

A deeper focus on the firm level requires a better understanding of the behavior of corporate actors. To this end, the literature is increasingly picking up the constructivist approach. Incorporating the role of ideas offers an extraneous variable that mediates the mutually constitutive relationship between actors and institutions as the basis of actor's behavior, offering a mechanism to break path dependency and normative constraints. The difficulty in doing so, however, is that ideas are deep-seated beliefs that may not have a public expression, making them difficult to measure. The basic premise of constructivist institutionalism—that ideas and institutions are socially constructed—offers a solution to this problem, however. An important avenue for processes of social construction is public discourse, which both reflects and influences ideas. Indeed, some parts of the literature have integrated the role of public discourse in institutional change process, through the concept of political salience—a measure of the volume of public discourse. Culpepper's (2011) model of institutional change shows that power shifts between party politics and interest groups on the one hand, and managerial interests on the other, depending on an issue's political salience. While this model shows the role of public discourse in institutional change processes very effectively, it does so from a top-down view of change only, conceiving of institutional change as a purely political game that allows corporate actors influence in the right circumstances.

Applying the insights of constructivist institutionalism and political salience-based models of institutional change to bottom-up change, a triangle emerges between the cornerstones of public discourse, corporate practices, and the law. Culpepper's aforementioned work addresses two sides of this triangle—the relationships between public discourse and the law, and some aspects of

the relationship between corporations and the law, albeit only in terms of direct engagement in the policymaking processes. To further our understanding of bottom-up change, this study focuses on the lesser explored aspects of this triangle:

- (1) the relationship between public discourse and corporate practices, as changing discourse may drive changes in corporate behavior;
- (2) the cornerstone of corporate practices to explore how change gains 'critical mass' and establishes new norms of firm behavior; and
- (3) the relationship between corporate practices and the law, in terms of how widespread changes in corporate behavior may translate into changes in formal institutions.

In terms of the first relationship, we may expect public discourse to exert some influence over corporate practices, but this is likely to be mediated by the operational embeddedness of the issue in question and the institutional environment. Given the lack of in-depth research on the relationship between public discourse and firm practices in the institutional change literature, an exploratory element to analyzing this relationship will be required.

On the firm level, we may expect processes of mimetic isomorphism to be important and powerful mechanisms that spread change in corporate practices. Crises, scandals, and the associated public discourse that comes with such major events may discredit previous norms, leading to uncertainty about how to signal compliance and legitimacy under those new circumstances. Once large and influential companies adopt new practices, others are likely to follow those leaders in order to blend in and reduce the uncertainty emanating from the crisis or scandal. Mimetic isomorphism therefore enables widespread change in corporate practice and may coalesce into new norms. Such 'critical mass' is an important condition for bottom-up change to occur.

The relationship between corporate practice and legal change is concerned with the conditions under which bottom-up mechanisms may be more or less likely to change formal institutions. Several factors are identified from the

literature. First, increasing political salience is likely to reduce the power of bottom-up change—as it does for the power of corporate interests in top-down change. Second, however, major crises may change the dynamics of bottom-up change in a number of ways that make it more likely to take place. Crises not only increase the ‘supply’ of bottom-up change, but also mitigate the effect of political salience, allowing corporations to establish new forms of compliance ‘under the radar’ and changes in practice being seen as effective self-regulation. Institutional softening in times of crisis may further increase the power of bottom-up change. Finally, the structure of the political system can be expected to influence bottom-up change, with more decentralized systems being more receptive to such change.



## 3 Methodology

### 3.1 Introduction

The approach to assessing institutional change taken in this study combines macro-level analysis of legal and regulatory change, micro-level analysis of changing corporate practices, and change in public discourse in three institutional spheres (finance & accounting, corporate governance, labor & industrial relations) across four countries (Switzerland, Germany, United Kingdom, United States) over a 19-year time frame (1995 to 2013). The approach to data analysis taken here is exploratory in nature, necessitated by the lack of existing in-depth research on many of the relationships examined in this study. This chapter discusses and justifies the choice of countries, institutional spheres and time period, and the methods employed to analyze the different relationships of interest.

Institutional change as an actor-centered process is mediated by the institutional environment, and can be thus be expected to differ between liberal and non-liberal economies. Liberal market economies (LMEs) are typically weaker regulated, giving firms more freedom to implement a wider range of strategies. The institutional setting in coordinated market economies (CMEs) tends to be more restraining and consensus-oriented, reducing scope for firms to deviate from legal rules or societal norms. However, Varieties of Capitalism's (Hall & Soskice 2001) distinction between liberal and coordinated market economies is overly simplistic and overlooks important differences for the purposes of this study. As argued in the literature review, we may expect the institutional environment to mediate bottom-up processes of change at two points in particular: First, it may influence the extent to which public discourse affects corporate practices. It was argued that firms in

CMEs would use mostly private institutionalized channels of coordination to react to demands and concerns of stakeholder groups, while firms in LMEs would rely more heavily on public debate to ‘do what’s right’ and expected of them. For this differentiation, the VoC framework is therefore useful. Second, however, we also expect the organization of the political system to matter, with decentralized systems possibly being more receptive to bottom-up change than centralized systems. As discussed in chapter 2.6.3 above, power is less concentrated in decentralized systems, making policymaking more open to actors outside central government. This makes the policymaking process more open to disruption from a variety of actors, increasing the likelihood that firm-level change becomes recognized as sufficient self-regulation or as an acceptable form of compliance. The more complex and disruption-prone policymaking process in decentralized systems is also likely to soak up more governmental resources, exacerbating resource and agenda-setting constraints that may further increase the impact of bottom-up change. Organization of the political system is not considered by the VoC model, but relevant for this study by allowing us to form expectations on the receptiveness of various systems to bottom-up modes of institutional change.

Höpner’s (2007) framework brings both dimensions together, by distinguishing between two forms of non-liberalism: coordination and organization. The former corresponds closely to VoC’s conception of coordination, referring to actors solving collective action problems to maximize their own profits. It is operationalized as the presence or absence of a corporatist tradition, i.e. national peak interest groups, which are consulted by the government and which negotiate comprehensive and binding tripartite agreements. Organization refers to firms being more or less forced to take objectives beyond the immediate corporate level into account and being constrained by institutionalized collective interests. This is operationalized as the strength of the central government, which can enforce societal goals, such as board-level codetermination, upon firms. In other words, in systems with low organization, corporate actors are mostly free to pursue their own self-interests and those alone, while countries with higher organization delimit this

to some extent in order to realize the interests of other stakeholder groups or societal goals. Although Höpner uses organization for different ends than it is used in this study, it is conceptually very similar: in both cases it is about the degree of centralization of the political system—in Höpner’s case for the ability to enforce societal goals upon firms, in this study for its receptiveness to bottom-up change. The four countries, Germany, Switzerland, the United Kingdom and the United States of America, selected for this study are reflected in the dimensions of coordination and organization and can be mapped as follows:

	<b>Low Coordination</b> <i>Non-Corporatist</i>	<b>High Coordination</b> <i>Corporatist</i>
<b>High Organization</b> <i>Centralized Political System</i>	United Kingdom	Germany
<b>Low Organization</b> <i>Decentralized Political System</i>	United States	Switzerland

*Table 1: Selection of Countries by Coordination and Organization*

Three institutional spheres are analyzed in this study: finance & accounting, corporate governance, and labor & industrial relations. The former two spheres are tightly interconnected and have taken blame as causal factors in creating the GFC. Bank capitalization, corporate risk-taking behavior, and executive compensation are some of the issues that have risen in political salience during and after the crisis, creating incentives for policymakers to target these areas for reform. Firms have incentives for changing their practices too, for example to reduce their exposure to volatile stock markets, adjust to the recession, or avoid public scrutiny. While corporate assessment of the reasons and remedies for the crisis may be very different from that of policymakers, it is still reasonable to expect some adjustment in finance and corporate governance practices, if only to react to changed economic circumstances. The main institutional focus area of this study is corporate

governance, due to its crucial role in allocation of responsibility and resources within the firm:

“Corporate governance is about power and responsibility. It is the structure of power within each firm that determines who allocates money: who gets the cash flow, who allocates jobs, who decides on research and development, on mergers and acquisitions, on hiring and firing CEOs, on subcontracting to suppliers, on distributing dividends or buying back shares or investing in new equipment. Corporate governance is also about accountability: who takes the blame for corruption, misuse of funds, or poor performance” (Gourevitch & Shinn 2005, p.2).

Labor and industrial relations are not only tightly connected with finance and corporate governance, it is also an area that bears potential for conflict during times of crisis, when companies are under pressure to reduce costs and shed workers. Gospel and Pendleton (2003) link features of finance and corporate governance institutions to labor management outcomes, highlighting the connections between the spheres. On the finance and corporate governance side, they consider three characteristics to be most important in shaping labor management practices:

- (1) sources and types of finance, i.e. retained earnings, debt, and equity;
- (2) the objectives of finance providers, which vary between short-term gains and long-term strategic investments depending on the identity of finance providers; and
- (3) intervention rights and practices, i.e. whether finance providers wield influence through voice or exit.

These finance and corporate governance characteristics influence labor management in four main ways. First, shareholder value orientation tends to reduce job security and career progression, particularly in economic downturns as a means of protecting profitability. Relational-insider systems and the presence of large shareholders are associated with lower elasticity of employment levels in relation to output changes, thus increasing job security.

Second, long-term relationships between providers and finance and firms in relational-insider systems allow the development of diversified quality production, leading to higher skill levels. Third, market-based systems tend to have more antagonistic relations, with more worker hold-up activity, as workers do not gain benefits from offering long-term cooperation. Fourth, financiers' pressure for short-term gains results in rising importance and value of stock option plans for executives. CEO to average pay is an indicator for this (Gospel & Pendleton 2003) This is a useful framework for anticipating how finance and corporate governance changes may impact labor relations.

The time period selected covers the years 1995 through 2013, thus including not only the GFC, but also the more cyclical dot-com bubble and ensuing early 2000s recession. The dot-com crash affected the US more than European countries; the US was in recession between March and November 2001 (National Bureau of Economic Research 2012), while Germany and Switzerland saw quarterly GDP contraction between mid-2002 and mid-2003 (OECD 2012). The UK avoided recession during this period. The second major event in the time period covered is the GFC, with the crisis years defined as 2008 and 2009, when all four countries experienced negative quarterly GDP growth (OECD 2012). Consequently, the post-crisis years are 2010 to 2013. Arguably, this is a rather short post-crisis period to study. However, with high political salience a generally fleeting phenomenon and public and corporate mood returning to 'business as usual,' seeds for change, if they exist, will largely have been sown in the four post-GFC years.

The overarching method of enquiry is a narrative account comparing and contrasting changes in the three levels of analysis: corporate practice, law and regulation, and public discourse. Along the 'triangle of institutional change' sketched out in the literature review, three relationships these dimensions are examined:

- (1) corporate practice and public discourse;
- (2) firm-level processes of change; and
- (3) corporate practice and legal change.

Each of these three relationships requires a different approach, based on the research questions being asked, specificity of prior expectations, and type of data used. The central point of reference for each of the three relationships of interest are corporate practices, which are measured quantitatively for a sample of the largest 130-odd publicly listed companies in each of the four countries. To estimate the relationship between these measures of corporate practice and public discourse, measured as newspaper coverage of related issues, a panel regression analysis approach is used. Testing for processes of mimetic isomorphism shifting firm practices in times of crisis is accomplished using analysis of variance (ANOVA). Finally, the relationship between firm-level change in practices and legal or regulatory change is analyzed using a qualitative, narrative-based approach as is common in comparative political economy. In summary, this study employs an eclectic approach towards its overarching goal to deepen our understanding of bottom-up change processes, following Langley's (1999, p.708) advice that "we should not have to be shy about mobilizing both inductive (data-driven) approaches and deductive (theory-driven) approaches iteratively or simultaneously as inspiration guides us."

Due to their relevance to each of the three relationships of interest, this chapter will first discuss how corporate practices are measured. Then, the specific techniques used to estimate each of the three relationships of interest—corporate practice and public discourse, firm-level processes of change driven by mimetic isomorphism, and corporate practice and legal change—will be discussed.

## 3.2 Measures of Corporate Practice

Corporate practices are measured through a series of quantitative indicators across the three institutional spheres of finance & accounting, corporate governance, and labor relations. The measures in the finance & accounting sphere are concerned with risk-taking behavior, with some measures related

to the Basel II and III accords and hence only applicable to banks, while others are more general indicators of risk-taking, such as debt-equity ratio and financial leverage. This sphere also includes two measures of accountability and transparency. Measures of corporate governance can be subdivided into four themes: ownership structure, shareholder orientation, board of directors, and executive pay. Labor relations are measured through employment level, average pay, and labor disputes.

### 3.2.1 Sample Composition

The sample is a balanced panel consisting of the roughly 130 largest listed companies by market capitalization in each of the four countries, including financial and non-financial firms. A panel rather than repeated cross-section time series was chosen in order to track companies over time, especially throughout the crisis. While this approach introduces a survivor bias—both by necessity and by database limitations—it is not consequential, given the need to observe pre- and post-crisis. Rather than defining the panel composition a priori, the panel was constructed by querying Thomson One Banker for the largest 150 publicly traded firms in 1995, 2003 and 2012, and including all companies that are in the list in at least two of the three years. This results in a panel of about 100 non-financial and 30 financial firms per country, however there is some variation in panel size and composition across the countries, as the following chart shows.

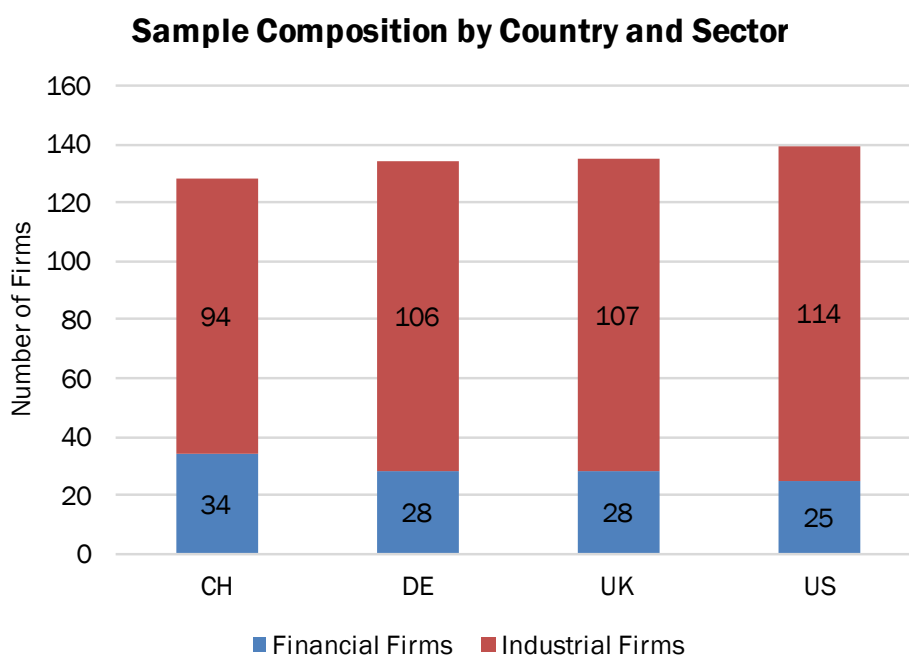


Figure 2: Sample Composition by Country and Sector

The ratio of financial to non-financial firms in the panel is about 1 to 4, which is roughly in line with the ratio of GDP contributed by the financial sector to GDP contributed by the non-financial sector in three of the four countries. In Switzerland, 75% of GDP in 2012 was contributed by non-financials and 10% by financial corporations, which is a ratio of about 1 to 7 (Swiss Federal Statistical Office 2015). Similarly, in the UK non-financials generated 52% of GDP, while financials generated 8% of GDP, which is also a ratio of about 1 to 7 (Office for National Statistics 2013 Table A). The US has the largest financial sector in relation to the non-financial sector—here, 67% of GDP in 2012 was generated by non-financial firms and 20% by financial firms, which is a ratio of about 1 to 3 (U.S. Bureau of Economic Analysis 2014 Table 5). Germany’s financial sector is the smallest of the four countries, with 82% of GDP in 2012 generated by non-financial firms and 4% by financial firms, resulting in a ratio of 1 to 20 (Statistisches Bundesamt 2014). Hence, the German panel overstates the importance of financial firms for the economy as a whole. However, keeping in mind that the German panel composition



also came about ‘naturally’ through the aforementioned process, it reflects the more finance-heavy orientation of Germany’s largest corporations compared to the more manufacturing-centered *Mittelstand*.

### 3.2.2 Data Sources

The main data sources for the firm-level measures are a number of major finance and accounting databases: Bureau van Dijk’s OSIRIS, Thomson Reuters Datastream, Thomson Reuters Eikon, and the corporate governance-focused BoardEx, along with other more specialist sources as listed for each variable below. Given the differences in coverage between these databases, data from different sources is combined to increase completeness of the dataset. This raises questions, however, over the compatibility of company financial data from different sources and whether the resulting combined dataset is reliable.

Comparing coverage and content of six major financial databases, including Datastream, Worldscope, and Thomson Financial, Alves et al (2007) find most issues can be avoided by using matched samples—which is the case in this study. For matched samples, they find no differences between delivery platforms, i.e. Worldscope data downloaded from Thomson One Banker or Datastream is consistent, however, they do find some between the underlying databases, specifically between Worldscope and Extel. These differences are attributed to Worldscope’s method of standardizing their data to compensate for different accounting standards, while Extel and Datastream Company Accounts Archive report data ‘as-is,’ i.e. as reported in local accounting standards. Lara et al (2006) draw very similar conclusions, finding that differences between finance and accounting databases disappear almost entirely when using matched samples.

For this study, a number of measures were taken to mitigate potential issues around data reliability. First, the sample constituents were defined at the outset and data collected for these specific companies. Potential issues arising from unmatched samples therefore are mitigated through this method.

Second, reliance on Worldscope data is reduced as far as possible in order to use primarily as-is reported data. Third, ratios, percentages and other variables requiring calculations were made using data from a single source as far as possible. Finally, random samples of data were cross-checked with annual reports in order to ascertain the accuracy of data obtained from the financial databases.

### 3.2.3 Firm-Level Measures

A total of 25 variables are used to measure corporate practices across the three institutional spheres of finance and accounting, corporate governance, and labor relations. The measures chosen are generally related to major legal or regulatory changes, behaviors associated with contributing to the GFC, or are practices with high signaling value of ‘good’ corporate behavior. To large extent, the variables draw on the literature’s approach to measuring leverage (Welch 2010; Welch 2011), shareholder orientation (Hall & Gingerich 2004; Hall & Gingerich 2009), and corporate governance (Höpner 2003; Schnyder 2012a). Some measures are more novel in their use for this purpose, such as the Basel Accord-related measures of bank capitalization. The following table gives an overview of all firm-level measures, as well as the public discourse measures they are associated with (discussed later).

<b>Institutional Domain</b>	<b>Institutional Sub-Issue</b>	<b>Variable ID</b>	<b>Variable Name</b>	<b>Associated Discourse Measures</b>
Finance & Accounting	Risk-taking behavior	1.1.1	<b>Tier 1 Capital Ratio</b> banks only	S01, S02
Finance & Accounting	Risk-taking behavior	1.1.2	<b>Total Capital Ratio</b> banks only	S01, S02
Finance & Accounting	Risk-taking behavior	1.2.0	<b>Tier 1 Leverage Ratio</b> banks only	S01, S02
Finance & Accounting	Risk-taking behavior	1.2.0.1	<b>Shareholder Equity Ratio</b>	S01, S02

Finance & Accounting	Risk-taking behavior	1.2.1	<b>Financial Debt-Equity Ratio</b>	S01, S02
Finance & Accounting	Risk-taking behavior	1.2.2	<b>Balance Sheet Leverage</b>	S01, S02
Finance & Accounting	Accountability & Transparency	1.4.0	<b>Auditor Change</b> dummy variable	S03, S03Alt
Corporate Governance	Shareholder Orientation	2.3.0	<b>Shareholder Rights (1S1V)</b> dummy variable	S08
Corporate Governance	Shareholder Orientation	2.4.1	<b>Net Value Added</b> th USD	S08, S09, S10
Corporate Governance	Shareholder Orientation	2.4.2	<b>NVA to Shareholders</b> percentage	S08, S09, S10
Corporate Governance	Shareholder Orientation	2.4.3	<b>NVA to Employees</b> percentage	S08, S09, S10
Corporate Governance	Shareholder Orientation	2.4.5	<b>NVA to the State</b> percentage	S08, S09, S10
Corporate Governance	Shareholder Orientation	2.4.6	<b>NVA to Creditors</b> percentage	S08, S09, S10
Corporate Governance	Shareholder Orientation	2.4.7	<b>NVA to the Company</b> percentage	S08, S09, S10
Corporate Governance	Board of Directors	2.5.0	<b>Board Size</b> number of board members	S10, S11
Corporate Governance	Board of Directors	2.5.1	<b>CEO on Board</b> dummy variable	S10, S11
Corporate Governance	Board of Directors	2.5.2	<b>CEO-Chairman Combined Role</b> dummy variable	S10, S11
Corporate Governance	Board of Directors	2.5.3	<b>Non-Executive Directors</b> percentage	S10, S11
Corporate Governance	Board of Directors	2.5.4	<b>Independent Non-Executive Directors</b> percentage	S10, S11
Corporate Governance	Board of Directors	2.5.5	<b>Female Directors</b> percentage	S10, S11
Corporate Governance	Executive Pay	2.6.0	<b>Total Executive Pay</b> th USD	S09, S12
Corporate Governance	Executive Pay	2.6.1	<b>Single Highest Executive Pay</b> th USD	S09, S12

Corporate Governance	Executive Pay	2.6.2	CEO Pay Ratio	S09, S12
Labor Relations	Employment & Pay	3.1.0	Employment Level number of employees	S09, S13
Labor Relations	Employment & Pay	3.2.0	Average Wage th USD	S09, S13

*Table 2: Measures of Corporate Practice*

### 3.2.3.1 Finance & Accounting

The institutional sphere of finance and accounting encompasses two sub-issue areas: risk-taking behavior, and accountability and transparency.

#### 3.2.3.1.1 Risk-Taking Behavior

##### 1.1.1 Tier 1 Capital Ratio

Tier 1 common equity is the highest quality capital banks hold, which in this measure is placed in relation to the bank's risk exposure. A higher ratio indicates a lower risk of not being able to absorb losses. As the Basel Committee on Banking Supervision explains, "it is critical that banks' risk exposures are backed by a high quality capital base. The crisis demonstrated that credit losses and write-downs come out of retained earnings, which is part of banks' tangible common equity base" (2011, p.2). Risk exposure is expressed by risk weighing the bank's assets. As banks receive deposits from customers, they make decisions on how to invest them. If they hold it as cash, it receives a 0% risk weighting; if they loan it out to customers, it can be risk-weighted at up to 100% of face value. Thus, the riskier their investments, the higher the risk-weighted assets figure, pushing the tier 1 capital ratio down. Consequently, banks either need to hold more tier 1 capital, or reduce the riskiness of their assets in order to increase their tier 1 capital ratio.

Tier 1 capital ratio is one of the key measures in the Basel III accord, setting the minimum at 6.0%. This measure has a phase-in period of three years,

requiring 4.5% from 2013, 5.5% from 2014, and the full 6.0% from 2015. By comparison, Basel I and II required a minimum of 4% on this measure. While the regulatory minimums have risen over the years, real-world tier 1 capitalization tends to be much higher still, with investors often requiring 1.5 to 2 times the regulatory minimum, i.e. 9.0% to 12.0% at the current level.

*1.1.1 Tier 1 Capital Ratio* therefore has two important roles, first as a clear regulatory target that may produce anticipatory effects on the firm level, and second as an important signaling mechanism to regulators and investors.

*1.1.1 Tier 1 Capital Ratio* is calculated as  $(\text{common equity tier 1} + \text{additional tier 1 capital}) / \text{risk-weighted assets}$ , in line with the Basel Committee's definition (Basel Committee on Banking Supervision 2011, p.15). Data for this variable comes from OSIRIS, Datastream, and company annual reports.

### **1.1.2 Total Capital Ratio**

A wider measure of bank capitalization than *1.1.1 Tier 1 Capital Ratio*, this variable also includes tier 2 capital, a supplementary type of capital that is also an important part of a bank's capital base. As in the previous measure, assets are risk-weighted and a higher value indicates lower risk.

The regulatory requirement for banks is 8.0% under Basel III, which is unchanged from the Basel II rules (Basel Committee on Banking Supervision 2006). Hence, this measure does not carry regulatory pressure around the GFC, but banks may still seek to increase their total capital ratio as a preemptive measure or signal to regulators and investors. Data sources are OSIRIS, Datastream, and company annual reports.

*1.1.2 Total Capital Ratio* is calculated as  $(\text{tier 1 capital} + \text{tier 2 capital}) / \text{risk-weighted assets}$ , in line with Basel rules (Basel Committee on Banking Supervision 2011, p.17).

### 1.2.0 Tier 1 Leverage Ratio

An important new measure in the Basel III accord, *1.2.0 Tier 1 Leverage Ratio* is a similar bank capitalization measure to *1.1.1 Tier 1 Capital Ratio*, but uses a different denominator—here, assets are not risk-weighted. Higher values indicate lower risk.

Basel III mandates a minimum of 3.0%, but sets higher requirements for systemically important banks. As part of the US implementation of the Basel accords, the US Federal Reserve mandates 6.0% for 8 systemically important banks, as announced in July 2013. This is a new measure currently implemented on a trial basis until full implementation in 2018. We may thus expect some anticipatory effects on the firm level as banks begin to adjust in advance of the implementation date.

*1.2.0 Tier 1 Leverage Ratio* is calculated as *tier 1 capital / average total consolidated assets*, in line with the Basel III rules (Basel Committee on Banking Supervision 2011, p.61). Data sources are OSIRIS, Datastream, and annual reports.

#### 1.2.0.1 Shareholder Equity Ratio

Shareholder equity ratio is a more general way of calculating leverage that is applicable not only to banks, but any company. In the context of banks, it benefits from much better data availability than the more recent and narrow Basel III-related measures. It is also one of the standard ratios reported by US banks, highlighting the broad acceptance and utility of this measure. The shareholder equity ratio expresses what percentage of total assets shareholders would have a residual claim on in the event of a liquidation of the company, as assets would first be used to serve claims from creditors, then from shareholders. A higher value thus indicates lower risk for investors.

Regulatory capitalization requirements use the more specific measures described previously, making *1.2.0.1 Shareholder Equity Ratio* not a direct regulatory target. However, with its simplicity and ubiquity, it is nevertheless

a useful measure of corporate capitalization that may show overall trends in corporate risk-taking behavior.

*1.2.0.1 Shareholder Equity Ratio* is calculated as *shareholder equity / total assets*. Data sources are OSIRIS and Datastream.

### **1.2.1 Financial Debt-Equity Ratio**

The financial debt-equity ratio measures financing preferences, i.e. debt vs. equity. In a crisis situation, however, both sources of financing may dry up, so in those circumstances it may not reflect choice as much as availability. The variable usually takes values between 0 and 1, with higher values indicating higher reliance on debt, which is associated with higher risk. Values above 1 are possible, but indicate that the company has higher financial debt than it has equity, which is a red flag that it could be at risk of not being able to service its debt.

Following Welch's (2011) approach, *1.2.1 Financial Debt-Equity Ratio* is calculated as *financial debt / (financial debt + equity)*. The exact definition of the items used in the calculation varies by sector due to different accounting methods. For industrials, financial debt is calculated as the sum of OSIRIS items 'Loans' and 'Long Term Debt'. OSIRIS item 'Other', which is in the current liabilities section of the balance sheet, is assumed not to contain financial debt items. However, it may well do so in form of derivatives, leases, etc., but there is no way of knowing based on the databases' publicly available information. Hence, the narrower definition above, which is known to only contain financial debt items, is used, rather than a broader definition that may include other non-financial debt items as well. OSIRIS variable 'Shareholders Funds' is used for equity. For banks, financial debt is the sum of OSIRIS items 'Deposits & Short Term Funding' and 'Other interest bearing liabilities'. For insurance companies, the financial debt-to-capital ratio could not be calculated with OSIRIS data. Instead, the balance sheet leverage is used for insurance companies.

### 1.2.2 Balance Sheet Leverage

This variable, which is also known as total liabilities-to-assets ratio, is closely related to the previous measure, both conceptually and mathematically. The numerator in 1.2.1 is financial debt, which is part of total liabilities, the numerator in 1.2.2 *Balance Sheet Leverage*. Hence, 1.2.2 *Balance Sheet Leverage* has a wider definition and treats financial and non-financial liabilities alike. It would therefore falsely indicate increased reliance on debt when a company's liabilities increase for other reasons, such as maximizing working capital through paying their suppliers later. This would be particularly likely in a crisis situation, when companies may experience a cash flow crunch. Despite this shortcoming, the straightforward calculation of this measure results in much better data availability and better comparability across accounting standards and sectors. Values of 1.2.2 usually range between 0 and 1, with higher values indicating higher reliance on debt and thus higher risk. Values above 1 are possible, but imply that the company has negative net worth and is technically insolvent.

1.2.2 *Balance Sheet Leverage* is calculated as *total liabilities / total assets*, following Welch's approach (2011). Data comes from OSIRIS.

### 3.2.3.1.2 Accountability & Transparency

#### 1.4.0 Auditor Change

This indicator variable shows when companies change their auditor. Large companies often have long-standing business relationships with their auditors, sometimes lasting decades. These relationships have been described as 'too cozy' and potentially harming the objectivity and thoroughness of audits, leading some to blame auditing firms for failing to foresee the bank failures of the GFC.



The relationship between corporations and their auditors became a target for regulatory action fairly soon after the GFC. The EU first announced its intention to enforce auditor rotation in late 2011 in order to improve audit quality (Barker & A. Jones 2011). These early proposals also threatened a break-up of the big four auditing firms, which was later dropped. They should therefore be seen as a very strong signal for corporate change. In late 2013, the EU's regulation efforts became more concrete, requiring auditor rotation after 10 years. If put out to tender, the client may choose the same auditor for a further 10 years, hence allowing a total of 20 years with the same auditor (Fleming 2013). The reforms have to be ratified still and are not expected to come into effect before 2016. With regulation a virtual certainty, some firms may have already started changing their behavior in anticipation (Fleming & A. Smith 2014), perhaps to signal their prudence and accountability to investors and regulators, making *1.4.0 Auditor Change* a good measure of anticipatory and preemptive firm-level change.

*1.4.0 Auditor Change* takes the value 1 in years when companies change their auditing firm, and 0 in years when they do not. Data for this variable is from Thomson Reuters Eikon, but was recoded to take historic mergers and renaming of audit firms into account. For instance, a company having Coopers & Lybrand as their auditor in one year, and PricewaterhouseCoopers in the next was not coded as an auditor change.

### 3.2.3.2 Corporate Governance

The measures of corporate governance practices are divided into three sub-issue areas: shareholder orientation, the board of directors, and executive pay.

#### 3.2.3.2.1 Shareholder Orientation

##### **2.3.0 Shareholder Rights (1S1V)**

A measure for shareholder rights, this dummy variable indicates whether the company has a unitary share structure or uses any control enhancing

mechanisms that distort control and cash flow rights.

Shareholder rights are a recurring corporate governance issue, with companies under increasing pressure to abandon dual class share structures. Deviations from the ‘one-share-one-vote’ principle (1S1V) are mostly used to give insiders, such as founding families or local governments, control rights disproportionately higher than their cash flow rights. Such distortions are more common in continental Europe, but companies there are also moving towards 1S1V. Cuomo (2013) shows that higher legal protection of minority shareholders is associated with lower use of control enhancing mechanisms on the firm level and in turn more dispersed ownership.

*2.3.0 Shareholder Rights (1S1V)* is coded as 1 if there is only a single share type present, and 0 if there is any type of voting right distortion such as preference shares or different types of common stock. This is notably different from some definitions of dual class share structures, which would only consider distortions among common stock and would hence not see preference shares as a deviation from 1S1V. Data for this variables comes from Datastream for 2002-2013, Faccio & Lang (2002) for European companies in 1996, and Gompers et al (2010) for American companies in 1995-2006. To fill gaps in the data, additional data was collected from annual reports.

#### **2.4.1 - 2.4.7 Net Value Added Distribution**

Variable *2.4.1* measures net value added (NVA) generated by corporations, with subsequent variables (*2.4.2 - 2.4.7*) measuring its distribution among various stakeholder groups (shareholders, creditors, employees, state, company).

NVA distribution shows the relative importance of those stakeholders within the company and how those priorities change over time. Crucially, it can also reveal who bears the brunt of economic downturns and who gains during upturns. NVA distribution likely varies between sectors due to labor intensity

and other requirements, but should reveal both national differences and changes over time.

The method used to calculate 2.4.1 *Net Value Added* broadly follows Beyer and Hassel's (2002) and De Jong's (De Jong 1997) approach, albeit with some simplifications to allow better comparability across countries.

For industrials, NVA is calculated as:

$$\begin{aligned}
 & \text{Revenue} \\
 & + \text{Financial Revenue} \\
 & - \text{Material Costs (or Cost of Goods Sold + Salaries Expense)} \\
 & - \text{Depreciation, Depletion and Amortization Expense} \\
 & = \text{Net Value Added}
 \end{aligned}$$

For banks, it is calculated as:

$$\begin{aligned}
 & \text{Net Interest Income} \\
 & + \text{Other Income} \\
 & + \text{Total Interest Expense} \\
 & + \text{Salaries \& Benefits} \\
 & - \text{Overheads} \\
 & = \text{Net Value Added}
 \end{aligned}$$

For insurance companies, absent any detailed income statement items, it is approximated using 'pre-tax profit'.

NVA distribution is then calculated by dividing the income statement items associated with each stakeholder group by NVA, to obtain the percentages of NVA paid to the various groups:

2.4.2 *NVA to Shareholders*: cash dividends paid

2.4.3 *NVA to Employees*: total wage bill (includes executives)

2.4.5 *NVA to the State*: taxes paid

2.4.6 *NVA to Creditors*: interest paid

2.4.7 *NVA to the Company*: residual category

As US firms are not required to disclose their wage bill, methodological adaptations had to be made for US firms. The wage bill was substituted for the profit and loss account line item ‘selling, general and administrative costs;’ besides salaries, this figure also includes other costs such as utility bills, rent, building upkeep, and thus overestimates returns to employees. Data for NVA calculation and its distribution among stakeholders is from OSIRIS and Datastream.

### 3.2.3.2.2 Board of Directors

#### 2.5.0 Board Size

This variable measures board size as the total number of board members. In countries with mandatory (Germany) or optional (Switzerland) two-tier board structure the number refers to the total number of directors on both tiers, i.e. supervisory board (Aufsichtsrat) and executive board (Vorstand).

With increasing pressure on corporations to provide ‘good’ corporate governance, board composition is also under increasing investor and public scrutiny. One facet of this is board size, with studies generally finding a board with around 10 members to be the most effective and conducive size to high performance (Lipton & Lorsch 1992; Eversheds LLP 2013). In most cases, this translates into reductions of board size for in order to signal good corporate governance practices.

Data for variable 2.5.0 is from BoardEx for 2002 - 2012, Datastream, and Stock Exchange Yearbooks via the Law & Agency dataset (Schnyder & Kern 2015).

#### 2.5.1 CEO on Board

This dummy variable indicates whether the CEO is a board member (in any role). It is coded as 1 if the CEO is a board member, 0 if not. In Germany, the two-tier board system forces a strict separation of managerial and

supervisory functions, i.e. the CEO (Vorstandsvorsitzender) is not permitted to be on the supervisory board (Aufsichtsrat). 2.5.1 is thus a structural 0 for Germany.

Having the CEO on the board could compromise the board's function to provide impartial oversight or shift the balance towards managerial interests. Companies that want to show strong independent oversight may thus choose not to have the CEO on the board.

Data for variable 2.5.1 is from BoardEx for 2002 - 2012, Datastream, and Stock Exchange Yearbooks via the Law & Agency dataset (Schnyder & Kern 2015).

### **2.5.2 CEO-Chairman Combined Role**

This dummy variable indicates whether the same individual serves concurrently as CEO and Chairman of the board. Coded as 1 if the same individual fills the CEO and Chairman roles, 0 if not.

The same individual serving as CEO and Chairman creates potential for conflicts of interest and compromises the board's independence. Separating the roles is a way for firms to signal stronger independent oversight. Despite the high incidence of combined CEO and Chairman roles in the US, corporations are increasingly separating the roles there as pressure to provide good corporate governance increases.

Data for variable 2.5.2 is from BoardEx for 2002 - 2012, Datastream, and Stock Exchange Yearbooks via the Law & Agency dataset (Schnyder & Kern 2015).

### **2.5.3 Non-Executive Directors**

This variable measures the share of non-executive directors (NEDs) on the board of directors in percentage.

Non-executive directors perform no managerial roles in the company and are also not otherwise employed by the company, giving them a more impartial supervisory function than the executive directors serving on the board. While not a particularly novel issue in corporate governance, there is still an upward trend towards a higher share of non-executive directors in most companies. Although a higher share of NEDs is generally seen as providing 'better' corporate governance, there is a balance to be struck between impartial oversight provided by NEDs and the in-depth knowledge of the company provided by executive directors, as the UK Corporate Governance Code emphasizes (Linklaters LLP 2010). In the German two-tier board system, the supervisory board is fully non-executive by law, hence 2.5.3 measures the size of supervisory board as a percentage of the combined size of both the executive and supervisory board there.

Data for variable 2.5.3 is from BoardEx for 2002 - 2012, Datastream, and Stock Exchange Yearbooks via the Law & Agency dataset (Schnyder & Kern 2015).

#### **2.5.4 Independent Non-Executive Directors**

This variable measures the share of independent non-executive directors on the board of directors in percentage.

While NEDs are directors not concurrently employed by the company while they serve as a director, independent NEDs are usually defined as never having been in an employment relationship with the company, not being related to a company executive, and not having worked for a key supplier or customer. For practical reasons, it is only defined as not having had an employment relationship for variable 2.5.4.

Independent NEDs are seen to provide impartial oversight, free from conflicts of interest, overly friendly relationships with management, or vested interests. For companies that struggled during a crisis due to excessive risk-taking, increasing their share of independent NEDs could be an effective way to

improve oversight and signal improved practices to investors and regulators. For these reasons and as a fairly recent issue in corporate governance, independent NEDs have also become a regulatory target. The 2010 revision of the UK Corporate Governance Code, for instance, specifies that at least half of the board (and each committee) should consist of independent directors, excluding the chairman. It also emphasizes, however, that “the board and its committees should include an appropriate balance of skills, experience, independence and knowledge of the company” (Linklaters LLP 2010). In other words, a fully independent board would lack the in-depth knowledge of the firm required to provide effective supervision. A higher share of independent NEDs is thus generally seen as better, but only up to a point.

Data for variable 2.5.4 is from BoardEx for 2002 - 2012, and Datastream.

### **2.5.5 Female Directors**

This variable measures the percentage of board members who are female.

As a key signal and measure of board diversity, companies are increasingly promoting women to the board of directors. Women on the board have been part of the post-GFC discourse on how to reduce excessive risk-taking, with more gender-balanced boards seen as making ‘better’ and less risky decisions (Davies 2011). This issue is therefore included here as a current facet of the corporate governance debate, and for its ability to act as a best practice signal to stakeholders. Although none of the four countries in this study have set minimum quotas the way Norway has (Bertrand et al. 2014), regulators have set their sights on board diversity and are trying to enforce stronger commitment to diversity through public disclosure and scrutiny. In the UK, the 2012 revision of the Corporate Governance Code requires more extensive disclosures on board diversity, including diversity targets and measures set by the companies (Financial Reporting Council 2012).

Data for variable 2.5.5 is from BoardEx for 2002 - 2012, and Datastream.

### 3.2.3.2.3 Executive Pay

#### **2.6.0 Total Executive Pay**

This variable measures total compensation paid to senior executives, including salaries, benefits, and bonuses.

Executive pay is one of the most contentious issues in corporate governance in recent years, pitting strong public sentiment fueled by the GFC against managerial self-interest. While not necessarily deemed to have contributed to the crisis, excessive executive pay was publicly perceived as improper and unethical in a period of bank bailouts and mass layoffs. Furthermore, investors may see excessive pay in such circumstances as out of line with share price performance and hence poor shareholder value. It is therefore reasonable to expect some adjustment in executive pay in times of crisis, whether due to shareholder pressure or fear of public outrage.

Despite considerable public debate on the issue, regulators in the four countries have chosen not to implement caps on executive pay, but rather give shareholders more power to influence pay practices. Non-binding votes on executive pay (“say on pay”) have been mandatory in the UK since 2002 (Directors Remuneration Report Regulations 2002). These votes became binding in October 2013 (Enterprise and Regulatory Reform Act 2013; The Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013). Henceforth, companies are required to produce a director’s remuneration policy that needs to be AGM-approved every three years. In the US, non-binding votes became mandatory in 2010 (Dodd-Frank Act).

Data for variable 2.6.0 is from BoardEx for 2002 - 2012, and Datastream.

#### **2.6.1 Single Highest Executive Pay**

This variable measures the value of the largest pay package paid to any single executive, including salary, benefits, and bonuses.



While similar, this measure should offer an interesting comparison to *2.6.0 Total Executive Pay*. The single highest-paid executive, usually the CEO or Chairman, may be more susceptible to public and investor pressure on pay than the overall executive team due to their visibility. In other words, corporate-level adjustments to public pressure or signaling effects may manifest themselves on *2.6.1* rather than *2.6.0*.

Data for variable *2.6.1* is from BoardEx for 2002 - 2012, and Datastream.

### **2.6.2 CEO Pay Ratio**

Placing executive pay in industry and company context, this variable measures CEO pay as a multiple of average employee pay. Hall and Gingerich (2004, p.20) also use the CEO pay ratio as a proxy measure for CEO power, arguing that a more powerful CEO can and will extract higher rents than a less powerful one.

While executive pay caps as a multiple of employee pay were mooted in places, they were quickly struck down. The perhaps most high-profile case was in Switzerland, where a referendum on a proposed CEO pay cap of 12 times the lowest employee salary was rejected by two-thirds of voters (Gemperli 2013). Instead, regulators across Europe and the US focused on “say on pay” rules with varying binding power, as discussed for variable *2.6.0*.

### **3.2.3.3 Labor Relations**

Labor relations practices are captured in terms of employment and pay.

#### **3.1.0 Employment Level**

This variable measures employment as the total number of employees, including part-time workers on a full-time equivalent basis.

As a large expense category in many companies, the wage bill is often a target for cuts during economic downturns. As wage cuts are unfeasible and unpopular, companies prefer layoffs. These can be expected to be deeper and more immediate in the US and UK, where hiring and firing legislation is more lenient, and shallower and more delayed in CH and DE, where these rules tend to be stricter. Furthermore, government-funded part-time working arrangements (*Kurzarbeit*) in Germany also enabled companies to forgo layoffs during the recession.

Data sources for 3.1.0 are OSIRIS and Datastream.

### **3.2.0 Average Wage**

This variable measures average employee pay, on a full-time equivalent basis, excluding executive pay.

Together with the previous variable, this measure indicates shifts in the firm's employment structure. If average wages increase after a reduction in the employment level, it is likely that a disproportionate share of low-wage workers was laid off, and vice versa. When comparing to executive pay, 3.2.0 also shows to what extent executives and employees gain and lose during economic ups and downs. Kubo (2003) shows that executive and employee pay are closely linked together, yet mostly independent from firm performance in the Japanese case, while executive pay in the UK is linked to firm performance, but not average employee pay.

Data sources for 3.2.0 are OSIRIS and Datastream.

## **3.3 Estimating the Three Relationships of Interest**

This study focuses on the three lesser explored relationships on the 'triangle of institutional change' sketched out previously:

- (1) the relationship between public discourse and corporate practices, as changing discourse may drive changes in corporate behavior;
- (2) the cornerstone of corporate practices to explore how change gains ‘critical mass’ and establishes new norms of firm behavior; and
- (3) the relationship between corporate practices and the law, in terms of how widespread changes in corporate behavior may translate into changes in formal institutions.

### 3.3.1 Corporate Practice and Public Discourse

The institutional change literature has struggled with measuring the antecedents of change, i.e. the preferences or interests that are generally understood to lead policymakers, corporations, and other economic actors to change their behavior and consequently their institutional environment. Consensus has formed around institutions as shaping and constraining preferences, which in turn shape institutions. This inescapably cyclical logic has triggered the search for an extraneous variable that can explain changes in preferences and ultimately institutions. Constructivist approaches (Blyth 2002; Schmidt 2010; Hay 2004) argue that ideas are this lynchpin. Here, preferences are linked to ideas, the former being derived from the latter. Ideas can be thought of as basic conceptions of how, for instance, the economy or the political system work and how they should work. Preferences are formed based on these ideas and the goals the firm wants to realize. Ideas are less internalized than preferences, and formed much more through public discourse, making discourse a useful proxy measure for underlying ideas as public antecedents of institutional change.

The role of public discourse in institutional change processes has received some attention in ‘top-down’ conceptions of change, whereby formal institutions are created and changed in the party political arena and then mostly followed by corporate actors. Culpepper (2011) shows that in top-down processes, the power of businesses in influencing policymaking declines as political salience of an issue rises. Political salience is a widely-used measure

of public discourse in political science and political economy that quantifies the level of exposure an issue receives in the mass media, the underlying assumption being that policymakers are more likely to act upon issues that receive high levels of exposure than those that are more obscure.

While there has been much less focus on public discourse in ‘bottom-up’ processes of change that affect institutions through corporate practices, we may expect public discourse to also play an important role here—as a driver of change in corporate practice and thus antecedent of bottom-up change. As this link has not been an area of intense focus in the institutional change literature, an inductive, data-driven approach will be pursued here to explore the following:

- (1) the extent to which corporate practice is related to public discourse depending on the issue; and
- (2) how this relationship is institutionally mediated.

The literature offered some points of departure to form expectations on both issues, as discussed in the literature review.

In order to address these questions, panel regression analysis will be used to estimate the relationship between public discourse and corporate practice. The next section discusses how public discourse is measured, before the following section discusses the panel regression methods employed.

### 3.3.1.1 Political Salience as a Measure of Public Discourse

Public discourse is measured through issue salience, following the approach of Culpepper (2011), Jones and Baumgartner (2005) and Smith (2000), which measures the number of articles found in national newspapers for a given set of keywords. While political salience is a fairly coarse measure of public discourse—it only captures the level of discourse, not the content or context of what is being discussed—this methodology of using media coverage has been found to be more robust and appropriate for measuring salience amongst elites, such as policymakers and managers, than using public opinion

polls (Epstein & Segal 2000). It stands to reason that most newspaper articles report what is considered newsworthy and thus out of the ordinary, making it likely that most coverage is negative in nature. For example, there is little reason to report on a corporation's executive pay practices unless the remuneration package is deemed extraordinary, which most likely means that it was unusually high. However, there may well be gradations to negativity and public outrage, or indeed cases of positive coverage. In other words, the tone of public discourse may well change on an issue and it would be reasonable to think that it influences whether and in what way discourse affects corporate practice. While measuring the tone of public discourse is beyond the scope of this study due to the extensive manual data collection required, future research could build on the content analysis approach of Tetlock (2007) and Tetlock et al (2008). This involves full-text articles to be analyzed for the occurrence of positive or negative words using dictionaries created for this purpose by Loughran & McDonald (2011). Such analysis could add further granularity to the discourse measure used here.

A total of 10 discourse measures are used in this study, capturing discourse related to the three institutional spheres and various sub-issues. The discourse measures are constructed to broadly correspond to the measures of corporate practice used, but are kept mostly unrelated to specific legislation in order to capture the various facets of discourse within an issue area over time. The table listing all firm-level variables in the previous section denotes which discourse measures are associated with which corporate practice measures.

Each discourse measure is essentially a unique search string of keywords associated with the issue area. Relevant keywords are defined through an inductive, iterative process. This process starts with common terms used for the issue areas in question, retrieving and reading articles to make sure that the most appropriate and common keywords are being used. Country-specific differences in language are taken into consideration, e.g. "Managergehälter" in Germany and "Managersalär" in Switzerland. The following two tables list all 10 discourse measures and the search strings used, in both English and German.

<b>Search ID</b>	<b>Issue Area</b>	<b>Search String (Factiva, English)</b>
<b>S01</b>	Banking Regulation	((bank* OR financial) /N3/ (regulat* OR rules OR supervis*)) OR Basel II OR Basel III
<b>S02</b>	Risk-Taking Behavior	(bank* OR compan* OR firm*) /N10/ (risk taking OR risk-taking OR capital ratio)
<b>S03</b>	Auditor Change	((big four OR auditor OR accounting firm OR accountancy firm OR audit company OR audit firm OR auditing company OR auditing firm) /N10/ (change OR quality OR rotation OR reliab* OR independen* OR accountab* OR responsib*))
<b>S03Alt</b>	Big Four Accounting Firms	((big four /N3/ (accountancy OR accounting OR auditing OR audit)) OR PWC OR pricewaterhouse cooper OR pricewaterhouse-cooper OR deloitte* OR ernst % young OR EY OR E&Y OR KPMG)
<b>S08</b>	Shareholder Rights	(shareholder /N3/ rights OR protection) OR shareholder spring OR (activis* /N3/ shareholder)
<b>S09</b>	Income Inequality	((income OR wage OR social) /N3/ (inequality OR equality OR distribution OR gap OR injustice)) OR stakeholder orientation
<b>S10</b>	Corporate Governance	corporate governance OR ((corporate OR company) /N3/ stewardship)
<b>S11</b>	Board of Directors	(board of directors OR company board OR (board /N3/ (divers* OR wom?n OR female)) OR supervisory director* OR non-executive director* OR independent director*) NOT (paid notic\$ OR obituar\$ OR death\$)
<b>S12</b>	Executive Pay	((CEO OR executive) /N3/ (pay OR compensation OR remuneration OR salar* OR bonus*)) OR say on pay OR say-on-pay OR (shareholder* vot* /N5/ (pay OR remuneration OR compensation))
<b>S13</b>	Layoffs	layoff? OR job cut* OR (job* /N3/ (cut OR cuts)) OR (hiring /N3/ firing) OR (hire /N3/ fire) OR reduncancies

*Table 3: Public Discourse Measures (English Search Terms)*

<b>Search ID</b>	<b>Issue Area</b>	<b>Search String (Factiva, German)</b>
<b>S01</b>	Banking Regulation	((bank* OR finanz*) /N3/ (regulier* OR regel* OR aufsicht)) OR Basel II OR Basel III
<b>S02</b>	Risk-Taking Behavior	(bank* OR firm* OR unternehmen) /N10/ (risikobereitschaft OR risikomanagement OR eigenkapital* OR kapitalisierung)
<b>S03</b>	Auditor Change	((revisor OR revisionsstelle OR wirtschaftsprüf* OR big four OR big 4) /N10/ (ausschreibung OR wechsel OR austausch OR verantwortung OR unabhängigkeit OR rotation))
<b>S03Alt</b>	Big Four Accounting Firms	((big four /N3/ (revisor OR revisionsstelle OR wirtschaftsprüf*)) OR PWC OR pricewaterhouse cooper OR pricewaterhouse-cooper OR deloitte* OR ernst % young OR EY OR E&Y OR KPMG)
<b>S08</b>	Shareholder Rights	aktionärsrechte OR rechte von aktionären OR aktionärsaktivisten OR aktionärsschutz OR anlegerschutz OR aktionärsdemokratie
<b>S09</b>	Income Inequality	soziale ungleichheit OR einkommensungleichheit OR einkommensverteilung OR verteilung von einkommen OR lohnschere OR einkommensschere OR ((einkommen OR lohn OR löhne) /N3/ (ungleich* OR verteilung OR schere OR unterschied*))
<b>S10</b>	Corporate Governance	corporate governance
<b>S11</b>	Board of Directors	aufsichtsrat* OR verwaltungsrat* OR frauenquote OR (frau* /N3/ (aufsichtsrat* OR verwaltungsrat*))
<b>S12</b>	Executive Pay	managergehälter OR managersalär OR spitzengehälter OR spitzenlöhne OR say on pay OR say-on-pay OR ((gehälter OR salär OR vergütung) /N5/ (manager* OR spitzenmanager* OR topmanager* OR CEO OR geschäftsführe* OR geschäftsleit* OR firmenchef* OR generaldirektor*))
<b>S13</b>	Layoffs	stellenabbau OR (baut /N5/ stellen ab) OR personalabbau OR (baut /N5/ personal ab) OR massenentlassung* OR werksschließung*

Table 4: Public Discourse Measures (German Search Terms)

The search is conducted using one center-left and one center-right national quality newspaper in each country, in yearly intervals between 1995 and 2013, following Culpepper's (2011) approach to measuring salience. Circulation numbers and reputation as a 'paper of record' were the most important selection criteria, however data coverage and availability also had to be taken into account. The newspapers chosen for the US are *The New York Times* and *The Wall Street Journal* (Culpepper 2011), for the UK *The Guardian* and *The Times* (see Kriesi 2008), for Germany *Süddeutsche Zeitung* and *Die Welt* (see Eilders 2002), and for Switzerland *Der Tages-Anzeiger* and *Neue Zürcher Zeitung* (see Kriesi 2008).

Two databases are used to collect data: Nexis and Factiva. While using the same database for all searches would be preferable for consistency, neither of the two has sufficient coverage across all four countries and the required newspapers for this to be feasible. However, the search strings were adapted to each database's syntax to yield the closest possible results (NB: the tables above show the Factiva search strings only as this was the main database used. Nexis search strings differ only in syntax, not content.). The search was restricted to headline and body, i.e. excluding the tag sections that often trail articles and include terms not actually used in the article. Duplicates were removed by each database on moderate similarity. For each search, the number of articles found is expressed as a percentage of all articles published, to allow comparisons across issues and countries.

The public discourse measure does not provide firm-level data, which is problematic as discourse is unlikely to affect all companies to the same extent. Arguably, companies that find themselves in the public spotlight more frequently are more susceptible to public discourse, aiming to avoid negative coverage. Hence, the public discourse measure is combined with a measure of discourse exposure, measured as the percentage of articles published in the same newspapers mentioning the company in question. Exposure-adjusted public discourse is calculated as follows:

$$\text{Exposure-adjusted discourse} = \text{issue salience} * (1 + (\text{discourse exposure} * 10))$$



While all companies are arguably exposed to salient issues by default, the more a company is in the media spotlight, the higher the pressure and exposure. The exposure adjustment thus adjusts the salience measure upwards, but not downwards.

As a point of reference for the salience levels of the rather ‘niche’ issues examined here, four benchmark measures of issues more relevant to the general public were taken. Two political issues were included, one more cyclical (presidential election) and one more controversial (refugees/immigration), along with two more unique, disaster or scandal-type issues (the 9/11 terror attacks, and the Enron scandal).

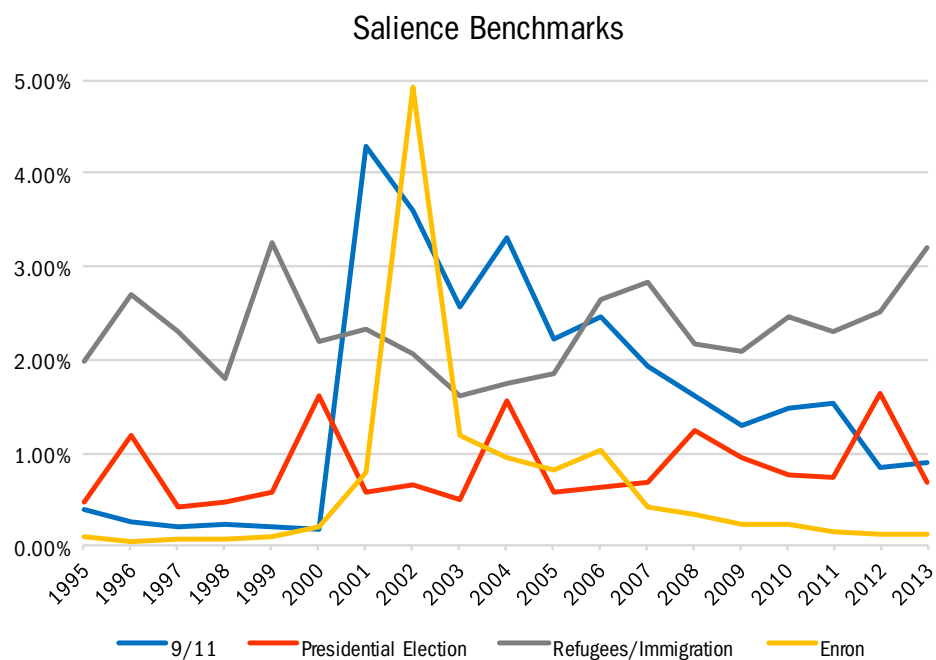


Figure 3: Salience Benchmarks

The results show peak salience levels of 4-5% for highly current, disaster or scandal-related issues (9/11, Enron), while controversial, but recurring issues (refugees/immigration) are in the 2-3% range. The cyclical, political issue of presidential elections only exceeds 1% in election years and remains otherwise at around 0.5%. We could therefore see 1% press coverage as a threshold for

‘high salience.’ However, issue salience also needs to be assessed within an issue, not only between issues—an issue such as corporate risk-taking may never approach salience levels of political ‘hot-button’ issues such as immigration, but to affected parties, a doubling of salience from, say, 0.2% to 0.4% may still be perceived as a marked increase. We should therefore not rule out that variation within such lower salience issues could still influence corporate behavior.

### 3.3.1.2 Panel Regression Analysis

Fixed effect and, where appropriate, random effect panel regression models are used to estimate the relationship between public discourse and corporate practices. For each country, the firm-level variables discussed previously are regressed on the public discourse measures associated with them, as listed previously in the section of corporate practice measures. About 24 panel regressions are run for each country—the precise number of regressions per country varies due to legal constraints, such as mandatory CEO-Chairman separation in Germany, that make some variables ‘structural zeros’ in certain cases. Taken together, this results in a total of 94 regression models.

For all regressions, the discourse measures are lagged by one year in order to mitigate the problem of directionality—a significant relationship between the unlagged public discourse measures and the firm-level measures would not provide evidence of the direction, i.e. newspapers could be reporting on corporate practice. With increasingly short news-cycles, one year is deemed an appropriate lag time to ensure that any statistically significant relationships found are most likely to indicate corporate practice following discourse, rather than the other way around.

Given the 19-year time period covered as well as the presence of two major crises within this period—the dot-com crash and the GFC—require to control for these events and other year-specific characteristics. Year dummies are used for this purpose. Additional controls were included for firm performance using return on assets (ROA) and firm size using market capitalization.

Implausible outliers were removed across the dataset, including ownership figures below 0% and above 100%, or ratios that would be indicative of the company being insolvent—sometimes these figures can be technically accurate, but are often the result of accounting techniques used to account for historic losses and not reflective of actual practice. Firm-level variables 2.6.2 *CEO Pay Ratio* and 3.2.0 *Average Wage* were winsorized at the 1 and 99 percentile levels due to outliers at the extreme ends of the spectrum, following the approach of Hellerstein (2008) and Leone et al (2014).

### 3.3.1.2.1 Tests

A series of tests were carried out on the dataset to ensure it meets the assumptions of the panel regression models, most importantly for cross-sectional dependence and unit roots.

Cross-sectional dependence (CSD) in panel data models is an increasingly recognized issue that usually results from common shocks and unobserved factors. This is fueled by increasingly interconnected economic, financial, and political systems that contribute to similar responses to common shocks (De Hoyos & Sarafidis 2006). A recent and widely used test is Pesaran's (2004) cross-sectional dependence test, implemented in Stata as a pre-test by Eberhardt's *xtcd* program (Eberhardt 2011), and as post-estimation test in the *xtcsd* program (De Hoyos & Sarafidis 2006). Although Pesaran's (2004) test is technically suitable for unbalanced panels and missing values, the not randomly-missing nature of missing values in this study's dataset results in the test not running in most cases. However, in all cases where it does run, it rejects the null hypothesis of cross-section independence, indicating the need to control for CSD in testing for unit roots (stationarity) and the regression analysis.

Driscoll and Kraay's (1998) approach is commonly used to correct the standard errors in fixed and random effect panel models when CSD is present. This is implemented in Stata by Hoechle's (2007) *xtscc* program. A major constraint of using Driscoll and Kraay standard errors, however, is the

inability to include year dummies in the model. For this reason, the approach to controlling for CSD taken in this study is not to use Driscoll and Kraay standard errors, but to rely on year dummies, which also control for CSD by removing the common impact a specific year has.

Another important test is for the presence of unit roots, i.e. whether the data is stationary. Stationarity is an important assumption of panel regression methods, as non-stationary data can easily lead to spurious regression results. For this study, Im, Pesaran and Shin (2003) and the Fisher-type (Choi 2001) tests are used for their ability to work on panels that are not strongly balanced and, in the Fisher-type case, that have gaps. Both are executed using Stata's *xtunitroot* command. While these first-generation unit root tests are well-established, they have only limited capacity to deal with CSD through the *demean* option, which was enabled due to the presence of CSD. Lewandowski's (2006) implementation of a second-generation Im-Pesaran-Shin test in the *pescadf* program is better able to account for CSD and therefore the preferred method.

All of the above unit-root tests have the null hypothesis of all panels containing a unit root (data in non-stationary); rejection of the null implies that at least a fraction of the panels is stationary, although some (but not all) may not be. The test does not indicate this fraction or which panels do or do not have unit roots. All three test allow to set the lag length of the underlying Augmented Dickey-Fuller (ADF) test. For the Fisher-type test and second generation Im-Pesaran-Shin test lag length was set to  $p=1$  and  $p=2$ , for the first generation Im-Pesaran-Shin test the Akaike Information Criterion (AIC) was used to determine the optimal lag length ( $pmax=5$ ).

Not all unit root test could be performed for each variable/country, as the tests have only limited capacity to deal with missing values. The IPS test is the least flexible in this regard and could therefore only be performed for the most complete variables—the discourse measures. As the most flexible test, the Fisher-type test was performed for almost all variables/countries. A variable was judged stationary where the majority of test outcomes rejected the null

hypothesis of all panels containing a unit root ( $p < 0.05$ ). In cases where half of the tests suggest stationarity and the other non-stationarity, the latter was presumed. Variables found to be non-stationary were used in first difference in the regression models.

Data was not tested for heteroskedasticity, i.e. error terms that do not have constant variance. In practice, most data is heteroskedastic and using robust standard errors solves the issue without having negative effects in case some error terms were constant, i.e. homoskedastic (Stock & Watson 2011).

### 3.3.1.2.2 Choice of Model

Fixed effects models (FE) account for time-invariant unique characteristics of panel constituents, i.e. the inherent but unmeasured unique characteristics of the firms. It thus allows to control for omitted variable bias and possible correlation of these omitted variables with those in the model, making it particularly suitable for this study: “Substantively, fixed-effects models are designed to study the causes of changes within [an entity]” (Kohler & Kreuter 2005, p.245). FE models assume correlation between a panel constituent’s error term and the predictor (IV) variables and control for this bias by removing the effect of those time-invariant unique characteristics of the panel constituent (firm in this case). However, it also assumes that those unique characteristics are not correlated with the error terms of others. Thus, if error terms are correlated, FE is inappropriate and random effects (RE) should be used.

To test for correlation of the error terms and thus help decide between FE and RE, a Hausman test is used. The RE model assumes that variation across the panel constituents is random and not correlated with the IVs, but to influence the DV. The Hausman test has the null hypothesis that the unique error terms are not correlated with the IVs, in which case RE would be a more efficient and appropriate model. In other words, if the Hausman result is statistically significant ( $p < 0.05$ ) we reject the null and the FE model is

preferred. Whether FE or RE was chosen is denoted for each regression model in the results table.

### 3.3.2 Firm-Level Processes of Change and Mimetic Isomorphism

The second empirical focus area is firm-level processes of change, specifically in terms of how processes of mimetic isomorphism translate triggers, such as major crises and public discourse, into changes in corporate behavior that may coalesce into new norms. The literature suggests that crises spread a ‘great confusion’ of sorts, leaving actors without their usual compass directing them on what behaviors are appropriate or even in their interest (Blyth 2002). One important way firms regain their footing is through following the lead of large, successful companies—role models that are seen as ‘best practice’ examples of how to cope with the crisis and the uncertainty surrounding it. This process—mimetic isomorphism—reduces uncertainty among actors by blending in with others, especially those seen as superior (Scott 1995). While companies have been shown to imitate each other’s behavior for legitimacy, reduction of uncertainty and taken-for-granted practices even in ‘normal’ circumstances (Meyer & Rowan 1977; DiMaggio & Powell 1991; Westphal & Zajac 2001), major crises are likely to accelerate the process due to the heightened levels of uncertainty and pressure to change behaviors made untenable or undesirable through the crisis.

Formation of such ‘critical mass’ is an important precursor for bottom-up change to occur, as it depends on some large and powerful firms or a large number of firms to change their behavior, pushing at the boundaries of the law and establishing new forms of compliance. Even where these changes in practice do not push at the boundaries of the law, but represent a significant shift in average behavior within legal boundaries, it could act as an important signal towards policymakers and regulators that companies are reacting to a crisis and are ‘righting the wrongs.’ The literature review outlined three areas of interest with regards to firm-level processes of mimetic isomorphism:

- (1) where and how mimetic isomorphism occurs, i.e. whether it leads to initial spread of behavior and subsequent convergence;
- (2) how sectoral differences affect mimetic isomorphism, i.e. whether highly internationalized sectors are more likely to exhibit such behavior; and
- (3) whether different types of mimetic isomorphism are associated with different modes of change in firm practices.

### 3.3.2.1 Analysis of Variance

While many studies of isomorphic processes among organizations use the proportion of prior adopters (prior probability) in the organizational field as the measure of mimetic isomorphism (Mizruchi & Fein 1999; Han 1994), this method is best suited for categorical data, such as whether a certain practice has been adopted or not. The measures of corporate practice used in this study are mostly continuous, necessitating a different approach. Analysis of variance (ANOVA) is therefore used here, building on Kostova and Roth's (2002) use of ANOVA to compare the similarity of institutional systems and Cuomo et al's (2013) use of t-tests to analyze for significant differences in firm behavior across time.

An extension of the t-test, ANOVA compares means within groups with means between groups (Field 2013). It is thus used to evaluate whether groups become more similar during crisis situations, as would be expected if there is mimetic isomorphism at play. If ANOVA produces significant result, we reject the null hypothesis that the samples (groups) are drawn from the same population or that the differences between the samples are due to chance alone. Hence, when  $p < 0.05$ , we conclude that the groups exhibit significantly different practices (Tharenou et al. 2007, p.211). ANOVAs assume that the groups being compared come from independent samples that are normally distributed with the same variance (Tharenou et al. 2007), however it is also a "robust statistical technique, and stands up well to violations of these assumptions most of the time" (Dewberry 2004, p.139). To be safe though,

Levene's robust test of homogeneity of variance was performed. Aside from the significance tests mentioned above, ANOVAs also produce an F-test. This is the ratio of between-group mean square and within-group mean square ( $F = \text{betweengroup} / \text{withingroup}$ ), therefore the closer F is to 1, the closer to each other are the groups (Agresti & Finlay 2009, p.500). Changes in F therefore indicate whether groups are becoming more or less similar. This forms the basis for interpreting the ANOVA results—groups ceasing to be statistically significantly different, or F-test values dropping significantly and coming close to 1 is evidence for convergence between the practices of the groups compared.

There are limitations to this approach. For one, convergence between groups may not be driven by mimetic isomorphism, but could occur for a number of reasons, such as economic circumstances delimiting choice or regulatory pressure. In the latter case, the results would be indicative of coercive rather than mimetic isomorphism. This is not necessarily a problem, however, as such behavior still conforms to patterns we are looking for here: widespread change in firm-level behavior in times of major crisis, which may ultimately influence legal and regulatory change. Results therefore require careful interpretation for alternative explanations; generally, however, convergence in times of severe crisis and on a highly salient issue is interpreted as indicating mimetic isomorphism. Short of the impossible task of asking companies why they change their behavior and whether they consciously imitated their peers' practice, this is arguably an innovative approach to make most of publicly available data.

ANOVAs are performed for each of the firm practice variables discussed previously and for each year, to identify patterns across issue areas and time. As argued in the literature review, we may expect mimetic isomorphism to occur on three levels:

- (1) Within groups, i.e. between small and large firms within the same sector. To create these groups, the sample of companies was split in half into the smallest and largest 50% of firms by market capitalization



in that year, separately for each country, year, and financial and non-financial firms. This results in eight series of ANOVAs, one for financial firms, one for industrial firms in each country.

- (2) Between groups, i.e. between financial and non-financial firms. Four series of ANOVAs are run to test for this level of mimetism, one for each country.
- (3) International-level mimetic isomorphism between the four countries. A single series of ANOVAs tests for this level of mimetism.

### 3.3.3 Corporate Practice and Legal Change

Despite the literature's increasing recognition of bottom-up change and fleshing out of the mechanisms of such change, it has not fully considered some important questions on bottom-up change that are of particular relevance for a time period that includes two major crises as events of uncertainty and potential triggers for corporate-level change:

- (1) How does political salience and public discourse affect bottom-up change?
- (2) How does the nature of severe crises impact bottom-up change?
- (3) How does the structure of the political system mediate bottom-up change?

Fundamentally, these three issues are concerned with the conditions under which bottom-up change is more or less likely to affect the law. To answer these questions, a qualitative, narrative-based approach as is common in comparative political economy will be employed, comparing the quantitative firm-level data and evidence from the first two empirical chapters on the antecedents of bottom-up change to legal and regulatory change. The analysis will be based mainly on timing of changes, their directionality, and discussion of plausible and likely relationships to find cases of bottom-up change and compare them to instances where firm practices had no discernible impact on legal change.

Timing is used to establish a sequence of events. When there is change on the legal and firm practice levels, timing gives a first indication of whether firm behavior likely adapted to legal change, or whether legal change may reflect a change in firm practices. In other words, timing is an indicator of whether change in a certain domain likely occurred top-down or bottom-up. Change may, of course, occur on one level only or not at all. The following matrix (Schnyder 2012a) summarizes these different possibilities of change on the legal and firm levels:

		Legal Rules	
		Change	No Change
Firm Practice	Change	Co-evolution or causation (compliance or legislation)	Company-made extension of law
	No Change	Organisational resistance (non-compliance, symbolic compliance)	Organisational & political resistance

Table 5: Types of Change on Legal and Firm Level

The approach to identifying policy areas to be examined begins with the three institutional spheres of finance and accounting, corporate governance, and labor relations. The former two spheres are tightly interconnected and have taken blame as causal factors in creating the GFC (Gamble 2009; Mayntz 2012). Bank capitalization, corporate risk-taking behavior, and executive compensation are some of the issues that have risen in political salience during and after the crisis, creating incentives for policymakers to target these areas for reform. Labor and industrial relations are not only tightly connected with finance and corporate governance (Gospel & Pendleton 2003), it is also an area that bears potential for conflict during times of crisis, when companies are under pressure to reduce costs and shed workers. The main focus area is corporate governance, due to its crucial role in allocation of responsibility and resources within the firm (Gourevitch & Shinn 2005).

More specifically, the laws and regulations of interest are those related to the institutional sub-issues and measures of corporate practice discussed earlier. In terms of risk-taking behavior (variables 1.1.1 - 1.2.2), the Basel Accords, separation of retail and investment banking, and other financial market reforms are considered. For accountability and transparency (1.4.0), audit rotation rules are taken into account. Shareholder orientation (2.3.0 - 2.4.7) is linked to voting right distortions and shareholder rights related to proxy voting and director nomination and election. Rules on board composition, including separation of CEO and Chairman and share of non-executive and independent directors, and board diversity relating to quotas for women on boards, form the link to firm-level measures on the board of directors (2.5.0 - 2.5.5). Regarding executive pay (2.6.0 - 2.6.2), ‘say on pay’ rules are taken into account. Measures of employment and pay (3.1.0, 3.2.0) are linked to hiring and firing rules, regulation of non-traditional forms of employment, such as part-time, fixed-term, and zero-hour contracts, and minimum wage legislation.

While the above regulatory issues are the main focus, the net is cast rather widely and openly, as functional equivalents of institutions and differently unfolding public discourse may lead to different issues becoming targets for reform in different countries. While ‘say on pay’, for instance, is a common area of policy change across all four countries in the study, other issues are more unique to specific countries. The separation of investment and retail banking is one such example—it was only mooted in the UK and ultimately implemented as ‘ring-fencing,’ while the US made some much more limited attempts at containing cross-contamination. The specific issues discussed for each country therefore vary slightly.

Within the above issue areas, federal/national-level laws, regulation set by financial market or other industry regulators, and de-facto binding stock exchange listing rules are considered. For the three European countries, related EU law and regulation is also taken into account. Major policy proposals are included in the analysis, even in cases where they do not amount to any actual legal changes. Proposals can be important signaling devices,

indicating policymakers' intention to legislate a certain issue and possibly compelling firms to change their behavior—as long as the regulatory threat is credible, actual change may not be necessary (Milhaupt & Pistor 2008).

The most important data source for legal and regulatory change are the existing academic literature on institutional change, which discusses major reforms and its implications. National legislative databases, guides on new legislation and regulation published by law firms, and newspaper articles are consulted to fill gaps in the coverage in the academic literature. The 'leximetrics' database (Armour et al. 2009; Siems & Deakin 2010) also serves as a source for major reforms on shareholder protection and labor protection.

### 3.4 Summary and Organization of Empirical Chapters

The mixed methods approach taken in this study aims at investigating the 'triangle' of institutional change, the corner points of which are corporate practice, public discourse, and legal change. While previous research has investigated the role of public discourse (operationalized as political salience) in top-down processes of institutional change, its role in bottom-up processes of change has been mostly ignored. Hence, three relationships of interest are analyzed here:

- (1) changes in corporate behavior and processes of mimetic isomorphism;
- (2) the relationship between public discourse and corporate practice; and
- (3) the relationship between corporate practice and legal change.

Corporate practices are therefore the focal point of this study. They are measured using quantitative indicators across three institutional spheres (finance & accounting, corporate governance, labor & industrial relations) in four countries (Switzerland, Germany, United Kingdom, United States) over

a 19-year time frame (1995 to 2013). The legal and public discourse dimensions reflect the same issue areas, countries, and time frame.

While the overarching method used for this study is a narrative-based analysis incorporating quantitative elements, investigating each of the three relationships of interest requires mentioned above requires different methods. Generally, the approach to data analysis taken here is exploratory in nature, necessitated by the lack of existing in-depth research on many of the relationships examined in this study. The relationship between public discourse, which is operationalized as political salience and hence draws on discourse analysis methods, and corporate behavior is estimated using panel data regressions. Changes in corporate practice and whether there are processes of mimetic isomorphism at play is analyzed using ANOVAs as well as descriptive statistics. Finally, the narrative-based analysis of the relationship between corporate practice and legal change draws on timing of changes, their directionality, and discussion of plausible and likely relationships.

The three empirical chapters follow the same structure. The first empirical chapter investigates the relationship between political salience and corporate practice. The second empirical chapter investigates whether crises trigger processes of mimetic isomorphism and to what extent they shift firm behavior. In the third empirical chapter, the focus is on the relationship between corporate practice and legal or regulatory change. The discussion chapter will bring these different relationships together to complete the ‘triangle’ of institutional change.

## 4 Corporate Practice and Public Discourse

### 4.1 Introduction

This chapter examines the relationship between public discourse and corporate practice. Public discourse is a readily accessible expression of underlying ideas, which are inherently difficult to capture. Analyzing discourse around the GFC shows how the crisis is constructed, i.e. to what extent it is perceived as related to issues such as banking regulation, risk-taking behavior of companies, or corporate governance more generally. The dot-com crash and associated Enron scandal, for instance, was clearly constructed as a crisis of corporate governance and failure of auditing, triggering debate on corporate social responsibility. The GFC, on the other hand, was perceived as a failure of banking-regulation, excessive risk-taking and executive pay, but raised little concern over the role of auditors or corporate governance at large. How events like the GFC are constructed through public discourse becomes very important if we accept that firms do not operate isolated from such public debate, but are exposed to it and at least to some extent reactive to it. In other words, public discourse can be an impetus for change in corporate behavior, making it a crucial first step in the bottom-up institutional change process. Although the link between public discourse and corporate practices has not been an area of intense focus in the institutional change literature, it offered some points of departure:

- (1) around the role of corporate practices as signaling devices; and
- (2) around the institutional mediation of external pressures.

The literature has shown that corporations sometimes adopt practices symbolically, but subvert them substantively, in order to respond to institutional pressures and signal compliance to other actors (Börsch 2007). This phenomenon, termed corporate decoupling, points to the signaling power of symbolic corporate practices even when actual practices differ (Westphal & Zajac 1994; Westphal & Zajac 2001). Publicly projected practices of corporations can thus influence other actors—investors, peers, policymakers, or the public—regardless of whether they represent actual corporate behavior. This is based on the concept of the ‘loosely coupled organization’ (Meyer & Rowan 1977) and offers a basic rationale for companies to yield to public debate. While the law defines absolute boundaries for what constitutes compliance and legitimate behavior, acceptable behavior within those boundaries is socially constructed. As a public expression of ideas, discourse reflects changing perceptions of what constitutes acceptable compliance and legitimate behavior. We may thus expect companies to be generally reactive to public discourse and adjust their behavior in order to signal continued compliance and legitimacy.

We expect the extent to which companies yield to public debate and pressure to be mediated by the ability of companies to decouple their practices on the issue in question. As argued in the literature review, we may expect the ability to decouple practices to be related to an issue’s strategic or operational embeddedness within the firm, which can be conceptualized as the extent to which an issue structures the company’s relationships with its stakeholders and thus influences its strategic and operational capabilities. This conception draws on the literature on the ‘dynamic capabilities’ of corporations (Teece et al. 1997; Dosi et al. 2001; Whitley 2007). In essence, dynamic capabilities are thus concerned with a company’s ability to harness its relationships with financiers, owners, suppliers, employees, and other stakeholder groups to adapt to changing circumstances and realize new opportunities. Consequently, practices that structure these relationships can be seen as deeply strategically or operationally embedded—such as providing shareholder value in order to secure continued access to capital and finance

new projects, or reliance on short-term or zero-hour contracts in order to gain staffing flexibility and react to changes in demand.

Of the issue areas considered here, risk-taking behavior, shareholder orientation, and labor relations can be described as deeply embedded issues. The first two issues are central to the company's relationship with investors and thus determine future access to capital, while the latter issue area is related to the company's ability to recruit and retain appropriately skilled staff and maintain employment flexibility. Accountability and transparency, board composition, executive pay could be seen as less embedded, as these issues have strong external signaling power but more limited impact on the company's stakeholder relationships and thus strategic or operational capability.

*Proposition A-1: Higher levels of public discourse are more likely to lead to corporations reducing associated controversial practices the less operationally embedded these practices are.*

If we see firms as institutionally embedded (Aguilera & Jackson 2003; Jacoby 2004), we should also expect the institutional environment to mediate the impact of public discourse on corporate practices. We expect higher levels of institutionalized coordination to result in public discourse being less likely to impact corporate behavior, as firm-level mechanisms of coordination provide institutionalized avenues for stakeholders to influence corporate behavior. Board-level codetermination and works councils, for instance, allow employees to voice their concerns and work out compromises with management. Blockholder ownership structures and network reputational monitoring, to use a further example, are means for insider owners to wield enhanced control over management. In other words, these well-institutionalized ways for corporations to take the demands of the 'affected public' into account are alternatives to reacting to public discourse. Drawing on Hall and Soskice's (2001) Varieties of Capitalism framework, we thus expect companies in CMEs to display less reactivity to public discourse than their counterparts in LMEs, where we expect the lack of coordinating institutions to result in firms being more likely to react to public discourse to



do what is expected of them. To be sure, stakeholder pressure in CMEs should still result in shifts in corporate practice—and the changes in firm-level behavior of German firms suggest that they probably do—but the non-public expression and enforcement of those demands means that they are not captured by the methods adopted in this study.

*Proposition A-2: Higher levels of public discourse are more likely to lead to corporations reducing associated controversial practices in LME countries.*

Taken together, we may expect public discourse to exert some influence over corporate practices, but this is likely to be mediated by the operational embeddedness of the issue in question and the institutional environment. Given the lack of in-depth research on the relationship between public discourse and firm practices in the institutional change literature, these propositions remain fairly broad and a data-driven, inductive approach is employed.

Panel regression analysis is the primary method used to estimate the relationship between public discourse and corporate practice. Public discourse is measured through issue salience, following the approach of Culpepper (2011), Jones and Baumgartner (2005) and Smith (2000), which measures the number of articles found in national newspapers for a given set of keywords. The terms ‘public discourse,’ ‘salience,’ and ‘press coverage’ are thus used interchangeably. Issue salience is unlikely to affect companies uniformly, given that some companies find themselves in the public spotlight more than others and thus subject to higher pressure. To take this into account, salience is interacted with the media exposure of each company. Fixed effect and, where appropriate, random effect panel regression models are used to analyze the relationship between discourse and practice across a number of issues. Discourse data is lagged by one year in order to mitigate the problem of directionality. With increasingly short news-cycles, one year is deemed an appropriate lag time to ensure that any statistically significant relationships found are most likely to indicate corporate practice following discourse, rather than the other way around.

Propositions *A-1* and *A-2* are operationalized by regressing public discourse measures *S01-S13* on each of the corporate practice measures they are associated with (as indicated in Table 2: Measures of Corporate Practice). Generally, we expect corporate practices to move towards more prudent or ‘better’ practices as public discourse and hence pressure increase on the issue. The discussion of each firm-level measure of corporate practice in the methodology chapter indicates what constitutes ‘better’ practice on each variable. In summary, however, we expect to find a positive relationship between public discourse and risk-taking measures *1.1.1–1.2.0.1* (where higher values indicate lower risk) and a negative relationship between discourse and risk-taking variable *1.2.1* and *1.2.2* (where lower values indicate lower risk). In other words, we expect banks to increase capitalization and firms more generally to reduce leverage in face of higher public debate on associated issues (*S01, S02*). For accountability & transparency measure *1.4.0* we expect a positive relationship, i.e. that firms change auditors more frequently in reaction to discourse on related issues (*S03, S03Alt*). Expectations for shareholder value orientation are more complex. On measure *2.3.0* we expect to find a positive relationship, which would indicate firms moving towards ‘one share one vote’ when public discourse on shareholder rights (*S08*) or corporate governance (*S10*) increases. In terms of the distribution of net value added (NVA) among various stakeholders (*2.4.2–2.4.7*), we expect to find positive relationships between discourse on *S08* and *S09* and the share of NVA paid to shareholders (*2.4.2*) and (*2.4.6*), but negative relationships between the same discourse measures and NVA paid to employees (*2.4.3*), the state (*2.4.5*), and the company (*2.4.7*). To put it differently, we expect firms to give preferential treatment to shareholders and creditors (through higher leverage) when the rights of shareholders and corporate governance gain salience in public debate, which would come at the cost of distributing less NVA to the other groups. We expect to find the opposite directionality of effect for each NVA recipient when discourse on income inequality (*S09*) increases. Regarding the board of directors, we expect to find negative relationships between discourse (*S10 Corporate Governance* and *S11 Board of*

*Directors*) and 2.5.0-2.5.2, and positive relationships between the same discourse measures and 2.5.3-2.5.5. This would indicate that firms move towards what is generally seen as ‘better’ board governance when discourse increases. On the issue of executive pay we expect a negative relationship between rising discourse on the issue (*S09, S12*) and the measures of executive pay used (2.6.0-2.6.2), which would indicate that firms reduce executive pay in reaction to public outrage over executive remuneration. Finally, on employment and pay the expectation is to find a positive relationship between public debate (*S09, S13*) and employment level (3.1.0) and average wage (3.2.0). This would suggest that corporations increase employment and worker pay when faced with rising public debate on inequality and job losses.

In order to sustain proposition *A-1*, we would expect to find statistically significant relationships in the directions indicated above for the deeply operationally embedded issues of risk-taking behavior, shareholder orientation, and labor relations, but not for the remaining, less embedded issues. To support proposition *A-2*, we would expect to find statistically significant relationships in the directionality specified in the LME countries included here (the US and UK), but much fewer statistically significant results for the CME countries (Germany and Switzerland).

## 4.2 Results

About 24 panel regression models were run for each country—the precise number of regressions per country varies due to legal constraints such as mandatory CEO-Chairman separation in Germany—resulting in a total of 94 regression models. As these are too numerous to report and discuss on a model-by-model basis, the regression results are summarized for each institutional sphere and sub-issue, but only discussed in detail where statistically significant results were found. A table containing the full regression results is included in the appendix. The results can be broken down as follows:

Country	Nr. of regression models	Nr. of significant models	Nr. of significant models with significant effects
CH	24	19	4
DE	22	18	1
UK	24	21	6
US	24	19	10

Table 6: Overview of Panel Regression Results

The results suggest a limited relationship between public discourse and corporate practice in the coordinated countries of Germany and Switzerland, where few regression models find statistically significant effects of issue salience on corporate practice. A larger effect is evident in the liberal economies, where the UK shows six models with statistically significant relationships between discourse and corporate practice and particularly in the case of the US where 10 regression models find such relationships. From this high-level overview alone, the results appear to support proposition *A-2*, suggesting that firms in LMEs are more likely to adjust their practices in reaction to public discourse than their peers in CMEs. To explore this point in more detail and examine the evidence from the perspective of proposition *A-1*, results for each institutional sphere and associated sub-issues are discussed in turn.

#### 4.2.1 Finance & Accounting

Businesses' finance and accounting practices are evaluated in two issue areas: risk-taking behavior and accountability & transparency. The former is examined through six measures of capitalization and leverage; the latter using the measure of auditor. Overall, the results suggest that public discourse influences the risk-taking behavior of banks, but in most cases not companies

more generally. The accounting and transparency measure included here also does not appear to be influenced by public discourse.

#### 4.2.1.1 Risk-Taking Behavior

For banks, risk-taking behavior is measured through three capital ratios related to the Basel Accords (*1.1.1 Tier 1 Capital Ratio*, *1.1.2 Total Capital Ratio*, and *1.2.0 Tier 1 Leverage Ratio*), while all companies are measured on three commonly-used leverage ratios (*1.2.0.1 Shareholder Equity Ratio*, *1.2.1 Financial Debt-Equity Ratio*, and *1.2.2 Balance Sheet Leverage*). All firm-level measures were regressed on the first two public discourse measures, *S01 Banking Regulation* and *S02 Risk-Taking*. The former measures discourse related to banking or financial regulation as well as the Basel accords, the latter is a broader measure of discourse on corporate risk taking.

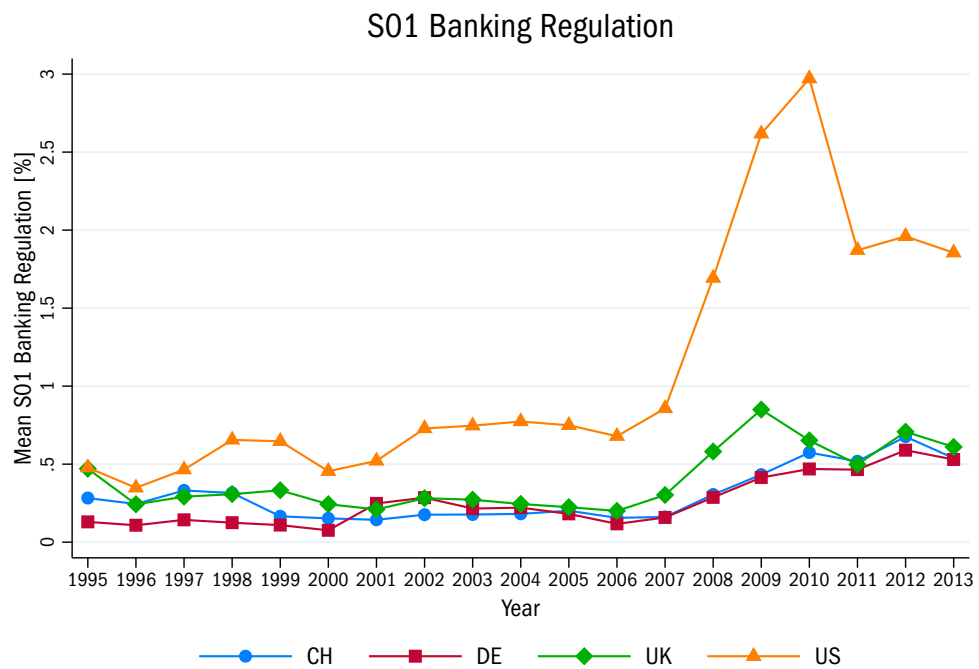


Figure 4: S01 Banking Regulation

Discourse on banking regulation (*S01*) is at relatively low levels of salience for the decade of 1995-2006, hovering around 0.25% press coverage in the three European countries. In the US, the issue is slightly more salient, starting at 0.50% in 1995 and reaching about 0.75% in the mid-2000s. Discourse increases significantly during the financial crisis, especially in the US where it peaks at 3.00% in 2010, but also in Europe where it grows more slowly and at lower levels, reaching 0.50%-0.75% in 2010. Discourse continues at this level post-crisis in Europe, but falls to just below 2.00% in the US from 2011. Banking regulation thus only becomes a very highly salient issue in the US, where the GFC and post-crisis levels of salience are comparable to the refugee/immigration benchmark issue (see methodology). In Europe the ‘high salience’ threshold of 1% is not exceeded at any time, but discourse in the UK comes close at the height of the GFC. The issue is therefore best described as moderately salient in Europe around the crisis.

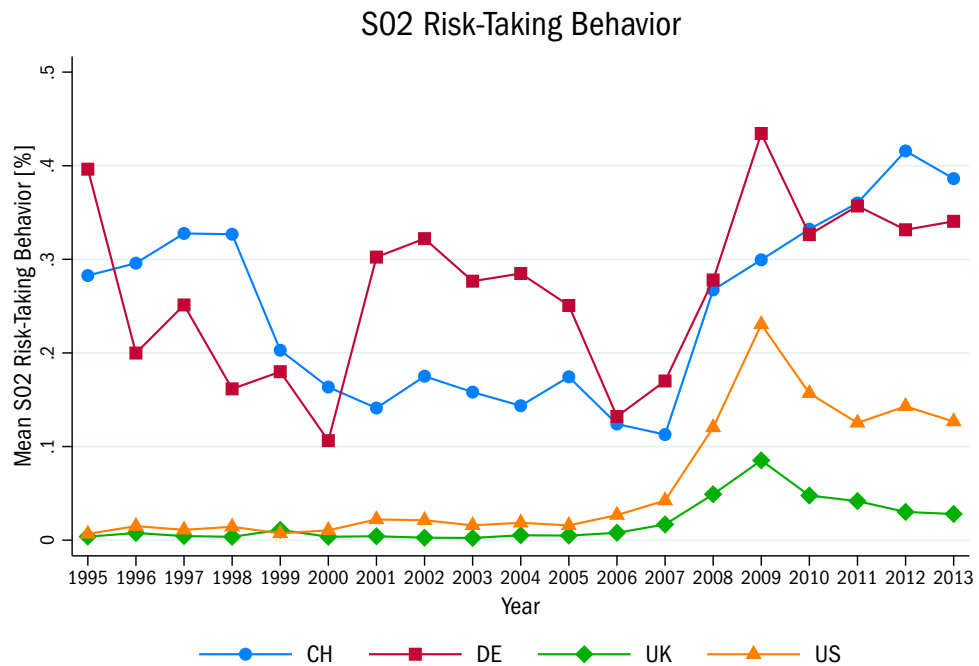


Figure 5: S02 Risk-Taking Behavior

Although a broader measure conceptually, *S02 Risk-Taking Behavior* has lower levels of press coverage than *S01* throughout the entire time period covered. Until 2007, there is virtually no discourse on bank or corporate risk-taking in the two LMEs and only very low levels in the two CMEs. A distinct uptick in discourse is evident around the GFC in all four countries and more pronounced in the CMEs and the US than in the UK. The post-crisis years show discourse levels roughly halfway between pre-crisis and peak-crisis levels. Overall though, risk-taking behavior is a fairly low salience issue, only approaching moderate levels of salience in Switzerland and Germany around the GFC, comparable to presidential elections in non-election years. Comparing the salience measures with each other suggests that the publicly perceived issue in the US and UK is banking regulation (*S01*) in particular, with overall risk-taking (*S02*) as a secondary issue. In the two coordinated countries risk-taking behavior and banking regulation are issues of fairly similar salience.

Corporate practice measures *1.1.1 Tier 1 Capital Ratio* and *1.1.2 Total Capital Ratio* display a strikingly similar pattern to *S02*. In Germany and Switzerland, salience precedes major increases on both measures, implying higher capitalization and thus lower risk. In US they are very closely matched, with both dimensions peaking in 2009. The UK shows lowest overall salience and lowest salience peak during the crisis, despite British banks also being the least well-capitalized. However, the UK is also the only country where a significant increase in bank capitalization occurs far before a salience peak, and indeed before the crisis (increasing between 2006 and 2007 from 8.25% to 12.54%). One way of interpreting this is that UK banks were more proactive in adjusting their capitalization upwards as they were aware of their comparatively low levels of capitalization, while their Swiss and German counterparts did not perceive their capital ratios to be inadequate and adjusted more reactively.

### 1.1.1 Tier 1 Capital Ratio

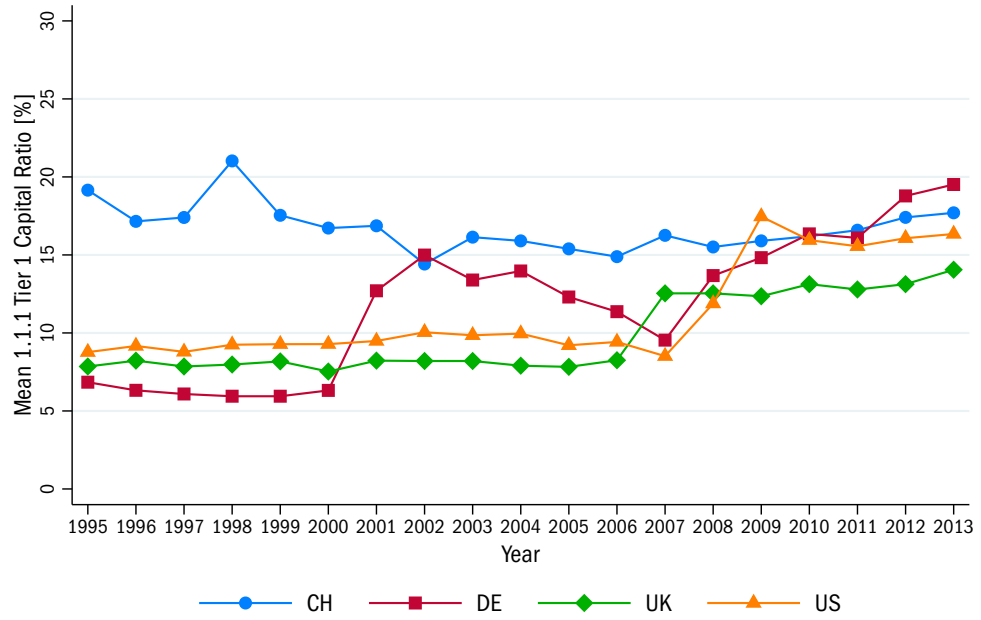


Figure 6: 1.1.1 Tier 1 Capital Ratio



### 1.1.2 Total Capital Ratio

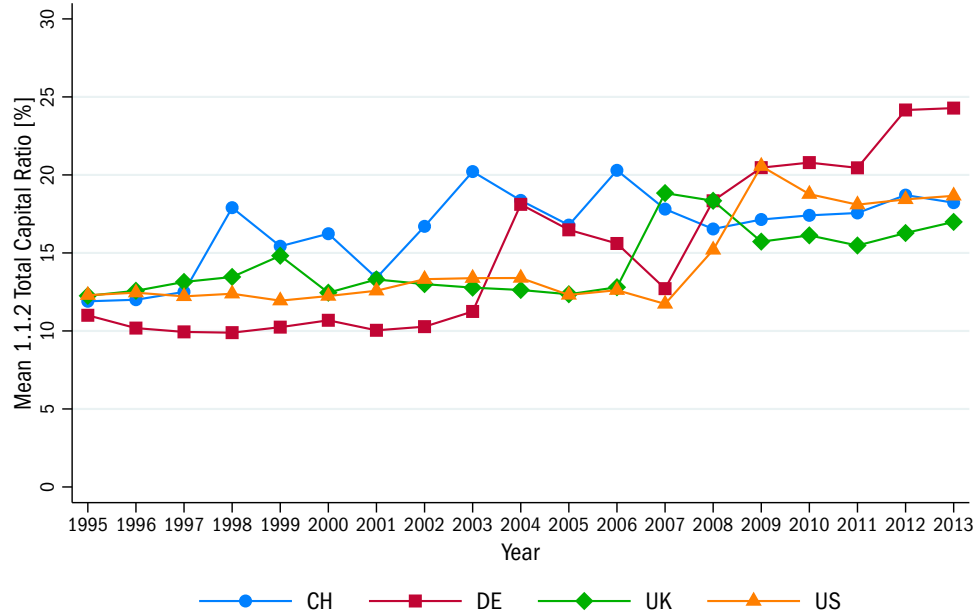


Figure 7: 1.1.2 Total Capital Ratio

For Switzerland, models 1 and 2 find statistically significant relationships between discourse and bank capitalization ( $p < 0.01$ ). Increases in discourse on banking regulation (*S01*) are associated with lower tier 1 capitalization of banks (*1.1.1*) and lower total capitalization (*1.1.2*), while increases in discourse on risk-taking (*S02*) are associated with higher capitalization on both measures. One caveat of models 1 and 2 is the inability to include year dummies in the regressions, as the small number of observations (banks only) would produce unreliable F-test and p statistics with the inclusion of year dummies. This applies to all country-specific models that include banks only and is noted in the regression results tables.

As a higher capital ratio indicates better ability to absorb unexpected losses, these results suggest that discourse on banking regulation and the Basel accords increases risk taking among Swiss banks, while more general discourse on the risk-taking behavior of banks and corporations leads to more prudent behavior. While the latter result is in line with expectations, the former is

surprising. One way of interpreting this result could be that discourse specific to banking regulation is not seen as a threat by Swiss banks due to their comparatively higher levels of capitalization, leading banks to take higher risks in order to exploit the associated larger profit potential before legislation reduces this leeway and associated profits. Discourse on risk-taking on the other hand may lead to more prudent practices among Swiss banks in order to protect their reputation as safe havens for international investment (Deutsche Bundesbank 2014; The Economist 2010)—a public perception of reckless risk-taking would be counterproductive to that goal. On measures of leverage for all Swiss companies (models 4 to 6) no statistically significant relationships between discourse and corporate risk-taking behavior were found.

In the German case none of the risk-taking models (1 to 6) produce statistically significant coefficients, despite most models being statistically significant. This indicates that neither German banks' capitalization nor German companies' risk-taking behavior at large are influenced by public discourse. German banks are generally well-capitalized, usually only second to Swiss banks, as measured by *1.1.1 Tier 1 Capital Ratio* and *1.1.2 Total Capital Ratio*. In that sense, it might not be surprising that German banks may feel little pressure to adapt to public debate on banking regulation and risk-taking, and perhaps also have less reputational risk compared to Swiss banks. However, German companies find themselves at the riskier end of the spectrum in terms of leverage, as measured by *1.2.0.1 Shareholder Equity Ratio* and *1.2.2 Balance Sheet Leverage*—at least from a shareholder perspective. This is reflective of the German institutional propensity towards long-term debt-based rather than equity-based financing and thus not comparable to the riskier short-term loans more common in other countries. Consequently, German companies are unlikely to see their levels of leverage as particularly risky, giving them little reason to react to public debate on the issue.

It may also be indicative of a less shareholder-value orientated approach among German companies—*1.2.0.1 Shareholder Equity Ratio* is a measure of the percentage of total assets that shareholders would have a residual claim on in

the event of a liquidation of the company, as assets would first be used to serve claims from creditors, then from shareholders. A higher figure thus indicates lower risk for investors. Throughout the entire time period Germany ranks lowest on this measure, with an average leverage ratio of 31.22 compared to 38.08 average for the other three countries. Although we could expect the riskiest country—from the shareholder perspective—to show some reaction to discourse on risk-taking, it does not seem to affect German companies' behavior in this regard. The implication may be that providing safer investment for shareholders is not a priority for German companies, possibly because the limited dependence on stock market financing makes shareholder value a secondary objective.

For the UK, all six regression models are statistically significant at the 1% level and two find statistically significant relationships between the IVs and DVs. Models 1 and 3 show that increasing growth in discourse on banking regulation (*S01*) is associated with higher tier 1 capitalization (*1.1.1*) and higher leverage ratio (*1.2.0*), while increasing growth in discourse on risk-taking (*S02*) is associated with lower leverage in British banks (*1.2.0*) (all  $p < 0.05$  or better). Hence, British banks appear to increase their capitalization when discourse on banking regulation rises, which is in the expected directionality, but decrease it when discourse on risk-taking increases, which is the opposite directionality of Swiss banks' behavior and indeed our expectations.

While finding Swiss and British banks to be reactive to public discourse in terms of their capitalization is generally unexpected, based on proposition *A-1* and the embeddedness of risk-taking behavior, the difference in the directionality of the relationship also warrants attention. One explanation for this difference could be that the UK and Switzerland find themselves at opposite ends of the bank capitalization spectrum, as measured by *1.1.1 Tier 1 Capital Ratio (banks)* and *1.1.2 Total Capital Ratio (banks)*. On both measures, Swiss banks are the highest capitalized (18.61 and 21.45, respectively) and British banks the lowest (9.90 and 14.47, respectively). The polarization on *1.2.0 Tier 1 Leverage Ratio* is less extreme, but also shows Swiss banks to be

capitalized above the four-country average, while British banks are below. In Switzerland, discourse on banking regulation or the Basel accords (*S01*) may highlight how well-capitalized Swiss banks are relative to the requirements and their international counterparts, consequently allowing Swiss banks to relax their capitalization somewhat in order to reap higher profits. Discourse on risk-taking (*S02*), on the other hand, is toxic to the reputation of Swiss banks, as discussed earlier. In the British case, however, discourse on banking regulation and the Basel rules (*S01*) may well highlight the opposite—the relatively weak capitalization of UK banks—and hence prompt an upwards adjustment to signal proactivity or compliance. As the reputation of British banks is not as hinged upon being perceived as a ‘safe haven’ as their Swiss counterparts, they are not pressured to yield to public discourse on risk-taking (*S02*) and are free to follow industry trends towards higher risk-taking.

For the US, all six regression models are statistically significant ( $p < 0.01$ ), but a rather different picture emerges than in the other countries. As in Germany, public discourse does not appear to affect the risk-taking behavior of banks (models 1 to 3), but unlike all other countries there is a statistically significant relationship between discourse and the risk-taking behavior of American companies at large. Models 4 and 5 indicate that the leveraging of US companies becomes riskier as discourse on risk-taking (*S02*) increases: higher growth in discourse is associated with lower growth in *1.2.0.1 Shareholder Equity Ratio* (lower values indicate higher risk) and higher growth in *1.2.1. Financial Debt-Equity Ratio* (higher values indicate higher risk). This is a surprising finding not only because proposition *A-1* predicted firms to be unlikely to adjust to discourse on risk-taking, but also because the opposite effect would be more intuitive—after all, US companies rely heavily on equity-based financing and a perception of excessive riskiness might hinder access to capital. One way to square this could be that investors in US companies actually prefer risk over prudence, as it promises higher short-term returns. In other words, moving along with increasing risk-taking among US companies may actually be a form of shareholder value and continued access to capital in the country’s short-term orientated investment environment. This could be

a plausible explanation in light of the literature's support for the notion that ownership impacts corporate behavior, as firms need to cater to the demands of their investors (Gospel & Pendleton 2003).

More generally, the results appear to contradict proposition *A-1*, which expected firms to be less reactive to public discourse on deeply embedded issues. We defined risk-taking behavior as strategically and operationally embedded, given its role in structuring the firm's relationship to investors and shareholders, and thus future access to capital. Finding Swiss and British banks, as well as American companies to be reactive to public discourse is therefore unexpected and raises the possibility that risk-taking behavior was either misclassified as deeply embedded, or that proposition *A-1* is flawed—a point to be explored more fully in the discussion. In terms of country patterns, two models found evidence for public discourse shaping risk-taking of firms in CMEs, while four models did so for LMEs, thus lending support for proposition *A-2*.

#### 4.2.1.2 Accountability & Transparency

Accountability and transparency was measured by variable *1.4.0 Auditor Change*, an indicator variable of whether the company changed its auditor in a given year. It was regressed on two discourse measures; *S03*, which captures discourse related to auditor change, audit quality, and audit rotation, and *S03Alt*, a more general measure capturing discourse related to the 'big four' accounting firms.

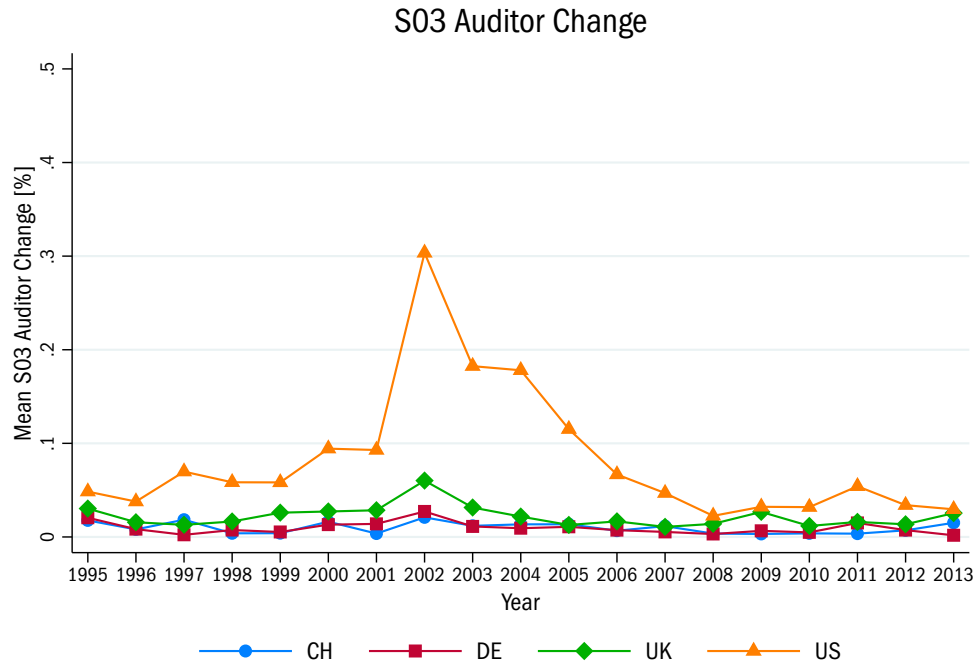


Figure 8: S03 Auditor Change

As a rather specific measure, *S03 Auditor Change* unsurprisingly shows very low levels of press coverage. In the three European countries, press coverage stays fairly stable throughout the period and remains well below 0.05%—with the only exception of an uptick in the UK in 2002. In the US, levels are higher overall, but are mostly driven by a significant spike in discourse in 2002, driven most likely by the Enron crisis and ensuing introduction, passage, and discussion of the *Sarbanes-Oxley Act of 2002*. The GFC does not appear to have caused a similar upswing in discourse on this measure, but slight increase can be noted for the UK in 2009 and the US in 2011.

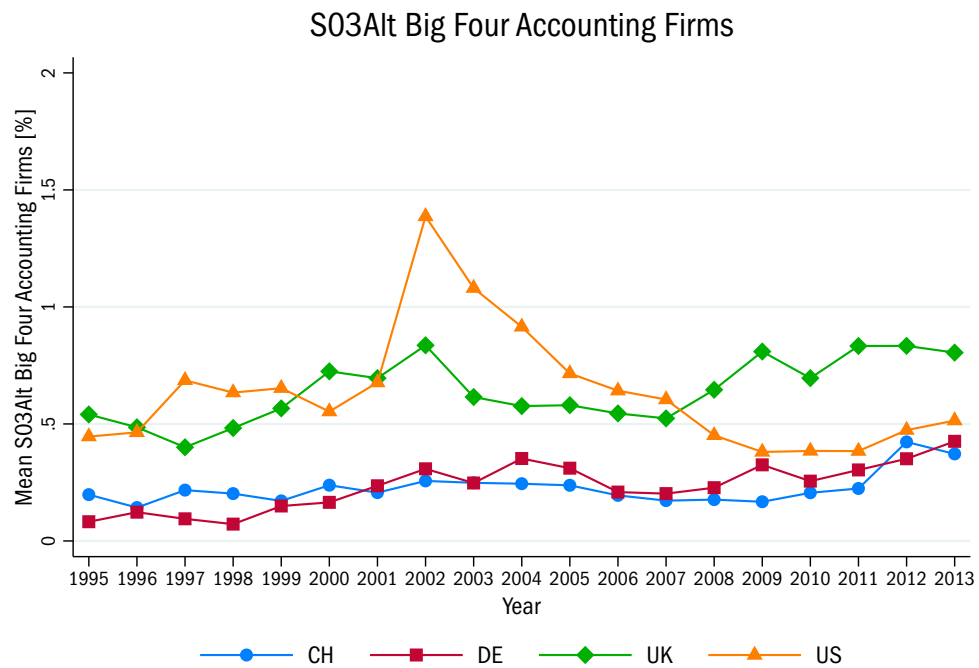


Figure 9: *S03Alt Big Four Accounting Firms*

A more general measure, *S03Alt Big Four Accounting Firms* displays higher levels of press coverage compared to *S03*. Around the time of the Enron crisis, the issue reaches high salience levels above 1%, comparable to presidential elections in an election year. Overall, there is a strong similarity to the previous measure in terms of country and time patterns—the pronounced Enron/Sarbanes-Oxley uptick in 2002 in the US, lower European levels of discourse, and rather limited increases in discourse around the GFC. One difference worth noting, though, is that the UK is much closer to the US on this measure than to Germany and Switzerland. In fact, discourse in the UK overtakes that in the US from 2008 onwards and comes close to the 1% threshold we consider highly salient.

The only model for this sub-issue (*1.4.0 Auditor Change*) is statistically significant for all countries other than the US, but fails to find statistically significant relationships between public discourse and firm practices in all cases. This suggests that public discourse on audit change specifically (*S03*) and auditors

more generally (*S03Alt*) does not affect whether companies change their auditor or not. Given that mandatory audit rotation rules have been mooted for years in the US and were recently implemented in the EU, and that we deemed accountability and transparency to not be deeply embedded, this result runs counter to our expectations and fails to support *A-1*.

## 4.2.2 Corporate Governance

Corporate governance is subdivided into three issue areas: shareholder orientation, board of directors, and executive pay. Shareholder orientation is assessed in terms of voting right distortions and distribution of net value added (NVA) to various stakeholder groups. The board of directors is measured in terms of size, separation of functions, and composition. Finally, executive pay is measured in absolute terms and as a ratio of average employee pay.

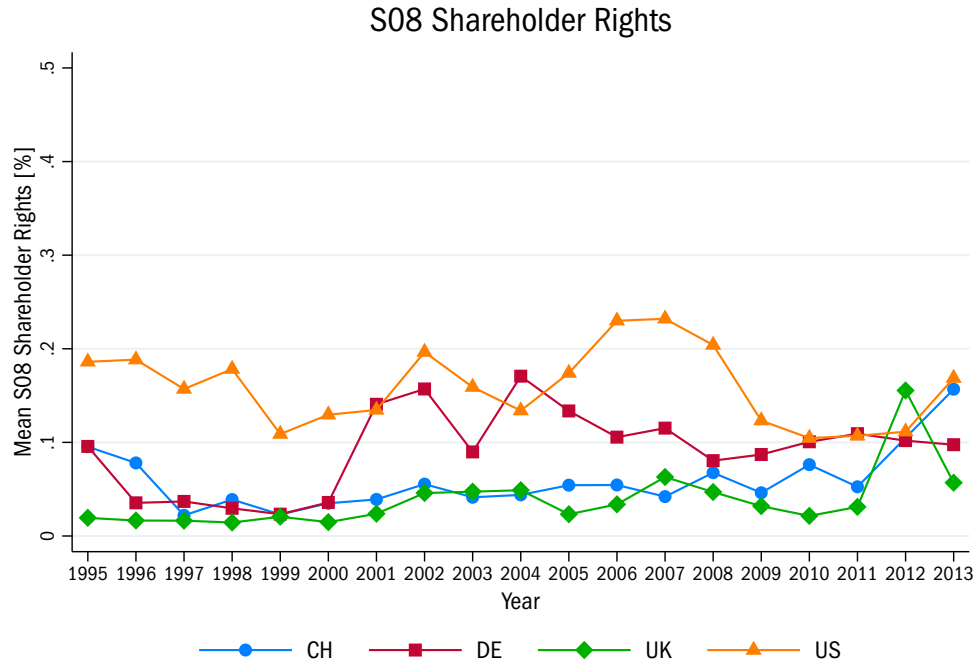
### 4.2.2.1 Shareholder Orientation

Shareholder value orientation is measured in terms of overall shareholder-friendliness of the company's share structure (*2.3.0 Shareholder Rights*) as well as the relative importance of various stakeholder groups as measured by the distribution of net value added (*2.4.2 - 2.4.7*). Variable *2.3.0* indicates whether the 'one-share-one-vote' principle (1S1V) applies to the company's share structure. Voting right distortions are signs of low shareholder value orientation, as they generally allow insiders such as founding families to retain control disproportionately higher than their holdings. Net value added (NVA) distribution is measured in terms of the percentage of NVA paid to five stakeholder groups: shareholders in form of cash dividends (*2.4.2*), employees in form of salaries and benefits (*2.4.3*), the state in form of taxes (*2.4.5*), creditors in form of interest (*2.4.6*), and the company in form of retained earnings (*2.4.7*).

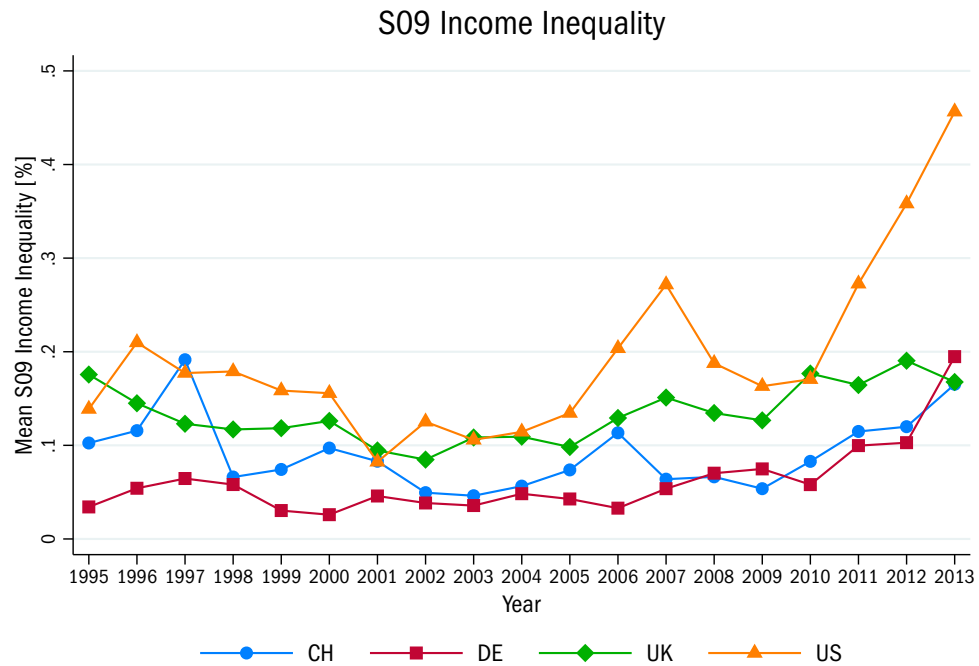
Three measures of public discourse are used in this sub-issue. The first captures discourse related to shareholder rights, minority shareholder protection, and activist shareholders (*S08*), the second is concerned with



income inequality and stakeholder orientation (*S09*), and the third is about corporate governance in general (*S10*).



Shareholder rights (*S08*) is a low-salience issue, with press coverage remaining below 0.25% throughout the time period. The issue is most salient in the US, but closely followed by Germany in the first half of the 2000s. In the UK and Switzerland, shareholder rights are very much a non-issue. In all countries except Germany, the measure shows an increase in salience beginning in 2011 that is likely related to introduction of ‘say on pay’ regulation.



*Figure 10: S09 Income Inequality*

Up until the GFC, income inequality (*S09*) is also a low-profile issue, with press coverage under 0.20% and declining from the mid-1990s until the mid-2000s. Although the four countries are fairly close together up to that point, the issue is more salient in the US and UK than in Switzerland and Germany throughout the period. The GFC is an obvious turning point for discourse on the issue in the US, where press coverage increases from about 0.17% in 2009 to 0.45% in 2013. It is worth noting, though, that 2012 was a presidential election year in the country, with income inequality a frequently discussed Democratic Party platform item, which may have driven press coverage. While this increase brings the issue close to the salience levels associated with presidential elections in non-election years, it remains at much lower levels than other political and societal issues, such as refugees and immigration. In the other three countries, discourse also increases towards the end of the period, but here the GFC is a less distinct breaking point.

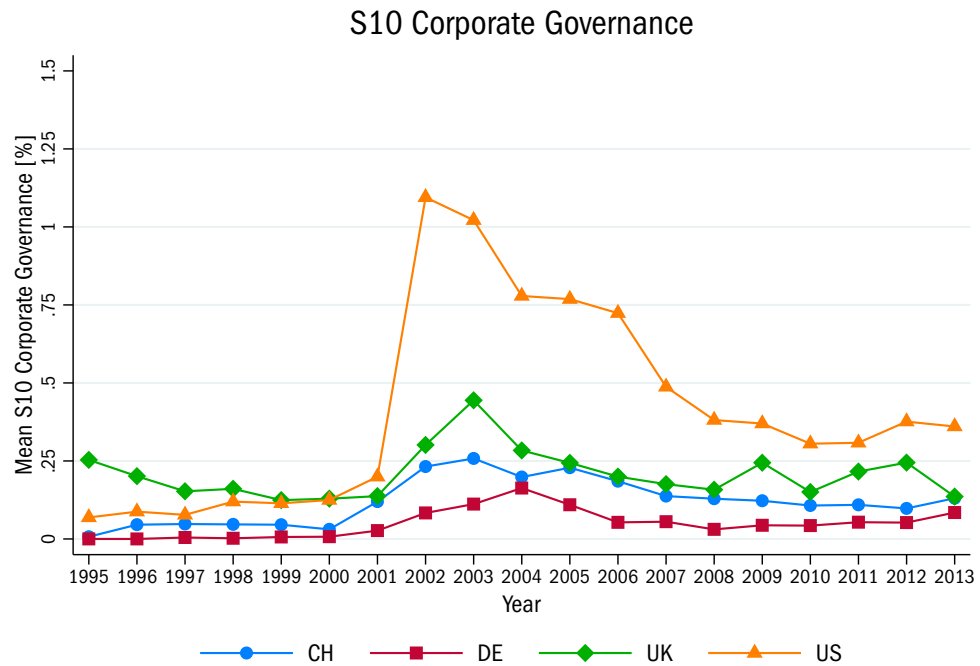


Figure 11: S10 Corporate Governance

Corporate governance (*S10*) is a more salient issue than the previous two. The year 2001 marks the issue's rise from relative obscurity in the late 1990s, when press coverage was mostly below 0.20%, into higher salience territory. This is unsurprisingly most pronounced in the US, where the Enron scandal and Sarbanes-Oxley Act brought corporate governance into a more mainstream spotlight, but also cast waves in Europe, where the issue also became significantly more salient during the mid-2000s. The issue exceeds the 1% high salience threshold only in the US at the peak of the Enron scandal though, before trailing off again in the late 2000s, without discernible impact of the GFC on corporate governance discourse. This is rather surprising given that the GFC can, at least partly, be attributed to excessive risk-taking, which in turn can be attributed to failures of corporate governance. Public discourse, however, does not appear to reflect this line of thought.

In terms of overall shareholder value orientation, as measured by the presence of a one-share-one-vote share structure (2.3.0), the regression models are not statistically significant in all four cases.

Distribution of NVA, measuring the relative prioritization of stakeholder groups, appears to be related to issue salience in some cases in Switzerland, the UK and the US, but not in Germany. All five NVA distribution models are statistically significant for Switzerland ( $p < 0.01$ ), however discourse is only related to growth in the percentage of NVA paid to the state (2.4.5). Increasing salience of shareholder rights (*S08*) is associated with higher growth in the share of NVA going to the state ( $p < 0.05$ ), while increasing salience of income inequality (*S09*) is associated with lower growth of the share going to the state ( $p < 0.01$ ). These results run counter to what we expected, evading obvious interpretation and indeed requiring caution due to model 11's low  $R^2$  of 2.63%. One possible interpretation could be that increasing discourse on income inequality is reflective of increasing stratification of salaries within Swiss companies, consequently lowering Swiss companies' payroll tax bills and other non-wage labor costs if average pay is decreased. However, data for 3.2.0 *Average Wage* shows an overall upwards trend of average wages paid by Swiss companies despite some periods of declining pay, making this interpretation tenuous.

In the German case four of five models are statistically significant ( $p < 0.01$ ), but none reveal significant relationships between discourse and NVA distribution, suggesting that the relative prioritization of various stakeholder groups is not related to salience of the issues considered here.

For the UK, all five models are statistically significant ( $p < 0.01$ ), of which two find significant relationships between discourse and NVA distribution. Increasing growth in salience of shareholder rights (*S08*) is linked to a higher growth in the share of NVA going to employees (2.4.3), while increasing growth in discourse on income inequality (*S09*) has the opposite effect ( $p < 0.05$  and  $p < 0.01$ , respectively)—both effects run opposite to what we expected based on the assumption that firms would generally yield to public discourse

and decrease controversial practices. Although there is no obvious interpretation for the former relationship, the latter could indicate that British companies either disregard increasing discourse on income inequality, or that they see no choice but to follow larger trends in order to remain cost competitive by keeping wage costs low. Average wages paid by British companies, as measured by 3.2.0, support this interpretation—the UK ranks lowest on this measure for the first decade in the time period covered and remains low for the second decade. Model 13 shows a statistically significant negative relationship ( $p < 0.05$ ) between growth in shareholder rights-related discourse (*S08*) and the share of NVA retained by the company (2.4.7). This is in line with our expectations and may indicate that increasing salience of shareholder rights translates into firm-level pressure to distribute NVA rather than retain it, presumably with preference given to shareholders. However, caution is required given that model 9 does not show a statistically significant relationship between *S08 Shareholder Rights* and 2.4.2 *Percentage of NVA to Shareholders*.

Four of five models are statistically significant for the US ( $p < 0.01$ ), all of which find significant relationships between issue salience and distribution of NVA. Increasing discourse on shareholder rights (*S08*) is linked to lower growth in the share of NVA paid to shareholders (2.4.2), higher share of NVA paid to employees (2.4.3), increased growth in the share of NVA going to the state (2.4.5), and lower growth in the share of NVA paid to creditors (2.4.6) (all  $p < 0.05$  or better). In all four cases the observed directionality of effect is opposite to that expected *a priori*. Interpretation of these results is difficult without more nuanced understanding of the content of public discourse on shareholder rights and may indeed show the limits of the methodology employed here. The more general discourse measure on corporate governance (*S10*) is associated with higher growth in 2.4.2 *Percentage of NVA to Shareholders* and higher growth in 2.4.6 *Percentage of NVA to Creditors* (both  $p < 0.05$ ), which is the directionality we expected to find. In other words, when corporate governance increases in salience, companies give shareholders

preferential treatment and pay a larger share of NVA to creditors, potentially reflecting higher leverage and thus interest payments.

Excluding the findings related to the US, the results support proposition *A-1*, as very few relationships between discourse and firm practice were found on the deeply embedded issue of shareholder value orientation. The US results muddle the picture, however, as several statistically significant relationships were found there. A possible interpretation could center on the country's widely dispersed ownership patterns, as indicated by the high proportion of shares in free float and very low ownership concentration. This could make it necessary for American firms to react to public discourse even on this deeply embedded issue in order to cater to shareholder demands and expectations of possible future investors. If this interpretation is correct, it would also highlight the institutional mediation of the relationship between discourse and practice, as suggested by proposition *A-2*. The latter is also supported by the higher incidence of statistically significant relationships found in the LMEs.

#### 4.2.2.2 Board of Directors

Six variables are used in this sub-issue to measure various characteristics of board size, separation of roles, and composition. Variable *2.5.0* measures board size as total number of directors. In countries with mandatory (Germany) or optional (Switzerland) two-tier board structure the number refers to the total number of directors on both tiers, i.e. supervisory board (Aufsichtsrat) and executive board (Vorstand). Involvement of the CEO on the board is measured by indicator variable *2.5.1 CEO on Board* and indicator variable *2.5.2 CEO-Chairman Combined Role*, both of which are structural zeroes in Germany. Hence, these two DVs cannot be used in that country for the regression analysis. Board composition is measured in terms of the percentage of non-executive directors (*2.5.3*), percentage of independent non-executive directors (*2.5.4*), and percentage of female directors (*2.5.5*). In two-tier board systems, *2.5.3* relates the size of the supervisory board to the total number of directors across both boards.

The firm-level measures are regressed on two public discourse variables: *S10 Corporate Governance* and *S11 Board of Directors*. The former was also used in the previous sub-issue and discussed there; the latter captures discourse related to company boards generally as well as more specific related issues, such as female directors or independent directors.

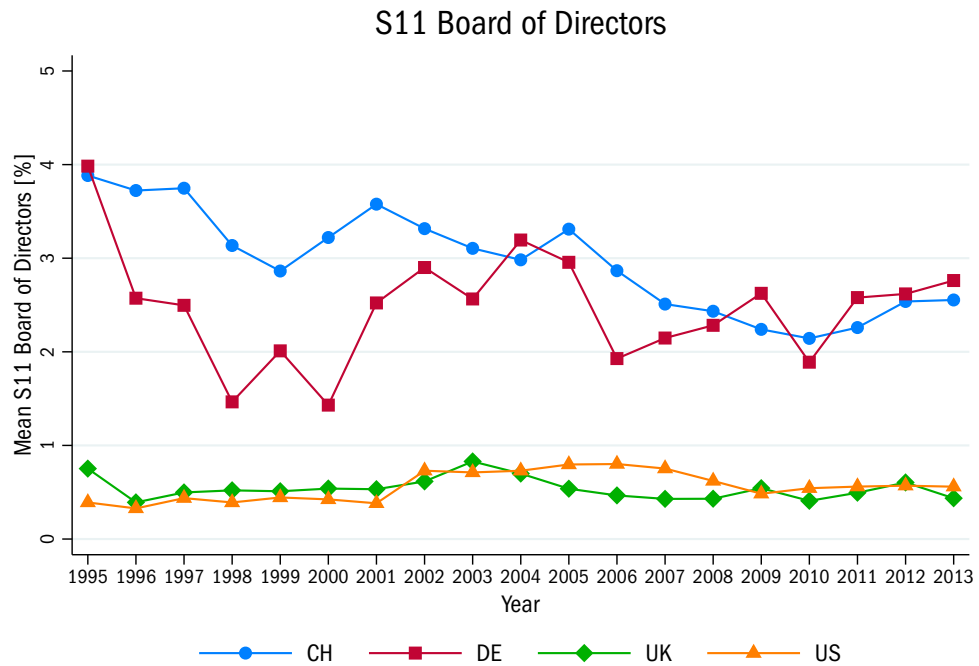


Figure 12: S11 Board of Directors

Discourse on the board of directors (*S11*) is at high levels throughout the period in Germany and Switzerland, with press coverage generally between 2.0% and 3.5%—comparable to salient political issues such as the refugees and immigration. In the US and UK salience levels are lower at around 0.75% and thus below our 1%-threshold for high salience. The large difference in salience between the two groups is likely to reflect linguistic or stylistic differences in reporting, as mentioning a director’s role in German-language newspaper articles tends to include the search terms used here, even if the article may not be concerned with company boards as such. No solution could be found to reduce these false positives that would not also remove

relevant articles. The two groups should therefore not be directly compared in terms of salience, but still enable analysis across time. All four countries experience increased salience in *SII* in the early to mid-2000s, possibly related to the marked increase in salience of corporate governance generally (*SIO*), which is in turn related to the Enron scandal, Sarbanes-Oxley, and wider debate around improving oversight and accountability. There is no obvious salience increase around the GFC in any of the four countries.

In the Swiss case, four models are statistically significant (all  $p < 0.01$ ), however three of the four find no significant relationships between salience and corporate behavior. The exception is model 17, which, in line with our expectations of directionality, finds a positive relationship between the salience of discourse on the board of directors (*SII*) and the percentage of non-executive directors (2.5.3) ( $p < 0.01$ ). First, this may indicate that Swiss companies shift to a two-tier board system when salience of company boards (*SII*) increases—although a unitary board with management and supervision responsibilities is the default in Switzerland, medium to large companies tend to ‘delegate’ management to a separate management board, hence splitting the functions akin to a German-style two-tier board structure (Gericke et al. 2014). Second, it could indicate that companies with a two-tier board increase the size of the supervisory board in relation to the management board.

In Germany, mandatory two-tier boards make the separation of CEO and Chairman roles compulsory and hence variables 2.5.1 *CEO on Board* and 2.5.2 *CEO-Chairman Combined Role* structural zeroes. The remaining four regression models are all statistically significant (all  $p < 0.01$ ), but none find significant relationships between the discourse measures used and board characteristics, suggesting that German firms do not adjust their board composition in reaction to discourse on the issue.

For the UK, four models are statistically significant at the 5% level, two of which find significant connections between salience and practice. Model 17 shows a negative relationship between the salience of corporate governance (*SIO*) and 2.5.3 *Percentage of Non-Executive Directors*, as well as a positive



relationship between discourse on the board of directors (*S11*) and 2.5.3 (both  $p < 0.01$ ). In other words, British companies appear to appoint fewer NEDs when salience around corporate governance at large rises, while the narrower discourse on the board of directors appears to be related to an increasing share of NEDs. Given that a higher share of NEDs is generally seen as beneficial to the board's supervisory duties, which led to our expectation of discourse on either measure being positively related to 2.5.3, the results raise a question as to why only discourse on boards specifically may pressure companies to increase their share of NEDs, while general discourse on corporate governance does not. Model 19 also finds significant relationships between salience and practice, in this case increasing salience of corporate governance (*S10*) is associated with increasing growth in the share of female directors (2.5.5), while increasing salience of the board specifically (*S11*) is linked to lower growth in the percentage of female directors (both  $p < 0.05$ ). Compared to the aforementioned model, the directionality is therefore flipped. This could be explained by NEDs as a somewhat older corporate governance issue that showed higher growth in the early 2000s but has slowed more recently, while women on boards are a more recent issue that shows accelerated growth in the post-GFC era (see Figure 29: 2.5.3 Non-Executive Directors and Figure 31: 2.5.5 Female Directors). To put it differently, NEDs may have peaked as a signal of good corporate governance before the beginning of the period covered, while female directors are a current signal of board diversity and good governance.

Four models are statistically significant for the US ( $p < 0.05$  or better), with one showing a significant relationship between salience and firm behavior. Model 18 suggests that increasing salience of *S10 Corporate Governance* is linked to a decrease in 2.5.4 *Percentage of Independent Non-Executive Directors*, while increasing salience of *S11 Board of Directors* is associated with a higher share of independent NEDs (both  $p < 0.05$ ). Given that we expected to find positive relationships between discourse and variable 2.5.4, a similar explanation as with the share of female directors in the UK could be plausible here. Most increases in the share of independent NEDs occurred at the beginning of the

period covered here and started to flatten from around 2003 onwards, suggesting that the early 2000s were the tail end of independent NEDs' role as a signal of cutting-edge boardroom governance (see Figure 30: 2.5.4 Independent Non-Executive Directors).

Taken together, some links between discourse and practice were found in three of the four countries, providing some support for proposition *A-1* on this less embedded issue. However, the results are not unequivocal, as there are few points of commonality across countries. Most statistically significant relationships found were unique to specific countries, which is surprising as we could have reasonably expected some issues to transcend national borders, such as female directors or the share of independent NEDs. Instead, these results suggest that corporate governance remains rather country-specific, which is also borne out by the patterns observed in the firm-level data. Although there are similar trends across all four countries—increasingly higher shares of NEDs, independent NEDs, and female directors—institutional differences bring issues to the fore at different times in different places or make them entirely moot, such as the trend towards separation of CEO and Chairman roles in the US that is mandated by law in Germany. Combined with most significant relationships found in LMEs on this issue, we can support *A-2* and the notion that institutions mediate the influence of discourse on practice.

#### 4.2.2.3 Executive Pay

Executive Pay is measured using three variables. *2.6.0 Total Executive Pay* is the sum of executive director pay as disclosed by the company, usually the total remuneration of C-suite executives. *2.6.1 Single Highest Executive Pay* measures the single highest executive pay package in the company, which may be the CEO, Chairman, or any other C-suite executive. *2.6.2 CEO Pay Ratio* expresses CEO pay as a multiple of average employee pay in the company.

Two discourse measures are used in this sub-issue. *S09 Income Equality* captures discourse related to the widening gap between rich and poor and represents a

social dimension of discourse that may affect corporate pay practices. The second measure (*S12*) is concerned with discourse on executive pay generally as well as shareholder votes on executive pay, also referred to as ‘say on pay.’ As *S09* is used in previous sub-issues, the data is described there.

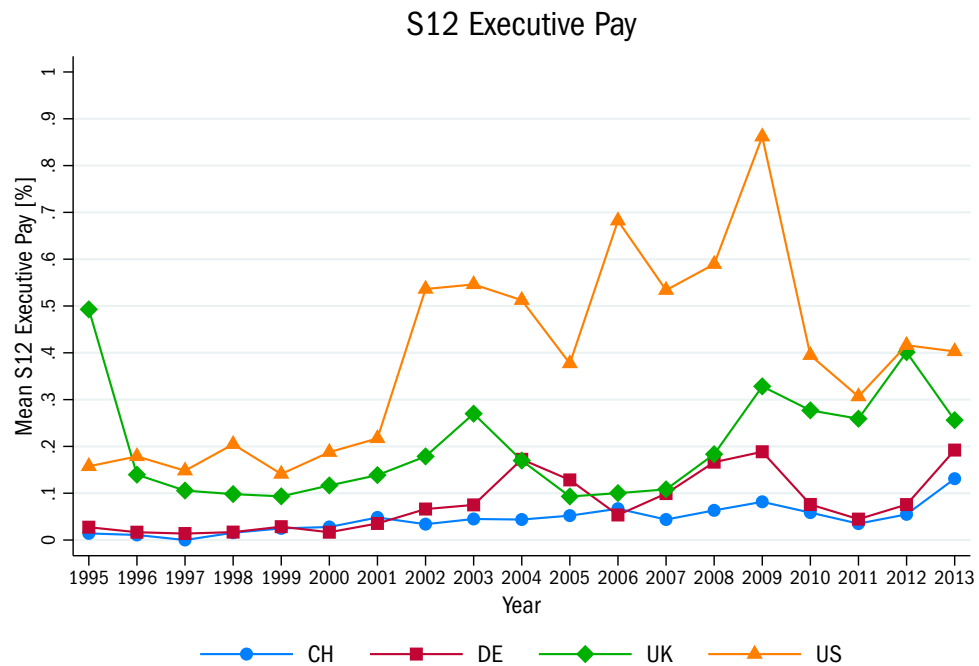


Figure 13: S12 Executive Pay

Executive pay (*S12*) is a low-salience issue for the first five-odd years in the time period covered here, but the early 2000s represent a turning point that bring the issue much more to fore, albeit remaining below the 1% threshold for high salience throughout the period. This happens first in the US with a significant jump in salience in 2002, a year later and to lesser extent in the UK, and again one year after in Germany. In the US, this can be linked primarily to the astonishing levels of CEO pay during the dot-com boom, which are also reflected in all executive pay measures used here. The ensuing dot-com bust, major accounting scandals and Sarbanes-Oxley legislation that banned heretofore abused executive loans and introduced ‘clawback’ provisions on executive pay further fanned the flames in the early 2000s.

Although executive pay levels in the other three countries were not as extreme as in the US at the time, the issue was debated there too, albeit at lower levels. While salience faded again in the mid-2000s in Europe, the issue remained pertinent in the US. The GFC increased salience significantly once more in all four countries, bringing it close to the 1% threshold in the US.

In all four countries the vast majority of executive pay-related regression models are statistically significant (all  $p < 0.01$ ), but discourse appears to influence executive pay practices in few and country-specific ways. For the US, model 22 suggests that increasing discourse on executive pay (*S12*) is associated with a lower CEO pay ratio (2.6.2) ( $p < 0.05$ ), in line with our expectations of directionality. No statistically significant coefficients were found for British firms, indicating that rising levels of executive pay there are still immune to public pressure. In Switzerland and Germany, firms were found to be reactive not to explicit discourse on executive pay (*S12*), but a more social dimension of discourse on income inequality (*S09*). The Swiss results are only statistically significant at the 10% level and thus tenuous, but suggest that increasing discourse on the issue (*S09*) is associated with a lower CEO pay ratio (2.6.2). In Germany, model 19 finds higher growth in discourse (*S09*) to be linked to lower growth in 2.6.1 *Single Highest Executive Pay* ( $p < 0.05$ ).

American firms are thus the only ones showing reactivity to public discourse and pressure on executive pay directly, lowering pay at least on one measure when discourse rises. This could be related to the country's vastly higher executive pay levels, exposing them more directly to public pressure and outrage. Companies in the continental European countries appear to lower executive pay when discourse on income inequality rises, suggesting reactivity to broader social concerns. These findings provide support for *A-1*, with firms in most countries appearing to yield to public discourse explicitly or implicitly related to the executive pay—in line with expectations on this less embedded and highly signal-heavy issue. British firms' apparent reluctance to adjust executive remuneration in response to public debate could be rooted in the country's 'say on pay' rules, which have given shareholders the right to non-binding votes on executive pay since 2002—much sooner than elsewhere.

While executive pay undoubtedly has a public-facing element, as outrage over excessive pay during the GFC has demonstrated, it is plausible that this institutionalized channel for shareholders to voice their concerns over pay has removed the need or inclination among management to yield to wider public debate. Although the results for this sub-issue do not support *A-2*, as more instances of reaction to discourse were found in CMEs than in LMEs, the British case highlights the likely institutional boundedness of the relationship between discourse and practice—albeit not in the way anticipated.

### 4.2.3 Labor Relations

The issues considered in the institutional sphere of labor relations are employment and pay. *3.1.0 Employment Level* captures the total number of employees, while *3.2.0* is a measure of average employee pay.

For this institutional sphere, two discourse measures are used. As for previous issue areas, *S09 Income Inequality* captures a social dimension of discourse and was discussed more fully previously. The second measure, *S13 Layoffs*, captures debate around job cuts, redundancies, and hiring and firing.

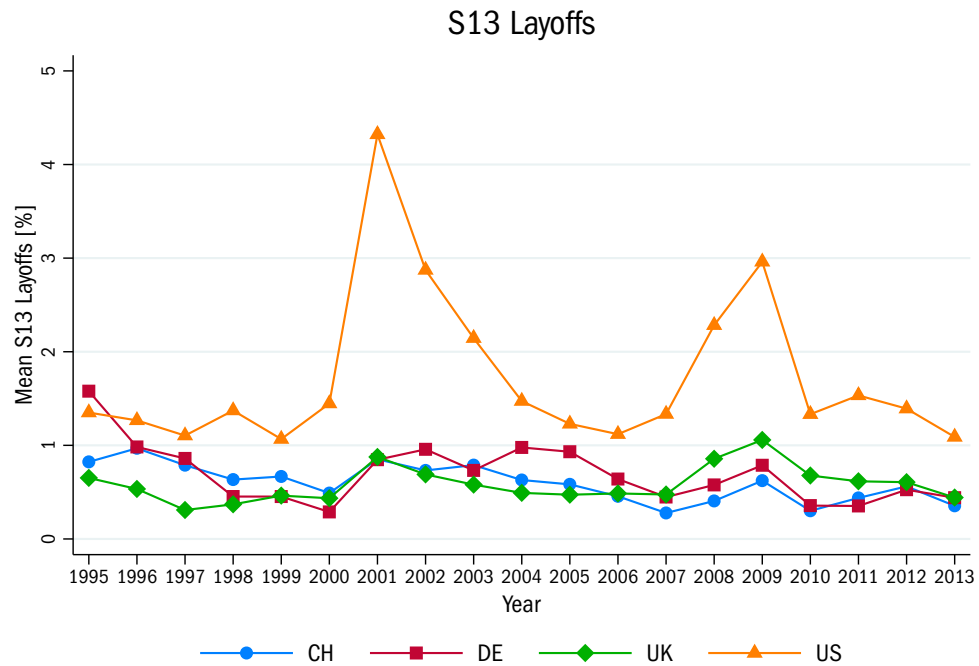


Figure 14: S13 Layoffs

Compared to most other discourse measures used in this study, *S13 Layoffs* is at fairly high levels of salience throughout the period, presumably because mass redundancies are high-impact events that receive extensive press coverage. The issue remains above the 1% threshold for ‘high salience’ throughout the period in the US, but just below it in the European countries. Although most pronounced in the US, all countries show two spikes in salience; the first in 2001, the second in 2009. The latter is clearly related to the GFC and the mass layoffs that came with the economic downturn, while the former is likely the result of a confluence of factors. The dotcom-bust and ensuing recession are clear driving forces in the US, but it is also most likely related to the M&A wave of the time and redundancies that came with it (Daimler-Chrysler being a prominent example), as well as the 9/11 attacks that significantly affected the airline industry and prompted mass layoffs at Boeing. The year 2001 represents a high-water mark for job losses in mass

layoffs for the US, with 2.5 million workers losing their jobs that year (Cascio 2015).

In Switzerland and Germany, both regression models are statistically significant (all  $p < 0.01$ ), but do not reveal significant links between discourse and practice. In the UK and US, however, the results do find such relationships.

In the UK, both models are statistically significant ( $p < 0.01$ ). Model 23 shows that increasing salience of layoffs (*S13*) is associated with lower growth in *3.1.0 Employment Level* ( $p < 0.05$ ), which is the opposite directionality we expected. While this may simply point to coevolution of discourse and practice, it might also indicate an element of normalization, whereby increasing salience of layoffs highlights to corporations the increasing occurrence and perceived benefits of downsizing, making layoffs or hiring freezes in their own company more acceptable and perhaps attractive. Although there are no relationships between discourse and *3.2.0 Average Wage* at the conventional 5% significance cutoff, increasing discourse on layoffs (*S13*) is associated with increasing growth in average pay at the 10% level. While tenuous, this might indicate that in times of mass layoffs average pay rises as a result of redundancies being made more heavily among lower-paid workers.

Results for the US show a different pattern than the UK. Here, both models are also statistically significant ( $p < 0.01$ ), but increasing discourse is associated with higher employment and pay. As model 23 indicates, increasing growth in discourse on income inequality (*S09*) and increasing discourse on layoffs (*S13*) are both linked to higher employment levels (*3.1.0*) (both  $p < 0.05$ ). Similarly, model 24 finds a positive relationship between salience of income inequality (*S09*) and growth in *3.2.0 Average Wage* ( $p < 0.05$ ). These results are in line with what we expected on these measures and suggest that public pressure on social issues or reporting on mass redundancies is linked to higher employment and pay in the US. However, they are diametrically opposed to what we found for the UK, as discussed above.

How can those two very different dynamics be reconciled? One explanation could be that US companies are sensitive to public opinion and pressure as ill repute could lower sales and consequently shareholder returns, while those in the UK see rising salience as legitimation for engaging in similar practices as their peers, in this case layoffs. This would also be congruent with the UK's more shareholder-friendly company law regime, as mass layoffs may well increase short-term profitability and could hence be seen as improving shareholder value. In both cases, firms would thus adjust their behavior to public discourse in idiosyncratic, institutionally-bound ways.

While finding evidence of firm behavior being linked to public discourse in terms of employment and pay is at odds with proposition *A-1* due to the deeply embedded nature of this issue, the country patterns found support *A-2*.

### 4.3 Summary

Finance and accounting shows some areas of connection between discourse and practice. Banks appear to be reactive to discourse on risk-taking and banking regulation, but in different directions depending on the circumstances. Swiss banks are well capitalized and therefore not threatened by tighter regulation, but dependent on a low-risk perception and hence reactive to such discourse. British banks are typically much less well-capitalized and therefore more reactive to regulatory discourse, potentially to show proactive behavior and avert tighter regulation. German and US banks' behavior is unrelated to discourse, possibly due to the middle-of-the-road capitalization of their banks. However, American companies appear to become more risk-taking when associated discourse increases, possibly because moving along with increasing risk-taking among US companies may actually be a form of shareholder value and continued access to capital in the country's short-term orientated investment environment.

In terms of accounting and transparency, the results suggest that companies do not adjust to salience on the issue. Given that we expected some



adjustments to public pressure to be the case here, given the signaling power of proactive auditor change and the less embedded nature of the issue, it is possible that the measures used here do not capture it or that associated proposition *A-1* is incorrect—a point to be taken up in the discussion.

Shareholder value orientation is generally not related to discourse, although there are some exceptions, mostly for the US, where increasing discourse on corporate governance may lead companies to give shareholders preferential treatment and pay a larger share of NVA to creditors, potentially reflecting higher leverage and thus interest payments.

Board characteristics appear to be reactive to discourse on some measures, possibly due to the highly visible nature and signaling power of board composition. Corporate governance appears to remain a rather country-specific issue, which is also borne out by the patterns observed in the firm-level data. Although there are similar trends across all four countries—increasingly higher shares of NEDs, independent NEDs, and female directors—institutional differences bring issues to the fore at different times in different places or make them entirely moot.

In terms of executive pay, the results found evidence of decreased pay in reaction to public discourse, albeit in country-specific ways that suggest direct pressure to have more sway in liberal economies and wider social concerns to influence pay in coordinated economies.

Labor relations practices are not strongly related to discourse, particularly in Switzerland and Germany. In the UK and US, however, some links between discourse and practice exist that suggest a pattern of normalization of downsizing in the UK consistent with providing shareholder value and sensitivity to public perception in the US for similar reasons.

Taken together, it is apparent that discourse and practice are related in some cases, but not on all issues or indeed in all countries. Broadly, the results support proposition *A-1* and the notion of strategic or operational embeddedness of issues moderating the impact of public discourse on corporate practice. The issue areas found to be more reactive to discourse

tend to be those that are less embedded, but of high visibility and signaling power to the public and investors, such as board governance and executive pay. Issues that appear less connected to discourse—such as risk-taking behavior of companies generally, shareholder value orientation, or labor relations—are more deeply operationally embedded. However, some deviations from expectations were also found, including banks adjusting bank capitalization in line with discourse, and the absence of reactivity on accountability and transparency measures. These issues will be explored further in the discussion.

Country-level patterns provided strong support for proposition *A-2*, with the majority of statistically significant relationships between discourse and practice found in the LMEs. In the US and UK combined, 16 models found such relationships, while only 5 are evident in Switzerland and Germany. These high-level patterns as well as several specific cases elaborated in this chapter suggest that the relationship between discourse and practice is institutionally mediated, with firms in CMEs relying more extensively on institutionalized channels to coordinate with their stakeholders, while those in LMEs have to use public channels to meet expectations of affected parties.

# 5 Firm-Level Processes of Change

## 5.1 Introduction

The previous chapter has shown that companies are only generally reactive to public discourse on a limited range of issues, primarily those less strategically or operationally embedded, and more so in LMEs than in CMEs, due to the absence of institutionalized channels of coordination in the former type. In times of severe crisis, however, the dynamics of this relationship between discourse and practice are likely to be quite different. Crises, scandals, and the public discourse that comes with such major events may discredit previous norms of behavior, leading to uncertainty about how corporations can signal compliance and legitimacy under those new circumstances (Blyth 2002). Processes of mimetic isomorphism—usually smaller firms imitating larger and more successful peers—reduce this uncertainty by allowing them to blend in and show compliance with new ‘best practice’ (Meyer & Rowan 1977; DiMaggio & Powell 1991; Scott 1995; Westphal & Zajac 2001).

These processes of mimetism occur at all times, but are accelerated by major crises, as crises may lead to defection from previous norms and are characterized by uncertainty—increasing the likelihood that companies imitate each other’s behavior. Hence, mimetic isomorphism can be an important and powerful mechanism that translates triggers (crises and public discourse) into change in corporate practices that may coalesce into new norms. Such ‘critical mass’ is an important condition for bottom-up change to occur, as it depends on a few large and powerful firms or many smaller firms to change their behavior, pushing at the boundaries of the law and establishing new forms of compliance. Even where these changes in practice

do not push at the boundaries of the law, but represent a significant shift in ‘average’ behavior within legal boundaries, these actions could signal to policymakers and regulators that companies are reacting to a crisis and are ‘righting the wrongs’ which caused the crisis or scandal to occur.

Based on the literature, three areas for discussion were identified with regards to firm-level processes of mimetic isomorphism:

- (1) where and how mimetic isomorphism occurs, i.e. whether it leads to initial spread of behavior and subsequent convergence;
- (2) how sectoral differences affect mimetic isomorphism, i.e. whether highly internationalized sectors are more likely to exhibit such behavior; and
- (3) whether different types of mimetic isomorphism are associated with different modes of change in firm practices.

With regard to the first discussion point, the literature suggests that crises spread a ‘great confusion’ of sorts, leaving actors without their usual compass directing them on what behaviors are appropriate or even in their interest (Blyth 2002). Through the direct impact of the crisis on corporate practices, as well as the confusion over appropriate behavior, we therefore expect firm behavior on issues rising in public discourse during the crisis to show a pattern of initial spread and increased heterogeneity. Once new role models emerge and firms start to imitate each other’s behavior in order to reduce uncertainty, we expect to find convergence of practices on these new ‘best practices’ and greater homogeneity.

*Proposition B-1: Institutions and practices discredited due to crisis become a source of uncertainty, initially leading to larger variation of practices.*

*Proposition B-2: Once new role models emerge, corporations start to mimic their behavior in order to blend in with perceived best practice. This leads to a convergence of corporate practices.*

Regarding the second discussion on sectoral differences, the literature indicates that ‘dominance effects’ (C. Smith & Meiksins 1995) will be seen,

whereby imitation of dominant economies and associated best practices among MNCs is intensified with increasing global economic integration. Mimetic isomorphism in reaction to a crisis should thus be more likely in highly internationalized sectors, leading us to expect the highly internationalized financial sector to exhibit more pronounced patterns of mimetic isomorphism than the more domestically bound non-financial firms. While dominance effects exist at all times, severe crises may create a new hierarchy of economies. As some economies suffer more than others, the previously dominant model may become discredited and replaced by an economic model that fared better throughout the crisis—in practical terms we may expect the German model to replace the Anglo-Saxon model as the former fared better through the crisis and became described as a role model once again after the GFC (Groom 2013; Volkery 2013).

*Proposition B-3: Mimetic isomorphism is stronger in highly internationalized sectors, such as the financial industry.*

*Proposition B-4: Crises may establish a new hierarchy of dominant economies, creating new role models both in terms of economic policy and associated corporate practices.*

Finally, regarding the third discussion point, three types of mimetic isomorphism are conceptualized along with expectations for their effects on firm practices. Within-group mimetism, whereby companies copy the behavior of their immediate peers, is similar to Abrahamson's (1991) innovation and reputation-based fad perspective. We expect this type of mimetism to primarily lead to convergence of firm behavior without shifting average practice significantly. Drawing on Abrahamson's (1991) fashion perspective, outside-of-group (or between-group) mimetism is operationalized as mimetic isomorphism between sectors, i.e. between the financial and industrial sectors. As financial and industrial firms are likely to differ in some of their practices, this type of mimetism can be expected to bear a larger potential for shifting firm practices in a substantial way than within-group mimetism, for instance by leading to a step change in the pace of previous trends. International-level mimetism, whereby companies copy the behavior

of global peers, are expected to be rare, but able to shift firm practices most radically, for example by reversing the directionality of previous trends.

*Proposition B-5: Changes in firm behavior induced by within-group mimetism are likely incremental, as firms within the same group are already relatively similar.*

*Proposition B-6: Outside-of-group mimetism has the potential to shift firm practices in a more radical way than within-group mimetism.*

*Proposition B-7: Cross-border mimetism has the largest potential for radically changing firm practices.*

The methodological approach to analyzing firm-level change for evidence of mimetic isomorphism is based on the use of analysis of variance (ANOVA). While this differs from many studies of isomorphic processes among organizations, which use the proportion of prior adopters (prior probability) in the organizational field as the measure of mimetic isomorphism (Mizruchi & Fein 1999; Han 1994), the continuous variables used in this study to measure of corporate practice require a different approach. The use of ANOVA for the purpose of testing for mimetic isomorphism builds on Kostova and Roth's (2002) use of ANOVA to compare the similarity of institutional systems and Cuomo et al's (2013) use of t-tests to analyze for significant differences in firm behavior across time.

An extension of the t-test, ANOVA compares means within groups with means between groups (Field 2013). It is thus used to evaluate whether groups become more similar during crisis situations, as would be expected if there is mimetic isomorphism at play. If ANOVA produces significant result, we reject the null hypothesis that the samples (groups) are drawn from the same population or that the differences between the samples are due to chance alone. Hence, when  $p < 0.05$ , we conclude that the groups exhibit significantly different practices (Tharenou et al. 2007, p.211). Aside from the significance test, ANOVAs also produce an F-test. This is the ratio of between-group mean square and within-group mean square ( $F = \text{betweengroup} / \text{withingroup}$ ), therefore the closer F is to 1, the closer to each other are the groups (Agresti & Finlay 2009, p.500). Changes in F therefore indicate whether groups are

becoming more or less similar. This forms the basis for interpreting the ANOVA results—groups ceasing to be statistically significantly different, or F-test values dropping significantly and coming close to 1 is evidence for convergence between the practices of the groups compared.

There are limitations to this approach which bear discussing. Convergence between groups may not be driven by mimetic isomorphism, but could occur for a number of reasons, such as economic circumstances delimiting choice or regulatory pressure. In the latter case, the results would be indicative of coercive rather than mimetic isomorphism. This is not necessarily a problem, however, as such behavior still conforms to the patterns we are looking for here—widespread change in firm-level behavior in times of major crisis, which may ultimately influence legal and regulatory change. Results, therefore, require careful interpretation for alternative explanations, however, generally convergence in times of severe crisis and on a highly salient issue is interpreted as indicating mimetic isomorphism. While a focused case study would be capable of asking a small number of specific companies as to why they have chosen to change their behavior, and whether they consciously imitated their peers' practices, the scale required for statistical analysis within this study and its focus on macro patterns makes this an impossible task. For establishing the macro pattern of firm behavior the use of ANOVAs represents arguably an innovative approach to make most of publicly available data.

ANOVAs are performed for each of the firm practice variables discussed previously and for each year, to identify patterns across issue areas and time. As argued in the literature review, we may expect mimetic isomorphism to occur on three levels:

- (1) Within groups, i.e. between small and large firms within the same sector. To create these groups, the sample of companies was split in half into the smallest and largest 50% of firms by market capitalization in that year, separately for each country, year, and financial and non-

financial firms. This results in eight series of ANOVAs, one for financial firms, one for industrial firms in each country.

- (2) Between groups, i.e. between financial and non-financial firms. Four series of ANOVAs are run to test for this level of mimetism, one for each country.
- (3) International-level mimetic isomorphism between the four countries. A single series of ANOVAs tests for this level of mimetism.

As argued at the outset of this chapter, we are interested in the combination of uncertainty and public discourse/political salience as a driver of mimetic isomorphism. While ANOVAs were run for all firm-level variables as a robustness test (full results tables are in the appendix), the focus in this chapter is on issues that are highly salient during the two major crises within the time period covered—the dot-com crash of the early 2000s and the global financial crisis (GFC) of the late 2000s. While the dot-com crash was more pronounced in the US than in Europe, it had knock-on effects there, too. The US was in recession between March and November 2001 (National Bureau of Economic Research 2012), while Germany and Switzerland saw quarterly GDP contraction between mid-2002 and mid-2003 (OECD 2012). The UK avoided recession during this period, but we may still expect some effects there too due to interconnected markets and public debate. The dot-com crash is therefore a more ‘blurry’ event than the GFC, with less synchronized and uniform impact on the four countries. For the GFC, the crisis years can be defined more easily as 2008 and 2009, when all four countries experienced negative quarterly GDP growth (OECD 2012).

The political salience measures introduced in the previous chapter show how the two crises are constructed in public discourse. The early 2000s are a period of intense debate on corporate governance generally (*S10*) and issues associated with it (*S09 Shareholder Rights*, *S11 Board of Directors*), as well as the ‘big four’ accounting firms (*S03Alt*) and auditor change (*S03*). The GFC, on the other hand, primarily sparked discourse on the regulation of banks (*S01*), corporate risk-taking behavior (*S02*), executive pay (*S12*), and income



inequality (*S09*). These differences are not surprising—after all, the dot-com bubble and the series of high-profile corporate failures at the time were mainly results of fraud, audit failure, and ultimately corporate governance issues, while the GFC can be attributed to excessive risk-taking and poor oversight of the financial sector—this highlights the different ways in which the two events are constructed, what corporate behaviors have been discredited, and where we may expect change in corporate practice and mimetic isomorphism.

The issue areas to be discussed in this chapter are therefore bank capitalization and risk-taking behavior, as well as executive pay—the two issue areas most associated with the GFC—and corporate governance and auditing, which are highly salient issues during the dot-com crash. Given their lower salience across both crisis periods, labor relations and some aspects of corporate governance (shareholder orientation) are not discussed in this chapter. The structure of this chapter follows the three salient issue areas, with ANOVA results presented and analyzed along the propositions outlined above.

In order to sustain propositions *B-1* and *B-2*, we would expect the ANOVA result tables to show a pattern of higher dispersion, i.e. higher F-test values and groups becoming statistically significantly different, in immediate reaction to a crisis or shock event, followed by convergence as indicated by falling F-test values and groups ceasing to be statistically significantly different. Support for proposition *B-3* will take the form of a higher incidence of patterns congruent with *B-1* and *B-2* (or at least *B-2*) in the financial firm sample compared to the non-financial firm sample. Analysis for *B-4* will combine ANOVA results and trajectory of national averages of the firm-level measures; in order to substantiate *B-4* we would expect to find convergence in the ANOVA results and aggregate firm-level data showing that firms move towards a different role model than before the crisis/event in question. Propositions *B-5* to *B-7* similarly draw on comparing ANOVA results with patterns shown in the national aggregates of the firm-level data. To support these propositions, we would expect to find larger shifts in average firm behavior to coincide with evidence for higher-order types of mimetism, i.e.

convergence between countries to be associated with larger changes in firm-level practices than convergence between financial and non-financial firms, which would in turn be associated with larger shifts in corporate practice than convergence between firms within the same sector.

## 5.2 Results

### 5.2.1 Bank Capitalization and Risk-Taking Behavior

#### **Bank Capitalization**

The three measures of bank capitalization (*1.1.1 Tier 1 Capital Ratio*, *1.1.2 Total Capital Ratio*, and *1.2.0 Tier 1 Leverage Ratio*) show quite similar patterns of change during the GFC. Banks in Germany, the UK and US adjusted their capitalization upwards during the crisis, thereby reducing their risk exposure. Interestingly, British banks made the largest upward adjustment from 2006 to 2007—a year earlier than their German and American peers—indicating that they either anticipated the crisis better or felt a more urgent need for adjustment given their comparatively low capitalization levels before the crisis. On *1.1.1 Tier 1 Capital Ratio*, UK banks increased capitalization from around 8% in 2006 to 12.5% in 2007, before further slight upward adjustments at the end of the observed period. American banks made a larger jump from about 8.5% in 2007 to 17.5% the year after, but adjusted slightly downwards in the post-GFC years. German banks increased core capitalization more gradually beginning from 10% in 2007 to almost 20% at the end of the period.

### 1.1.1 Tier 1 Capital Ratio

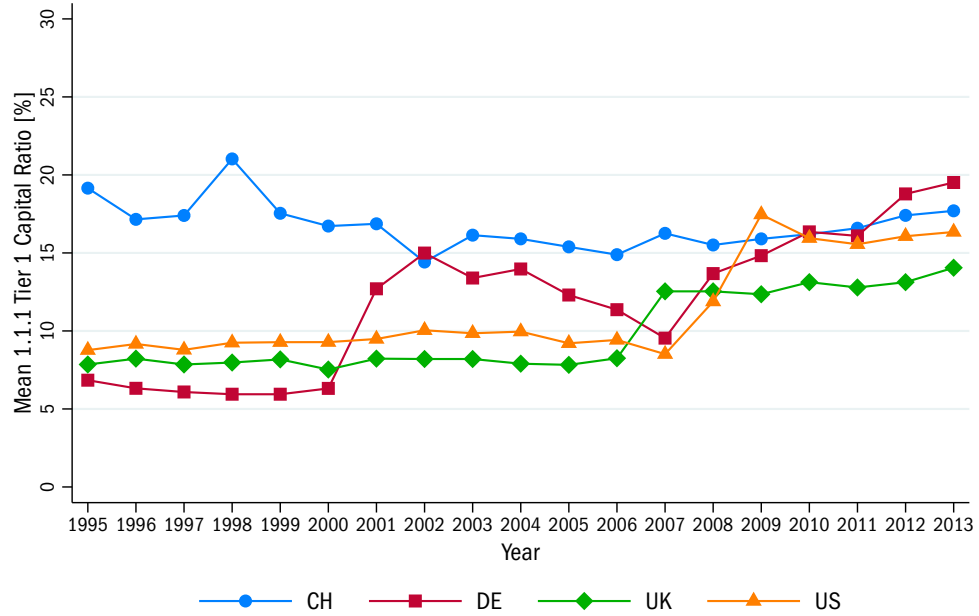


Figure 15: 1.1.1 Tier 1 Capital Ratio

The broader capitalization measure *1.1.2 Total Capital Ratio* shows very similar patterns. Swiss banks show no adjustment on core capital (*1.1.1 Tier 1 Capital Ratio*) and slight reduction in total capital (*1.1.2 Total Capital Ratio*) compared to average pre-crisis levels. As Swiss banks had much higher capitalization levels than their counterparts in the other three countries before the GFC, particularly on tier 1 capital, they may have seen no reason for making adjustments. In other words, banks in the other three nations converged on Swiss levels of capitalization, resulting in less international variation in the post-GFC years. To be sure, these trends are very likely also connected to regulatory changes as part of the Basel Accords. Such links between firm-level patterns of change and legal or regulatory change will be established and discussed in the next chapter, however.

### 1.1.2 Total Capital Ratio

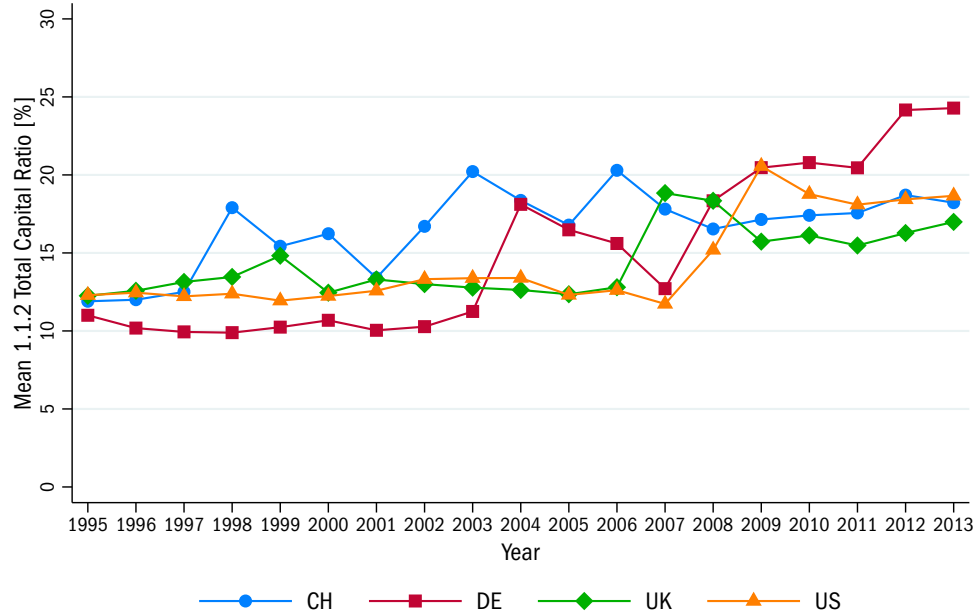


Figure 16: 1.1.2 Total Capital Ratio

Comparing the above patterns with *1.2.0 Tier 1 Leverage Ratio*, which is similar to *1.1.1 Tier 1 Capital Ratio* but does not use risk-weighted assets, reveals the risk composition of banks in the four countries. German banks hold little capital in non-risk weighted terms (*1.2.0*) but rank highly when taking risk into account (*1.1.1*), indicating risk-averse investments compared to their foreign peers. American and British banks, on the other hand, appear to show more appetite for risky lending as they rank highly on *1.2.0*, but relatively low on *1.1.1*.

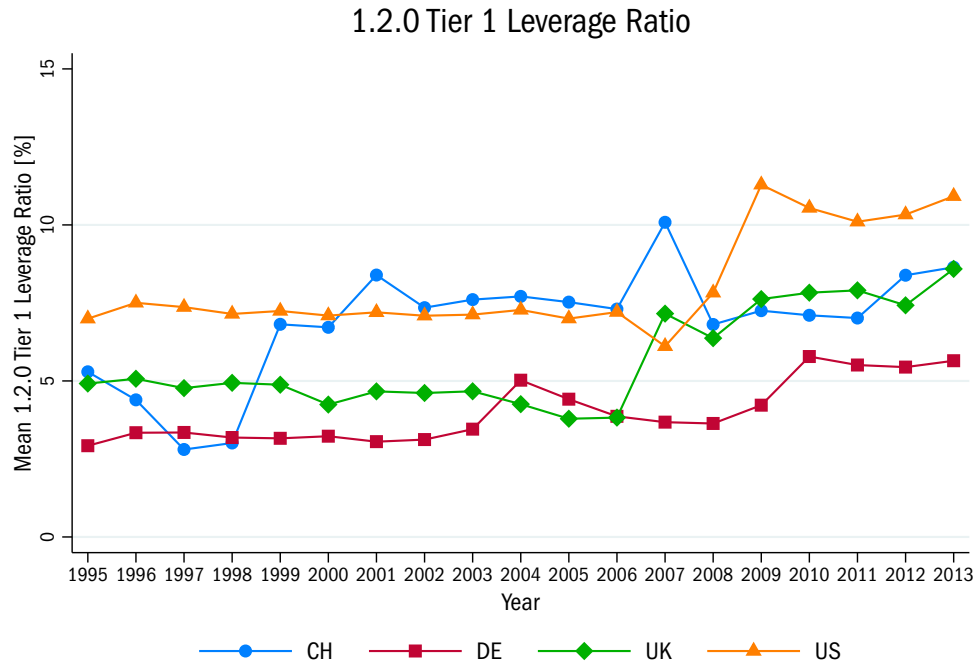


Figure 17: 1.2.0 Tier 1 Leverage Ratio

From these trends alone, convergence on *1.1.1 Tier 1 Capital Ratio* beginning with the GFC is evident, pointing to banks taking similar approaches to their risk portfolio. Measure *1.1.2 Total Capital Ratio* also shows convergence of firm practices during the crisis, but appears short-lived. No distinct convergence patterns show on *1.2.0 Tier 1 Leverage Ratio*. To what extent do these trends correspond with the ANOVA results and are hence likely driven by mimetic isomorphism?

The within-group ANOVA results for Swiss financial firms’ tier 1 leverage ratio (*1.2.0*) show an average F-test value of 0.150 for the pre-crisis period (2000-2007), indicating that the difference between capitalization of small and large Swiss banks differed to some extent, but not enough to become statistically significant at the 5% level. In 2008, the F-test value jumps to 3.458 ( $p < 0.10$ ), showing spread of practices making the groups significantly different at the 10% level. From 2009 onwards, the average F-test value is 0.912, showing high similarity between the groups—in line with our expectations for

initial spread (proposition *B-1*) and subsequent convergence of practices (*B-2*).

A similar pattern is evident in the within-group ANOVA results for German financial companies, where *1.2.0 Tier 1 Leverage Ratio* shows high dispersion of practices in the crisis years (F-test average for 2007-2009 is 5.365,  $p < 0.10$ ), followed by more similar practices in the post-crisis years (F-test average for 2010-2013 is 1.041). However, in the German case the spread of practices actually starts before the onset of the GFC, with practices being statistically significantly different between small and large financials in 2004, 2005, and 2007 ( $p < 0.05$ ). Hence, the spread of behavior during the GFC could be due to the crisis, but may also be related to the previous spread of behavior. Indeed, the latter interpretation may be more plausible with the early 2000s as a period of increasing bifurcation of the German banking sector, as large banks shifted away from the traditional Hausbank-model towards investment banking, while smaller banks retained those practices (Jackson & Sorge 2012). On the other measures of bank capitalization, *1.1.1 Tier 1 Capital Ratio* and *1.1.2 Total Capital Ratio*, German and Swiss banks' practices contract and expand frequently, showing no clear patterns in support or against the propositions.

For the UK, missing data prevents full analysis of within-group mimetism among banks, but available data suggests a very heterogeneous British banking sector, with small and large financials being statistically significantly different ( $p < 0.05$ ) on all measures of capitalization and risk-taking in the vast majority of years. This heterogeneity makes interpretation of the ANOVA results difficult, but there is nonetheless an indicator of firm-level adjustment during the GFC: measure *1.2.0 Tier 1 Leverage Ratio* has a much higher F-test value in 2009 (216.3) than two preceding (average  $F = 146.5$ ) or following years (average  $F = 96.7$ ). In 2012, differences in tier 1 leverage between small and large British banks even cease to be statistically significant ( $F = 1.877$ ). These results for the UK require cautious interpretation, but available data does suggest a pattern consistent with *B-1* and *B-2*.

The results for the US offer the perhaps clearest support for propositions *B-1* and *B-2*. Here, all three measures of bank capitalization show spread of behavior during the GFC followed by convergence in the post-crisis years. Measures *1.1.2 Total Capital Ratio* and *1.2.0 Tier 1 Leverage Ratio* are statistically significantly different in 2008 ( $p < 0.05$ ), while *1.1.1 Tier 1 Capital Ratio* is slightly above the 5% significance level, but within the 10% level. The earlier two variables also show their highest F-test values for the entire period in 2008. Convergence sets in later in the US than in the previous cases, with F-test values coming closer to 1 in 2011 or 2012. For all three bank capitalization variables the F-test value average for 2011 to 2013 is just above 1.6. Also of note is that measures *1.1.1* and *1.1.2* show statistically significantly different practices between small and large banks shortly after the dot-com crash, in 2002 and 2003 ( $p < 0.05$ ), suggesting that this earlier crisis may have also affected the behavior of American banks.

The within-group ANOVA results therefore find patterns consistent with mimetic isomorphism on bank capitalization during the GFC in all four countries, albeit with some caveats for the UK. Initial spread of practices followed by convergence on new norms of behavior was observed, supporting *B-1* and *B-2*.

Turning to sectoral differences, bank capitalization by definition does not apply to industrial firms, making the issue unsuitable for comparing mimetism between finance and industry. That being said, bank capitalization, as shown above, was found to show patterns consistent with mimetic isomorphism. During the GFC, Swiss, German, and US banks imitated each other's behavior in terms of capitalization, with American banks also exhibiting such behavior during the dot-com crash. While data for UK financial firms on the issue does not provide a full picture, available data also points to similar processes there. This suggests that banks by and large behaved as expected by reacting and adjusting to the crisis and the increased issue salience of bank regulation (*S01*) and risk-taking (*S02*), lending support to proposition *B-3*.

In terms of international role models and hierarchies of dominant economies, it could be argued that Switzerland has emerged as a post-GFC role model in terms of bank capitalization. While Swiss banks were generally better capitalized before the crisis, their peers have coalesced around Swiss levels after the crisis, providing support for proposition *B-4*.

Regarding the impact of different types of mimetic isomorphism on ‘average’ firm behavior, the results find evidence for international-level mimetic isomorphism. For all three measures of bank capitalization, the immediate pre-GFC years and early parts of the crisis are times of heightened differences between countries, with some statistically significant differences between 2006 and 2008 ( $p < 0.05$ ). The post-crisis years are marked by convergence, as indicated by F-test values closer to 1. While between-group mimetism does not apply to this bank-only issue, international-level and within-group processes of mimetic isomorphism are a plausible explanation for the firm-level changes observed, supporting proposition *B-7* in that cross-border mimetism indeed appears to have substantially shifted bank capitalization.

### **Risk-Taking Behavior**

With regards to risk-taking behavior, trends in the firm-level data point to convergence on some measures. Measures *1.2.0.1 Shareholder Equity Ratio* and *1.2.2 Balance Sheet Leverage* point to distinct differences between Swiss, British and American firms on the one hand, and German firms on the other, in the first half of the observed period—German companies average roughly 10 percentage points higher leverage (*1.2.2*), which is reflected in the country’s lower average on the ratio of assets shareholders have a claim to in the event of the company’s liquidation (*1.2.0.1*). This is most likely related to German firms’ traditional debt-heavy financing through close ties to banks. From the mid-2000s onwards, however, these country differences become less distinct, partly due to German firms lessening their reliance on *Hausbanken*, but also due to rising leverage in the UK and US.



### 1.2.0.1 Shareholder Equity Ratio

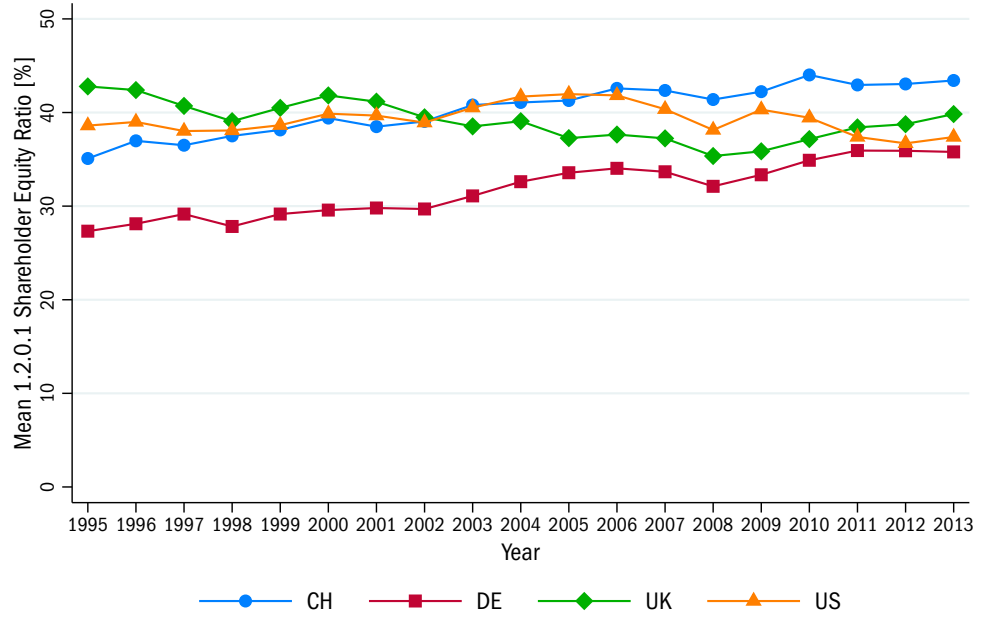


Figure 18: 1.2.0.1 Shareholder Equity Ratio

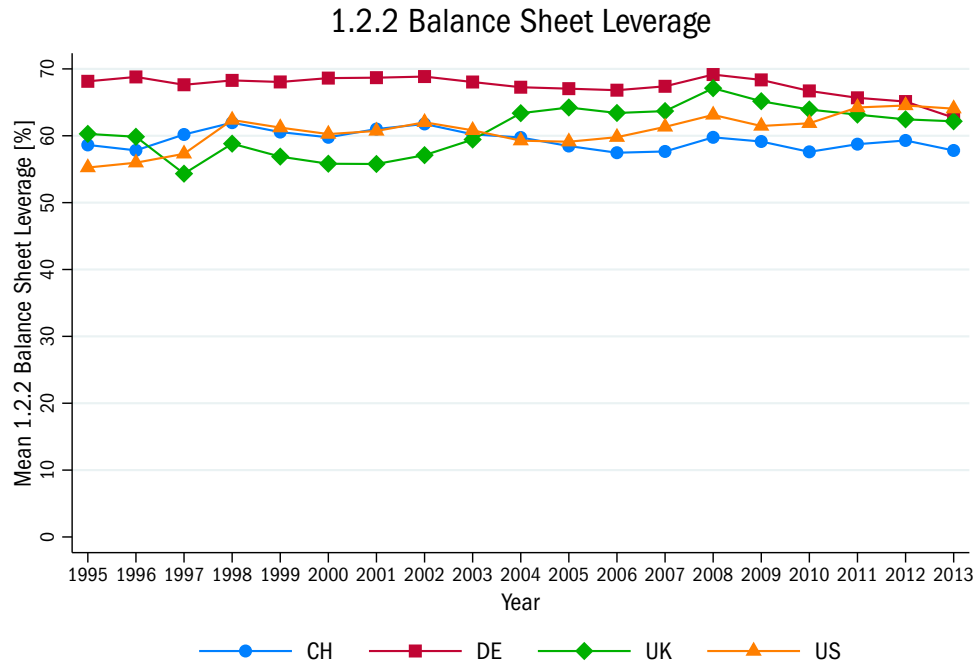


Figure 19: 1.2.2 Balance Sheet Leverage

Measure 1.2.1 *Financial Debt-Equity Ratio* does not show such pronounced country patterns, but much like the previous two measures, points to the GFC as a turning point for leverage and hence risk-taking. The beginning of the GFC is a high-water mark of leverage for British and German firms, although it marked only a temporary slow-down of increasing leverage in the US. Swiss firms' leveraging behavior is fairly stable throughout the observed period, not exhibiting distinct trends.

### 1.2.1 Financial Debt-Equity Ratio

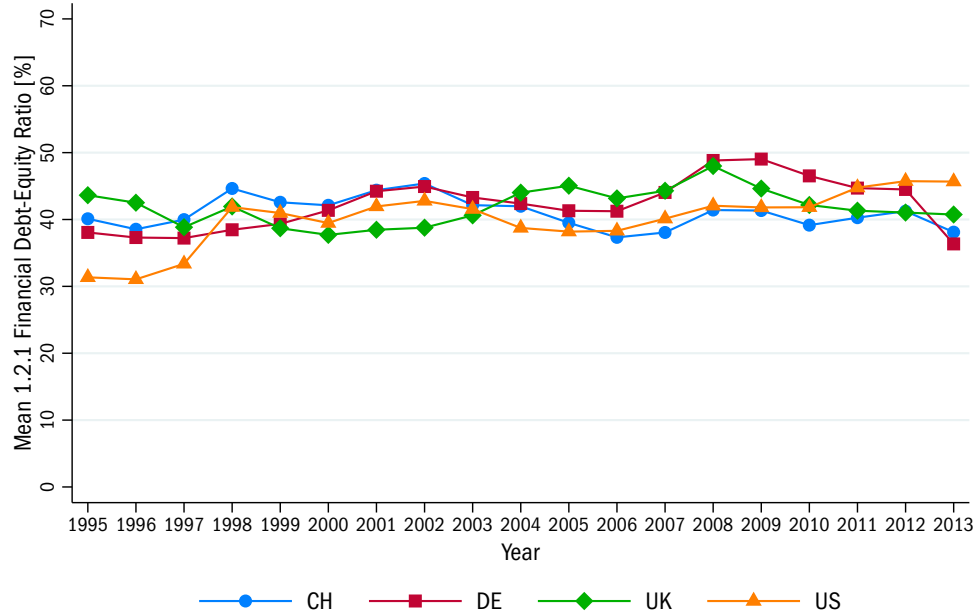


Figure 20: 1.2.1 Financial Debt-Equity Ratio

Turning to the ANOVA results, the data also provides some support for propositions *B-1* and *B-2*, albeit with some caveats. For Swiss financial companies, the within-group ANOVA results show statistically significant differences between the small and large groups from 2007 onwards for variables *1.2.0.1 Shareholder Equity Ratio* and *1.2.2 Balance Sheet Leverage* ( $p < 0.05$ ). For both measures, the period from 2007 to 2013 shows much higher average F-test values (5.5 and 4.4, respectively) than the 2000 to 2006 period (2.4 and 1.5, respectively), indicating that a spread of risk-taking practices set in shortly before the GFC without subsequent convergence. These results are therefore consistent with proposition *B-1*, but not *B-2*. Measure *1.2.1 Financial Debt-Equity Ratio* shows patterns consistent with both propositions, however. Here, practices diverge in 2008 and 2009, barely missing the 5% cutoff for statistical significance. The post-crisis years then show a convergence of behavior as expected under proposition *B-2*. Swiss industrial companies' risk-taking practices are fairly stable overall, but do show signs of convergence

immediately after the GFC. F-test values for measures *1.2.0.1* and *1.2.1* are much closer to 1 in 2010 (0.740 and 0.936, respectively) than in the three years prior or following, when average F-test values are around 0.130. Without prior spread of practices, this only supports proposition *B-2*.

Results for Germany show statistically significant differences in risk-taking practice between small and large financials throughout most of the period ( $p < 0.05$ ). There is no evidence of immediate reactions to the GFC in terms of divergence or convergence. German industrial companies, on the other hand, show a fairly distinct divergence-and-convergence pattern. In 2007, all three measures (*1.2.0.1 Shareholder Equity Ratio*, *1.2.1 Financial Debt-Equity Ratio*, and *1.2.2 Balance Sheet Leverage*) find statistically significant differences between small and large companies ( $p < 0.05$ ) and the highest F-test values for the entire period. This is followed by a period of convergence of practices between 2008 and 2010. These results thus support propositions *B-1* and *B-2* for German industrial companies, but not for financials.

As with the previous measures of bank capitalization, risk-taking behavior of British financials is very heterogeneous throughout the time period, with most years showing statistically significant differences between the practices of small and large companies on all three measures ( $p < 0.05$ ). In 2008, however, *1.2.0.1 Shareholder Equity Ratio* and *1.2.1 Financial Debt-Equity Ratio* are not statistically significant, indicating convergence of practices in the early parts of the GFC, supporting *B-2*. For British industrial companies, a somewhat similar pattern as in Germany can be observed: divergence of practices in 2007, followed by a period of convergence between 2008 and 2013, primarily on measures *1.2.0.1* and *1.2.2*. However, unlike in the German case, the divergence is not distinct enough to become statistically significant and the difference in F-test values is also less pronounced. These results thus lend some support to *B-1* and *B-2*, but require caution.

For American financial companies, the within-group ANOVA results suggest fairly homogenous risk-taking behavior throughout the time period, particularly for measure *1.2.0.1 Shareholder Equity Ratio*. In contrast to the other

countries and particularly the UK, there are no statistically significant differences between small and large financial firms. American industrial companies' risk-taking practices are similarly homogenous, but point to convergence during the GFC. In 2008, all three measures of risk-taking (*1.2.0.1*, *1.2.1*, and *1.2.2*) are closer to 1 than at any other point during the observed period (0.879, 1.030, and 1.068, respectively). By comparison, the average F-test values for the years preceding and following are around 0.200 on all three measures. We can therefore count these results as supporting *B-2*, but not *B-1*.

Regarding sectoral differences, risk-taking behavior can be compared between finance and industry, as it is measured here in terms of leverage, which can be calculated for all companies. Financial companies were found to exhibit some mimetic isomorphism in two of the four countries. The within-group ANOVA results for Swiss and British banks point to patterns of mimetic isomorphism on measure *1.2.1 Financial Debt-Equity Ratio* during the GFC, and in the British case also on *1.2.0.1 Shareholder Equity Ratio*. German and American financials, however, show no obvious signs of mimetism on leverage. In both cases, this is surprising, given that excessive risk-taking of financial firms was a key issue during the GFC. For the US, it may be explained by the much larger size of the American financial industry, resulting in a sample that consists of very large, fairly homogenous financial firms. As a result, the within-group ANOVA, which splits the sample into the smallest and largest 50% of companies, would compare very similar groups in the US that may not capture processes of mimetic isomorphism fully.

Industrial companies are more inclined to mimic each other's risk-taking behavior during the GFC, with such processes evident in all four countries. German and American industrial firms were found to imitate risk-taking behavior on all three measures used (*1.2.0.1 Shareholder Equity Ratio*, *1.2.1 Financial Debt-Equity Ratio*, and *1.2.2 Balance Sheet Leverage*) during the GFC, while mimetism was evident on two measures each in Switzerland and the UK. Comparing the rather limited extent of evidence for mimetic isomorphism among financial firms with the broad evidence for industrial

firms, it is clear that proposition *B-3* cannot be sustained for the issue of risk-taking behavior. While this may simply point to *B-3* being inaccurate, it also raises questions whether the industrial firms in the sample used here are indeed more domestically-bound than their financial peers, or whether they are also highly internationalized—an issue to be returned to more fully in the discussion.

In terms of international role models, associated with *B-4*, no clear patterns emerge. While it could be argued that companies across the four countries converged towards German levels of leverage before the GFC, this development was not necessarily driven by emulation of German practices or the role of Germany as a role model on leverage and risk-taking—as argued above, the German bank-based corporate financing system is quite different from the much more equity-based systems in the other three countries. As a result, high levels of debt in relation to equity are indicative of higher risk in those latter countries, where bank lending to business tends to be short-term and to bridge cash flow issues or finance projects, while it is not necessarily high-risk in Germany due to long-term, ‘patient’ relationships with banks. Hence, the trends in leveraging behavior across the four countries are unlikely to indicate role models or changes thereof.

Turning to the effects of different types of mimetic isomorphism, no evidence was found for mimetism between financial and non-financial firms. The between-group ANOVA results generally show statistically significant differences between the risk-taking behavior of financial and industrial firms, indicating very heterogeneous practices. The UK is an exception, with some convergence evident in the mid-2000s there. An interpretation for this would be increasing financialization of British industrial firms and hence increasing mimetism between the finance and industry—the mid-2000s are indeed a period of change in leverage for UK companies, with quite pronounced increases in leverage on all three measures. For example, *1.2.2 Balance Sheet Leverage* increased from 55% in 2001 to 65% in 2005.

The international-level ANOVA results also concur with the observed firm-level patterns. Measures *1.2.0.1 Shareholder Equity Ratio* and *1.2.2 Balance Sheet Leverage* show clear convergence between the four countries after the GFC, with *1.2.0.1* ceasing to be statistically significant from 2011 onwards, and *1.2.2* from 2012. Variable *1.2.1* is more homogenous throughout the period, but shows statistically significant differences in 2008 ( $p < 0.05$ ). International-level processes of mimetic isomorphism are thus likely drivers of the changes in corporate risk-taking behavior and shifting from a trend towards increased leverage pre-GFC towards deleveraging after the crisis, lending support for *B-7*.

## 5.2.2 Executive Pay

Executive pay was a highly salient issue during or after the GFC in all four countries, with the UK and US also showing high salience on the issue around the dot-com crash. It is thus an issue for which we may expect to find mimetic isomorphism.

Executive pay is measured using two absolute variables (*2.6.0 Total Executive Pay* and *2.6.1 Single Highest Executive Pay*) and one relative variable (*2.6.2 CEO Pay Ratio*). All three measures show an upwards trend overall, somewhat broken by the GFC. In the US and UK, the impact of the GFC on executive pay appears short-lived, with total executive pay (*2.6.0*) decreasing from 2007 to 2008, but regaining those losses within a year in the UK and two in the US. In Germany and Switzerland, executive pay remains fairly stable after the GFC, indicating a clearer break with pre-crisis trends. Also worth noting for the US is the dramatic drop in executive pay from its dot-com bubble peak in 2000, when average total executive pay (*2.6.0*) stood at almost 50m USD, to just below 20m USD in 2002. This dot-com era peak in the US was only exceeded in 2011. By comparison, average total executive pay in the other three countries was well below 10m USD in the first half of the 2000s, and has since remained below 15m USD in Germany and Switzerland and 23m USD in the UK. In other words, despite some common trends and the GFC

as a time of reduced pay across the board, executive pay practices appear to be rather country-specific without obvious convergence trends.

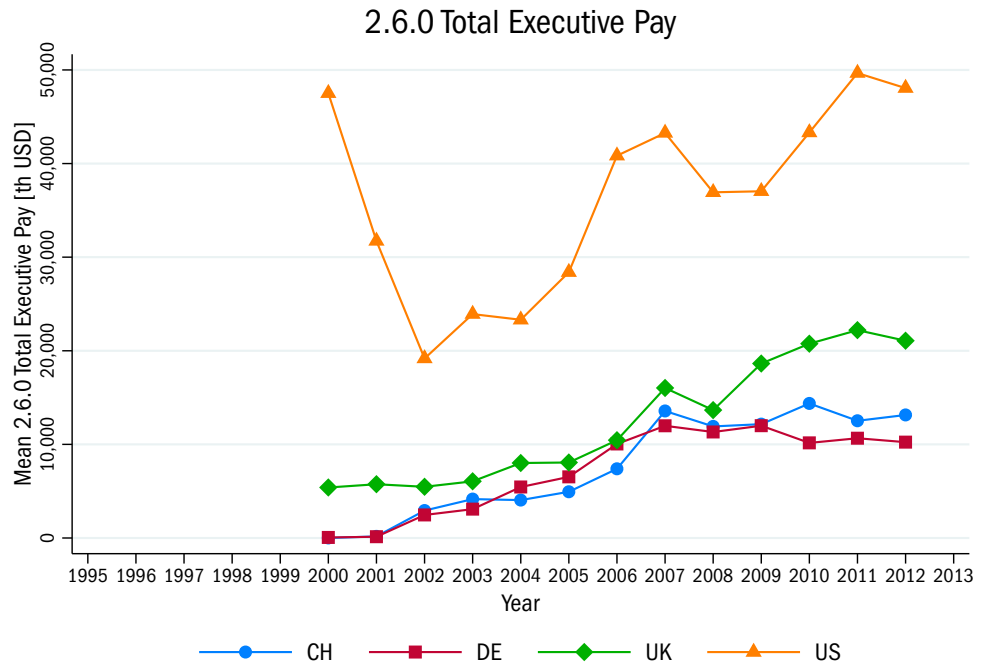


Figure 21: 2.6.0 Total Executive Pay



### 2.6.1 Single Highest Executive Pay

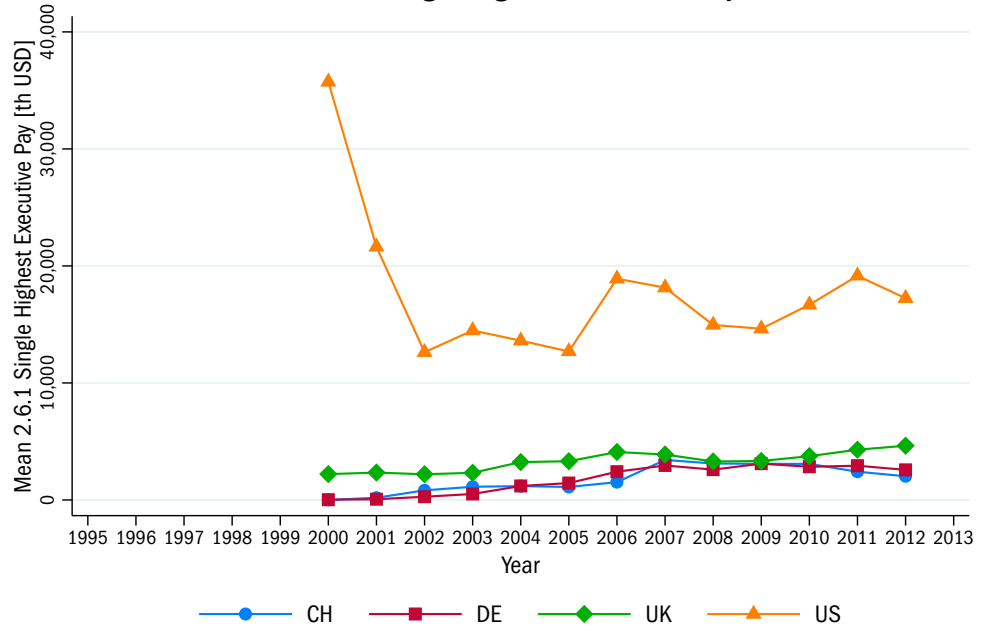


Figure 22: 2.6.1 Single Highest Executive Pay

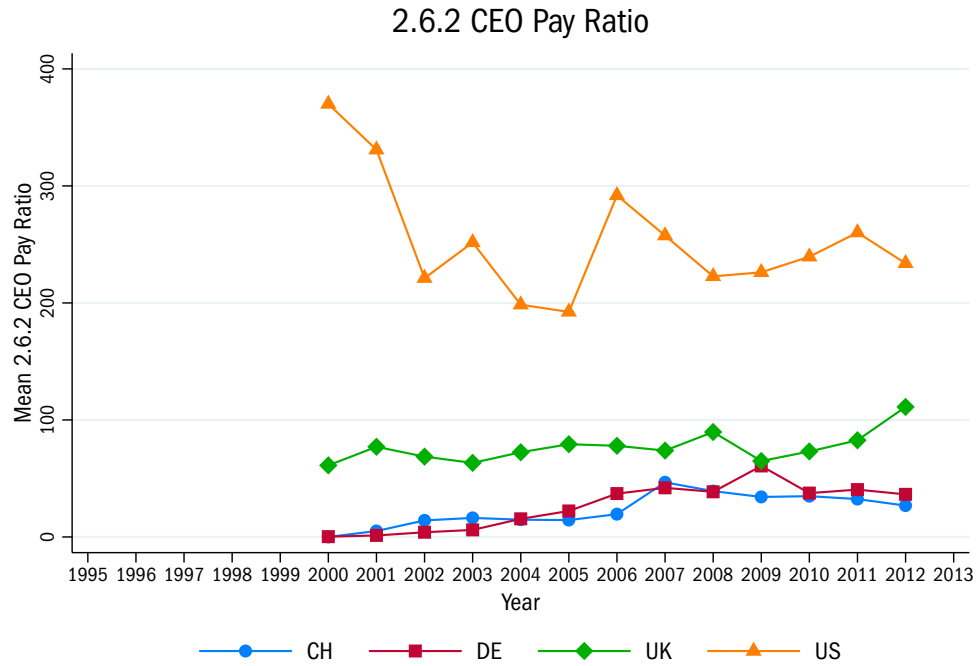


Figure 23: 2.6.2 CEO Pay Ratio

The ANOVA results do not find evidence for mimetic isomorphism across the board, but there is evidence of it for the US and, in some cases, the UK and Switzerland.

For Swiss financial companies, executive pay data is limited but displays no distinct convergence or divergence patterns around the GFC. Industrial companies, however, exhibit a divergence of practices between small and large Swiss firms from 2007 throughout the GFC, before converging again from 2010 on most pay measures. In 2007 and 2009, all three measures of executive pay (2.6.0 *Total Executive Pay*, 2.6.1 *Single Highest Executive Pay*, and 2.6.2 *CEO Pay Ratio*) are statistically significantly different ( $p < 0.05$ ). While this is consistent with the propositions, the lack of longitudinal pay data for Switzerland makes it difficult to ascertain whether this is reasonably related to the crisis, or reflective of generally heterogeneous pay practices among Swiss firms.

As in Switzerland, the within-group ANOVA results for German financial firms offer no distinct patterns, generally pointing to rather homogenous pay practices between small and large financial firms. Small and large German industrial firms, however, exhibit very different pay practices, with most data points statistically significant ( $p < 0.05$ ), but also without obvious periods of divergence or convergence.

British financials and non-financials show very heterogeneous practices overall with the majority of data points statistically significant. Two periods of convergence are apparent for financial firms; the first from 2002-2004, the second from 2012 until the end of the observed period. Measures 2.6.1 *Single Highest Executive Pay* and 2.6.2 *CEO Pay Ratio* cease to be statistically significant at those times, and average F-test values are much closer to 1 than at other times. Both periods of convergence coincide with peak of public discourse on executive pay (S12), suggesting some reactivity of pay practices to issue salience. However, no changes during or immediately after the GFC are evident. If we accept the two periods of convergence observed as linked to the respective crises, the results support *B-2*, but not *B-1* in the absence of prior divergence. British industrial companies' pay practices differ significantly between small and large firms, without obvious patterns of divergence or convergence around the GFC.

Financial firms in the US converge in their executive pay practices during the GFC. This is most pronounced on variable 2.6.0 *Total Executive Pay*, where 2008 and 2009 show no statistically significant difference between small and large companies in contrast to the years preceding and following ( $p < 0.05$ ). A similar pattern can be observed for 2.6.1 *Single Highest Executive Pay*, although here it is less clear-cut with practices converging and diverging more frequently. Measure 2.6.2 *CEO Pay Ratio* does not exhibit a similar pattern and is more homogenous than the absolute measures of executive pay. American industrial companies do not appear to diverge or converge in their executive pay practices around the GFC. However, as with US financial firms, 2002 and 2003 are a time of converging practices on all three measures of executive pay. These are the immediate post-dot-com crash years, coinciding with a

spike in public discourse on executive pay (*SI2*) that was only eclipsed during the GFC. We can count these results as consistent with proposition *B-2*, but again *B-1* is not supported due to the absence of clear divergence patterns.

These results raise the question why American firms were more reactive to the dot-com crash than to the GFC in terms of executive pay. One interpretation could be that the dot-com era was one of perceived excess across the board, i.e. in overvalued tech companies, but also financial and financialized companies, while the GFC's perceived excesses were more concentrated in banking and finance. Hence, financial and industrial companies would converge on lower pay after the dot-com crash, while convergence after the GFC would have been more limited to financial firms. This explanation is also supported by the much more pronounced drop in mean total executive pay (2.6.0) from 2000 to 2001-02 (47m USD in 2000 to 20m USD in 2002) than from 2007 to 2008-09 (43m USD in 2007 to 37m USD in 2009). The same pattern is borne out by 2.6.1 *Single Highest Executive Pay* and 2.6.2 *CEO Pay Ratio*.

Turning to sectoral differences, the within-group ANOVA results support proposition *B-3*, i.e. financial firms appear more likely to mimic each other than industrial firms. British and American financial firms exhibit patterns consistent with mimetic isomorphism during the dot-com crash as well as the GFC—both periods in which executive pay was a highly salient issues in the two countries. Financials in both countries converge on measure 2.6.1 *Single Highest Executive Pay*, arguably the most visible and exposed indicator of executive pay, however British firms also mimic each other in terms of 2.6.2 *CEO Pay Ratio* while US financials imitate their peers on 2.6.0 *Total Executive Pay*. By comparison, non-financial firms were only found to exhibit mimetic isomorphism on executive pay in the US around the dot-com crash. No convincing evidence of mimetic isomorphism for either financial or non-financial firms was found in Switzerland and Germany. These results therefore provide support for proposition *B-3*, given that in countries where mimetic isomorphism on executive pay was found, it occurred mostly among financial rather than industrial firms.

Concerning country role models, it could be argued that all four countries were moving in a similar direction before the GFC—towards higher executive pay as in the US. The post-GFC stagnation of pay in Germany and Switzerland could be indicative of a move away from the Anglo-Saxon role model and associated higher levels of executive remuneration. What speaks against this interpretation, however, is the rather stagnant market capitalization of German and Swiss firms after the GFC—if pay is tied to stock performance, we thus should not expect rising pay in the two countries. That being said, the last two years of the observed period do point to rising market capitalization, which is not reflected in executive pay. In other words, the evidence is rather ambiguous, making it difficult to support *B-4*.

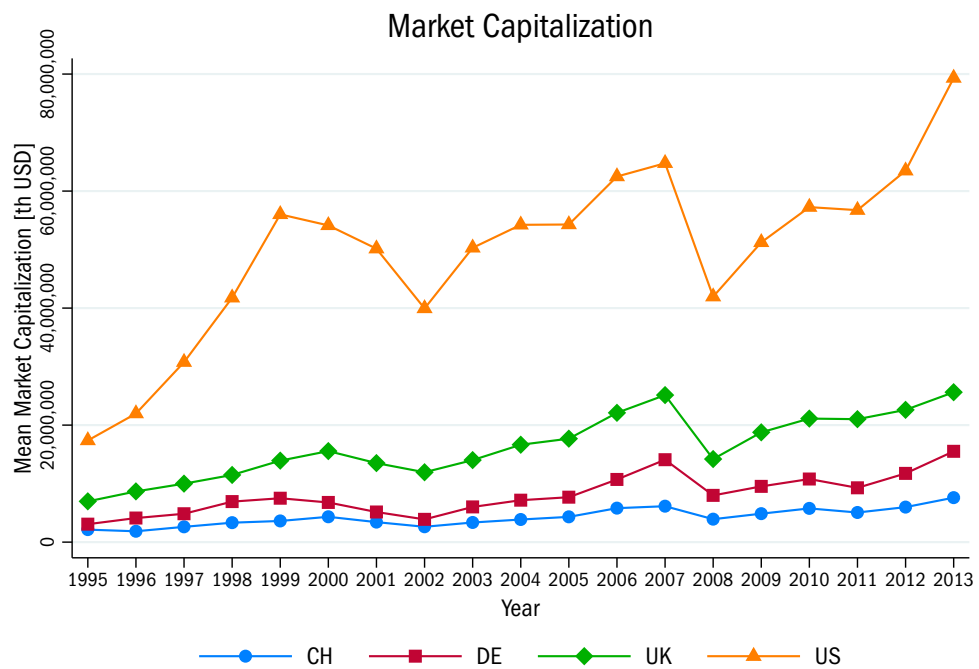


Figure 24: Market Capitalization

In terms of the effects of different types of mimetic isomorphism, evidence for between-group mimetism, i.e. between financial and industrial companies, is sparse. In Germany and the UK, executive pay diverges during the GFC, suggesting differential impact of the crisis on financial and industrial

companies. For the US, convergence between absolute pay in finance and industry is evident (2.6.0 *Total Executive Pay* and 2.6.1 *Single Highest Executive Pay*), but not on 2.6.2 *CEO Pay Ratio*. With executive pay in the US showing the most pronounced downward adjustment during the GFC of the four countries, this provides support for *B-6*. On the international level, the ANOVA results also point to very heterogeneous pay practices, without patterns of convergence or mimetism. Taken together, there is little evidence of systematic or wide-spread processes of mimetic isomorphism on executive pay, suggesting that changes in executive pay practices occur evenly across small and large companies, across industries, and within distinct country patterns. This would be consistent with executive pay being firm-performance bound, as the GFC would affect most companies in a similar way, hence shifting pay downward across the board.

### 5.2.3 Corporate Governance and Auditing

Corporate governance and auditing received more public attention during and after the dot-com crash than during the GFC. We may therefore expect more distinct patterns of mimetic isomorphism around the earlier crisis.

#### **Auditor Change**

Firm-level data suggests two periods of increased numbers of firms changing their auditor (1.4.0): the dot-com crash of the early 2000s and the GFC of the late 2000s. However, there are two exceptions to this broad trend—British companies show no increase during the dot-com crash, while US firms show no increase during the GFC. Indeed, American firms appear to have very long-lasting ties to their auditors, with usually far less than 5% of firms changing auditor in any given year. This is much lower than in the other three countries, where an excess of 5% and in some cases, even 10% of firms change auditors during crises periods.

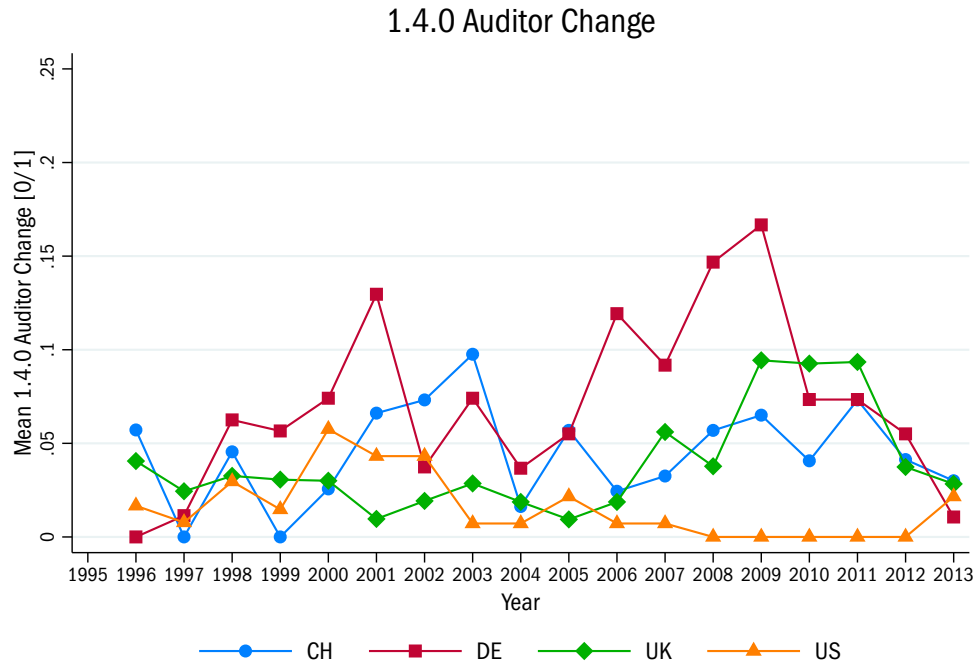


Figure 25: 1.4.0 Auditor Change

While no distinct patterns can be observed for Swiss financial companies, industrial firms show a divergence-followed-by-convergence pattern in terms of auditor change (1.4.0). Practices diverge in 2003 at the tail end of the crisis in Switzerland, reaching the highest F-test value (4.978) for the entire observed period and in the only year where small and large Swiss industrial firms exhibit statistically significant differences on the measure ( $p < 0.05$ ), before converging again the year after. 2003 is also the high-water mark for Swiss firms changing their auditor, with 10% doing so that year, supporting the interpretation of change on this measure as mimetic isomorphism and consistent with *B-1* and *B-2*.

For German firms, the ANOVA results do not show a clear divergence or convergence pattern at the time of the dot-com crash, despite a surge of German firms changing auditors at the time. During the GFC, on the other hand, which coincided with another wave of German companies changing their auditors (peaking at roughly 17% in 2009), a clear divergence-and-

convergence pattern can be observed consistent with *B-1* and *B-2*. Here, small and large German industrial firms differed significantly ( $p < 0.01$ ) in terms of changing their auditors in 2008, reaching the highest F-test value (11.860) for the entire observed period, before contracting in 2009 and 2010 (average F-test value 0.679). Interestingly, 2011 was another year with statistically significant differences between small and large firms' behavior on this measure ( $F = 4.256$ ,  $p < 0.05$ ), despite the share of firms changing auditors in that year dropping to half of the 2009 peak. This would suggest a delayed response among some companies, e.g. some smaller companies changing auditor after the main wave.

While some missing values and data structure on the categorical measure *1.4.0 Auditor Change* do not offer a full picture for British financial firms, British industrial companies diverge on the measure during the GFC before converging again from 2011 onwards. This coincides with the highest levels of firms changing auditors throughout the period between 2009 and 2011, when close to 10% of British firms changed auditors per year. These patterns support *B-1* and *B-2*. The dot-com and Enron crises, however, did not lead to large scale auditor change or indeed distinct divergence and convergence patterns. This is surprising, in a sense, as the issue (*S03 Auditor Change*) was more salient in the UK during the earlier crisis than the latter one (salience peaking at 0.6% in 2002 and 0.3% in 2009). In other words, British companies resisted public discourse on the issue during the dot-com crash, eschewing large-scale auditor change, but were much more reactive during the GFC, despite the comparatively lower levels of salience. Keeping in mind that the UK avoided recession at the time of the dot-com crash, it stands to reason that public discourse alone may not be a sufficient trigger for firm-level change and mimetic isomorphism, but may need a severe crisis and the uncertainty it engenders to have an effect on corporate practices.

For US firms, the the very low levels of firms changing auditors mean that no conclusions can be drawn for that issue. Despite the Enron auditing scandal taking place in the US and auditor change (*S03*) being by far the most salient there (0.3% in 2002 in the US compared to 0.1% in the other three countries),



American firms appear to be fairly reluctant to change their auditors (*I.4.0*). In 2000, just over 5% of US firms did so, which represents the highest level for the entire observed period, but remains far below the other three countries, which peak at various times at around 10% or more. As a result, data variation is too low to calculate ANOVAs for most years.

In terms of sectoral differences, the results fail to substantiate *B-3*. No evidence of mimetism on auditor change among financial firms was found in any of the four countries. For industrial firms, the results point to mimetic isomorphism in Germany, Switzerland, and the UK, with data structure inhibiting to draw conclusions for the US. No patterns relating to changing international hierarchies or role models could be found (*B-4*).

Turning to the effects of different types of mimetic isomorphism, auditor change appears to be driven by within and between-group mimetic isomorphism. The within-group results discussed above show processes of convergence on *I.4.0* in all countries except the US, where insufficient variation in data precludes the calculation of ANOVAs. There is also evidence of mimetism between financial and non-financials firms in Germany and the US. In Germany, this convergence between sectors occurs during both major crises, while evidence for the US suggests convergence during the dot-com crash only. On the international level, no evidence for convergence can be found. Hence, processes of mimetic isomorphism between small and large companies, but also between financial and industrial firms appear at play in driving increased rates of auditor change during the dot-com crash and GFC.

### **Board-Level Governance**

The six measures of board-level governance used here generally show similar trends in the four countries, reflecting a move towards a similar understanding of what constitutes 'good' board governance.

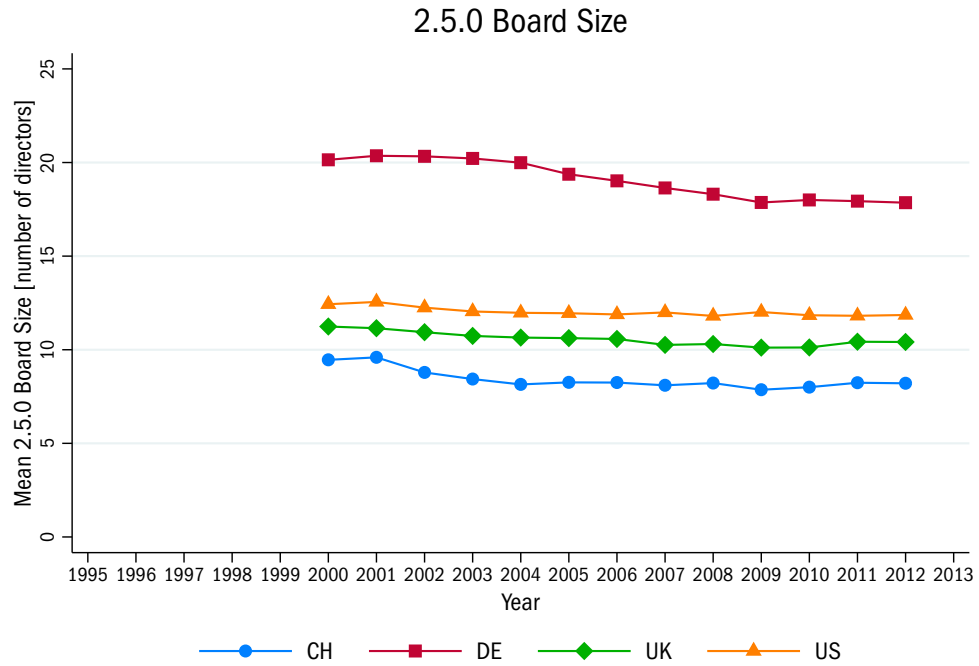


Figure 26: 2.5.0 Board Size

Patterns in board size (2.5.0) are fairly stable over time, but show a slight decrease in board size in all four countries of one to two board members on average over the observed period. Given these rather stable practices, it is unsurprising that evidence for mimetic isomorphism on board size is limited. Indeed, the only instance is in Switzerland, where small and large industrials are found to differ significantly on measure 2.5.0 Board Size between 2003 and 2005 ( $p < 0.05$ ), before converging again from 2006. This coincides with a drop in the average size of Swiss boards from just below 10 directors in 2001 to about 8 directors in 2004, at which level it remained stable for the remainder of the observed period. While limited in scope, these results lend support for propositions *B-1* and *B-2*.

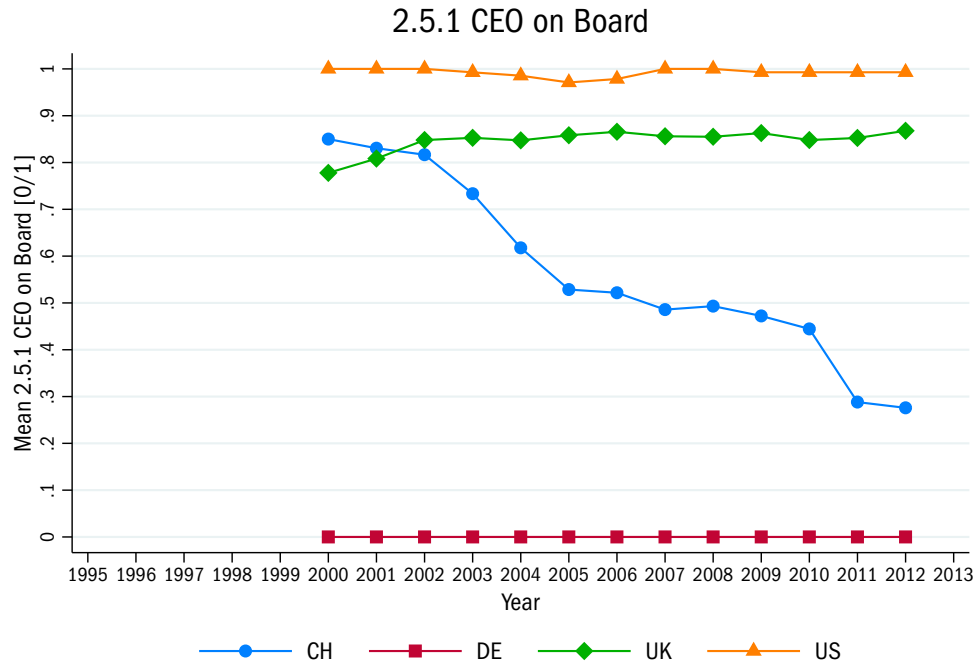


Figure 27: 2.5.1 CEO on Board

Presence of the CEO on the board (2.5.1) is the norm in the US, forbidden in Germany, overwhelmingly common in the UK, and increasingly rare in Switzerland. In the UK, the early 2000s are a period of change, with the share of companies where the CEO is on the board increasing from just under 80% in 2000 to 85% in 2002, where it has remained since. In Switzerland, the share has dropped from over 80% in 2000 to just under 30% in 2012, with the years immediately following the dot-com crisis and GFC as periods of accelerated change.

For both countries, the periods of firm-level change correspond with periods of convergence between small and large companies on 2.5.1 CEO on Board, suggesting that within-group mimetic isomorphism is an important driver of these changes. In Switzerland this is evidence for financial and non-financial firms, in Britain only the latter, where the measure reaches the closest F-test value to 1 for the entire period in 2002 (F=0.710, p<0.402). In the absence of

prior divergence, this supports *B-2* only. There are no observed between-group or international-level processes of mimetism on this measure.

### 2.5.2 CEO-Chairman Combined Role

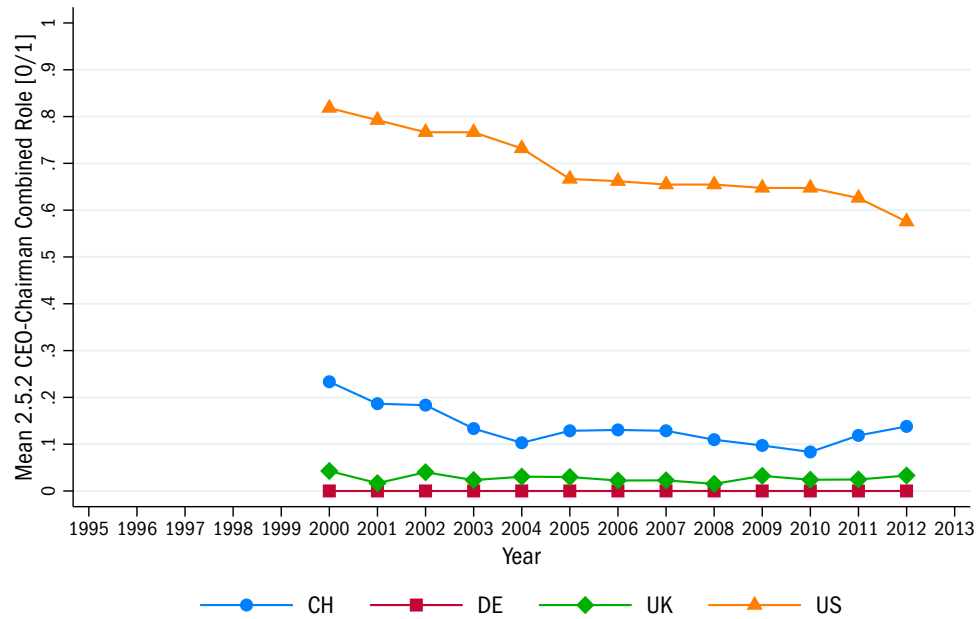


Figure 28: 2.5.2 CEO-Chairman Combined Role

Combining the role of CEO and Chairman in one person (2.5.2) is generally seen as poor corporate governance, as it reduces independent oversight of the board and senior management. While the roles are separated by law in Germany, they are overwhelmingly separated in the UK, and increasingly separated in Switzerland. In the US combining CEO and Chairman in a single person is historically the norm, but has declined from over 80% in 2000 to below 60% in 2012. Change thus occurs mostly in the US, particularly after the dot-com crisis and following the GFC, and in Switzerland after the early 2000s crisis.

The ANOVA results suggest that the changes in the US following the dot-com crash are driven by within-group mimetic isomorphism. The data shows convergence between small and large financial firms between 2001 and 2003,

when F-test values are closer to 1 than at any other time during the early to mid-2000s. The effect is more pronounced for non-financials, where F-test values in 2003 and 2004 are closer to 1 than at any other time during the decade. Both results support *B-2*. Changes in Switzerland do not appear to have been driven by mimetic isomorphism, as no convergence on the measure is evident there. The ANOVA results point to within-group mimetism among British industrial companies, which were found to diverge in 2002, reaching the highest F-test value for the entire time period ( $F=4.293, p<0.041$ ), before converging in subsequent years. However, this is not reflected in firm-level data for 2.5.2, suggesting that smaller and larger UK firms became more similar on their approach to combining the role of CEO and Chairman without shifting average practice. Nevertheless, the British results are consistent with propositions *B-1* and *B-2*.

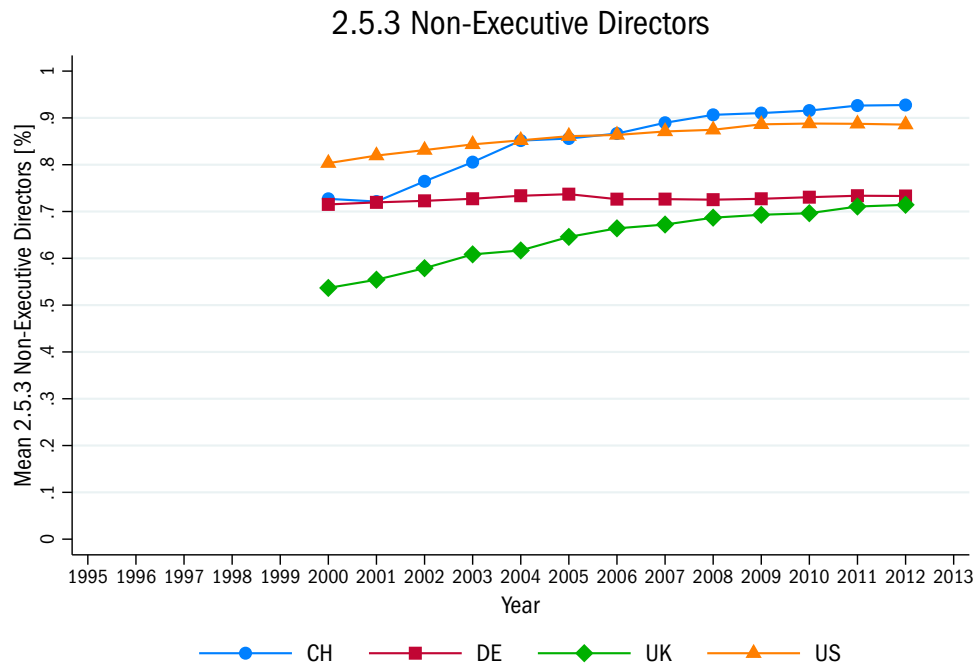


Figure 29: 2.5.3 Non-Executive Directors

A higher share of non-executive directors on the board (2.5.3) is generally seen providing better governance by improving the supervisory function of the

board and its independence from day-to-day operations. While the issue is rather moot in Germany due to the mandatory board structure that requires the supervisory board to be fully composed of non-executive directors, the data shows steady growth in the share of NEDs in the other three countries. By the end of the period, Swiss and American firms converged on about 90% NEDs (starting from around 70% and 80% in 2000, respectively), while British firms had increased their share from just over 50% in 2000 to 70% at the end of the period—very close to German levels that remained unchanged throughout the period. The largest changes thus took place in Switzerland and the UK, in both cases mostly in the early to mid-2000s.

For Switzerland, the ANOVA results do not find within-group mimetism on the measure, but do point to between-group mimetism for the period between 2003 to 2007. The average F-test value for that period is 0.991 compared to 3.510 for the prior three years and 5.147 for the following three years. In the UK, both within-group and between-group mimetism appears at play. Within-group ANOVA results show convergence between smaller and larger British industrial firms on the measure in the early 2000s, when measure 2.5.3 reaches the closest F-test value to 1 for the entire period in 2002 ( $F=1.051$ ,  $p<0.308$ ). The between-group results point to convergence between financial and industrial firms between 2005 and 2008. For those four years, average F-test values are 1.086, compared to 0.018 for the four years before and 0.087 for the four years after. Hence, the results suggest convergence among industrial firms first, before wider convergence between sectors in Britain, supporting proposition *B-2*. These patterns are also in line with propositions *B-5* and *B-6*, as processes of within-group and between-group mimetism appear to have driven the firm-level changes observed.

### 2.5.4 Independent Non-Executive Directors

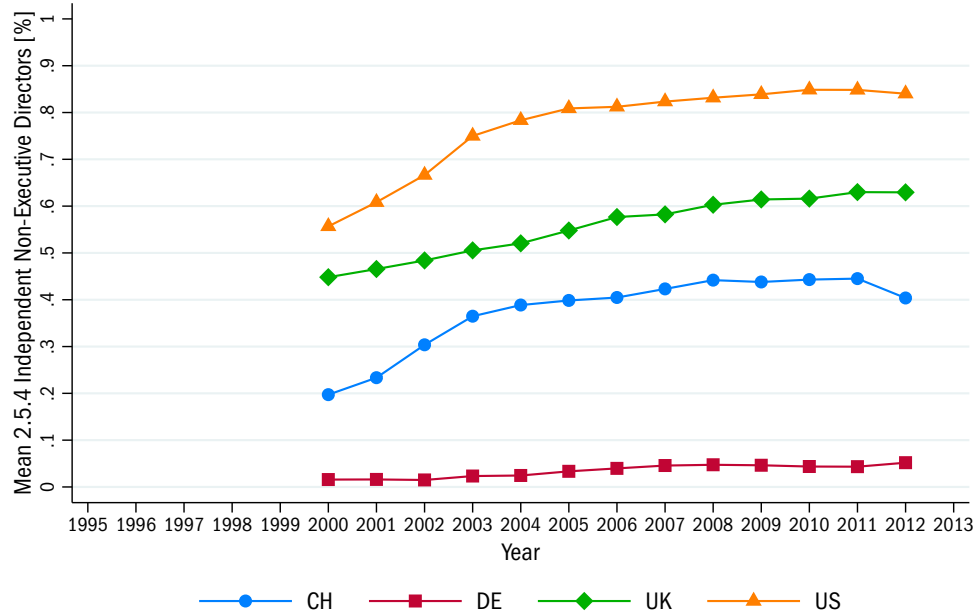


Figure 30: 2.5.4 Independent Non-Executive Directors

In some ways, *2.5.4 Independent Non-Executive Directors* shows similar patterns of change as the previous measure (2.5.3). An upwards trend towards a higher share of independent NEDs, which are seen as providing better, unconnected oversight, is evident in all four countries—although at almost microscopic levels in Germany. While the share of independent NEDs in British firms increased steadily over the time period from 45% in 2000 to just over 60% in 2012, Swiss and American firms saw larger growth around the dot-com crash, rising from 20% in 2000 to 40% in 2004 in Switzerland, and 55% to 80% over the same period in the US.

In both cases, processes of mimetic isomorphism are evident in that time period. In the US, within-group mimetism can be observed between small and large industrial firms after the dot-com crash, with convergence evident on 2.5.4 in 2003-04. Between-group mimetism is also evident between 2002 and 2004. In that period, average F-test values are 0.670, which is closer to 1 than the averages for the previous two years (0.162) or following three years

(0.153). In Switzerland, there is no evidence for within-group mimetism, but for between-group convergence between 2000 and 2004, when average F-test values are 1.029, compared to 0.079 for the following four-year period. The convergence patterns in both countries support proposition *B-2*. The results therefore suggest that within and between-group mimetism drove the rapid increase of independent NEDs on Swiss and American boards, supporting propositions *B-5* and *B-6*.

British financial firms also exhibit ANOVA results consistent with mimetic isomorphism on variable 2.5.4, with data indicating statistically significant differences between small and large financials in 2002 ( $F=7.486$ ,  $p<0.05$ ) before converging somewhat in the years following. However, this is not reflected by significant changes in average firm behavior at the time. It is possible, of course, for processes of mimetic isomorphism to occur without shifting the overall means of the respective measures; in such a case, however, the resulting changes in firm practice would probably be too subtle to have much import on bottom-up change. Hence, a cautious interpretation of results would not count these results as strong support for propositions *B-1* and *B-2*.



## 2.5.5 Female Directors

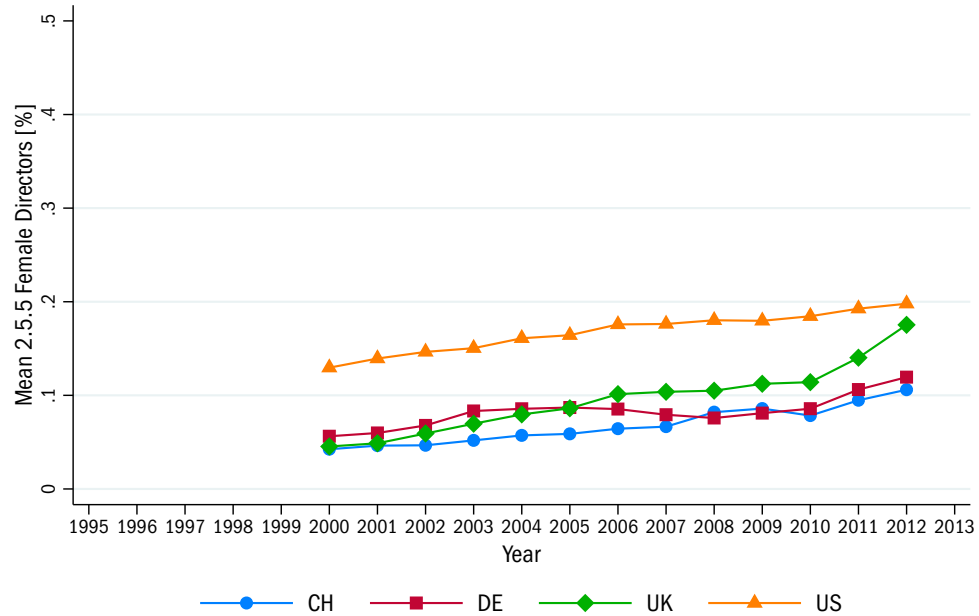


Figure 31: 2.5.5 Female Directors

The share of female directors on the board (2.5.5) has increased slowly, but steadily in the four countries. The US is more progressive on this measure of board diversity, with the share of women on the board rising from 13% in 2000 to 20% by 2012. While the UK has mostly closed the gap with the US, increasing from 5% in 2000 to about 18% in 2012, Swiss and German firms lag behind on this measure. Here, the share of female directors has increased from 5% to just above 10% over the same period.

Given these rather slow and steady changes, it is not surprising that the ANOVA results do not show distinctive patterns of mimetic isomorphism on this measure. The exception are British financial firms, which do appear to converge on 2.5.5 during the dot-com crash; however, this is not reflected by significant changes in the share of female directors at the time.

From the above results, it is apparent that German firms do not show patterns that could be associated with mimetic isomorphism in corporate governance practices. Several factors might explain this. First, the German corporate

governance system is quite different than that in the other three countries, mainly through its mandatory two-tier board structure and its consequences—CEO and Chairman are separated by definition, non-executive directors are a feature of the two-tier board, and supervisory board size increases with company size due to mandatory codetermination rules. Consequently, many of the corporate governance measures used here either do not apply to the German case, or are non-issues of sorts due to the different systems. A second explanation for the relative lack of observed mimetism in German corporate governance could be that it was a much less salient issue during the dot-com crash in Germany than in the other three countries—discourse for *S10 Corporate Governance* peaks at about 0.15% in Germany during/after the dot-com crash, while it reached 1.12% in the US, 0.45% in the UK, and 0.25% in Switzerland at the time.

Turning to sectoral differences, the results for board-level governance fail to substantiate proposition *B-3*. The within-group ANOVA results find very little evidence of mimetic isomorphism among financial companies on these issues. Results for German and Swiss financial companies almost exclusively fail to find processes of mimetic isomorphism. British financial firms show patterns consistent with mimetic isomorphism on measures 2.5.4 *Independent Non-Executive Directors* and 2.5.5 *Female Directors*, however the lack of corresponding changes in the means of the measures casts doubt on to what extent the results are indeed indicative of mimetic isomorphism. The evidence for US financials is clearer, pointing to mimetic isomorphism on variable 2.5.2 *CEO-Chairman Combined Role*.

A very different picture, however, was found for industrial companies—patterns of mimetic isomorphism are evident across most measures and countries. The results point to industrial firms imitating each other's behavior on 2.5.0 *Board Size* (Switzerland), 2.5.1 *CEO on Board* (UK), 2.5.2 *CEO-Chairman Combined Role* (UK), 2.5.3 *Non-Executive Directors* (UK), and 2.5.4 *Independent Non-Executive Directors* (US). Germany is the exception on this, with no evidence for mimetic isomorphism on corporate governance among industrial firms. Taken together, these findings do not support *B-3*; if anything they point to

the opposite—industrial firms may be more likely to imitate each other's corporate governance practices than financial firms.

Given the parallel evolution of board-level governance across the four countries, no patterns related to country models or international hierarchies, associated with proposition *B-4*, could be identified.

### 5.3 Summary

Overall, the analysis of firm-level patterns of change produced evidence of mimetic isomorphism in reaction to major crises and associated spikes in public discourse. While all cases of mimetic isomorphism found were connected to one of the two major crises and on salient issues, the reverse was not found to be true—a situation of crisis and high issue salience may be necessary, but not sufficient conditions for mimetic isomorphism to occur.

The first issue of concern in this chapter was whether processes of mimetic isomorphism can be observed in issues that are highly salient during major crises, and whether they follow a divergence-followed-by-convergence pattern. The results generally support the associated propositions, but suggest that convergence may occur without prior divergence, providing more support for proposition *B-2* than *B-1*. In other words, defection and associated spread of practices may not always take place when convergence is observed.

Regarding sectoral differences, we expected to find more mimetic isomorphism in sectors that are highly exposed to international competition, i.e. the financial sector. The results generally failed to substantiate propositions *B-3*. While financials firms were indeed found to be more likely to imitate each other's behavior on executive pay than their industrial peers, on risk-taking behavior, corporate governance and auditing the results suggest no higher rates of mimetism in finance; if anything the results for this issue point to the opposite—industrial firms may be more likely to imitate each other's corporate governance practices than financial firms.

In terms of proposition *B-4* on the reshuffling of international hierarchies during crises, the results did not produce sufficient evidence to conclusively support or reject the proposition. While patterns in bank capitalization practices show patterns consistent with the Anglo-Saxon model of low capitalization being replaced with the Swiss model of high capitalization as an international role model during the GFC, this is too isolated a case to provide convincing support for *B-4*.

Examining the impact of three types of mimetic isomorphism on shifting corporate practices, the results generally supported propositions *B-5*, *B-6*, and *B-7*: between-group and international-level mimetism were found to be associated with more significant shifts in corporate behavior than within-group mimetism. In terms of risk-taking behavior, international-level mimetism was found to drive the significant increases in bank capitalization (*1.1.1*, *1.1.2*, *1.2.0*) during the GFC, as well as the shift from a trend towards increased leverage (*1.2.0.1* and *1.2.2*) pre-GFC towards deleveraging after the crisis. Both cases lend support to *B-7*. While relatively few instances of mimetic isomorphism were found on executive pay, between-group mimetism was found among American firms during the GFC, where executive pay declined most significantly of the four countries considered, providing support for *B-6*. In other words, the executive pay adjustments among US companies appear to have gone beyond evenly distributed, performance-bound change observed in the other countries, with financial and non-financial firms converging during the GFC on lower pay. Results on corporate governance and auditing also suggested that higher-order types of mimetic isomorphism are associated with larger changes in corporate practice. The comparatively rapid growth in the share of NEDs on the board (*2.5.3*) of Swiss and British firms following the dot-com crash and Enron scandal was found to be driven by within and between-group mimetism. Similarly, the high growth rates in the share of independent NEDs (*2.5.4*) on American and Swiss boards in the same period was also attributed to within and between-group mimetism. Both cases thus support propositions *B-5* and *B-6*: while not radical in the sense of changing

the direction of trends, the periods of accelerated change were linked to between-group mimetic isomorphism.

Taken together, these results provide strong support for the argument that higher-order forms of mimetic isomorphism, i.e. between-group or international-level, drive larger changes in firm behavior than within-group mimetism. By implication, we can expect firm-level change driven by between-group or cross-border to be more likely to translate into legal or regulatory change. For one, it could be argued that such higher-order mimetism increases the legitimacy of the new behavior, as it implies that behavior has converged across a broader section of the economy or even internationally. Secondly, as the results have shown, higher-order mimetism tends to produce more significant changes in firm behavior. The potentially higher perceived legitimacy and more substantial nature of corporate change on these issues should therefore make it more likely that policymakers and regulators accept those new behaviors as appropriate forms of compliance. Areas of corporate change driven by mimetic isomorphism are prime candidates for effecting change on the legal level—as the next chapter will explore.

# 6 Corporate Practice and Legal Change

## 6.1 Introduction

The previous two chapters have shown how public discourse or political salience influence firm practices and how processes of mimetic isomorphism may induce convergence on new patterns in the behavior of corporations. The findings of the previous two chapters are, in other words, antecedents of bottom-up change—processes that induce widespread change in corporate practices, which may, in turn, bring about legal change or influence processes of legal change without direct lobbying of policymakers. Despite the literature’s increasing recognition of bottom-up change and fleshing out of the mechanisms of such change, it has not fully considered some important questions on bottom-up change that are of particular relevance for a time period that includes two major crises as events of uncertainty and potential triggers for corporate-level change:

- (1) How does political salience and public discourse affect bottom-up change?
- (2) How does the nature of severe crises impact bottom-up change?
- (3) How does the structure of the political system mediate bottom-up change?

Fundamentally, these three issues are concerned with the conditions under which bottom-up change is more or less likely to affect the law. Drawing on insights from top-down change and other parts of the literature, five propositions on the questions above are made and discussed in the literature review.

The first proposition concerns the role of political salience. For top-down change, Culpepper (2011) has shown that the power of business to influence policymaking declines as an issue rises in public discourse and thus becomes more politically salient. As bottom-up change requires implied or explicit consent of regulators, courts or policymakers in order to make the changed behavior an accepted form of compliance, political salience is likely to play a role here too. When salience is low, regulators and policymakers may not pay much attention to shifts in how rules are interpreted on the firm level or how corporate behavior vis-a-vis those rules is changing. As a result, changed practices could become established and institutionalized, making it more likely that they become formally accepted as compliant with the rules. Corporate scandals, public outrage, or other events that increase issue salience, however, could lead to increased scrutiny of corporate practices and a clamp-down on deviant behavior. Generally, we may therefore expect the power of bottom-up change to decline as salience rises.

*Proposition C-1: Higher issue salience reduces the ability of bottom-up mechanisms to change formal institutions.*

The dynamics may be different, however, in times of severe crisis. Crises may offer a conducive environment for bottom-up change for two main reasons. First, processes of crisis-induced mimetic isomorphism can greatly accelerate the formation of ‘critical mass’ on the firm-level, shifting corporate behavior from previous norms to new ways of doing things. Especially where such mimetism occurs outside of the peer group or even internationally, it may change firm practices in significant ways, increasing the possibility that corporate practices push at the boundaries of the law. In other words, major crises may increase the ‘supply’ of bottom-up change.

*Proposition C-2: Severe crises increase the ‘supply’ of bottom-up change as they trigger change in corporate practices and accelerate the formation of new norms of behavior.*

Severe crises may also increase the likelihood of changes in corporate practices leading to legal change. This is conceivable for two reasons. First, resource and agenda-setting constraints of policymakers may crowd out low-salience

issues during a crisis (Kingdon 1995), opening a window of opportunity to establish new forms of compliance ‘under the radar,’ i.e. while governments are occupied with higher-priority problems. Second, even when issues are salient and policymakers have to dedicate resources to those issues, they may be more inclined to accept changes in firm behavior as signs of effective self-regulation. Policymakers, especially those of a pro-business disposition, may be more willing to accept such ‘self-regulation’ in lieu of formal regulation in times of crisis, as it frees their agendas at a time of competing priorities (Mayer 2013). As a result of these factors, crises may enhance the influence of corporations through bottom-up processes of change—unlike in the political arena, where crises tend to lower the power of corporate actors (Culpepper 2011).

*Proposition C-3: In times of severe crisis, bottom-up change may be more likely to lead to legal change than in non-crisis situations, regardless of issue salience.*

The impact of bottom-up change on formal institutions may also be enhanced in times of severe crisis due to institutional ‘softening.’ Institutional strength can be seen as comprising of two dimensions—enforcement and stability (Levitsky & Murillo 2009). Highly developed nations typically feature high enforcement and high stability, but crises can chip away at both. Weak enforcement of rules can result from ‘symbolic policymaking’ as a way of signaling to the public that the government is doing what is morally right, e.g. by clamping down on excessive risk-taking, while at the same time putting business interests at ease by implementing weak monitoring and enforcement mechanisms (Suárez 2014). Instability could arise from quickly-designed ‘emergency legislation’ that does not give actors enough time to calculate its potential impact and how it affects their interests, increasing resistance to the new rules. Adopting perceived ‘best practice’ regulation or policies from other countries could also undermine institutional stability—while such institutional imports may boost confidence among businesses, investors and consumers, they may be a poor fit with the domestic institutional context and hence vulnerable to further change.



*Proposition C-4: Institutional softening may enhance the impact of bottom-up modes of change in times of crisis.*

The impact of bottom-up change is also likely to be mediated by structural features of the political system, which formally defines some aspects of the relationship between different actors and their power relations. We can differentiate between two main forms of organization of the political system: centralized and decentralized, the former with law-making in the legislative or executive branches and central enforcement, the latter with law-making extending to multiple, including private, agents (Milhaupt & Pistor 2008). The UK is considered a typical case of a highly centralized system, allowing a government holding a majority in the lower house (House of Commons) relatively unencumbered power over the law-making process given the weak role of the upper house (House of Lords) and the rubber-stamping process of Royal assent. The US is a prime example of a decentralized system, with extensive separation of powers and a system of ‘checks and balances.’ Germany and Switzerland are somewhat more mixed cases. Although a federal republic that requires compromising between the central government and states, Germany is best categorized as a centralized system as executive and legislative powers are relatively closely intertwined compared to the US stronger separation. Switzerland is best described as a decentralized system, as a fairly devolved federal republic and strong elements of direct democracy. We may expect decentralized systems to be more receptive to bottom-up change. In such systems, power is less concentrated and policymaking more open to actors outside central government. As a result, policymaking is more open to disruption from a variety of actors, increasing the chances that some actors recognize firm-level change as sufficient self-regulation or as an acceptable form of compliance. Furthermore, the more complex and disruption-prone policymaking process in decentralized systems is also likely to soak up more governmental resources, hence exacerbating the previously discussed resource and agenda-setting constraints that may increase the efficacy of bottom-up change.

*Proposition C-5: Higher decentralization of the political system increases the efficacy of bottom-up change.*

This chapter compares major legal changes and important legislative or regulatory signals with changes observed on the firm level across the three institutional spheres. Changes that only occur on either the legal or the firm level are considered, but the main focus is on cases where change takes place on both levels in order to explore directionality and type of change, and how it is mediated by public discourse, crisis, and the structure of the political system.

The structure of the chapter follows the three main institutional spheres included in this study and the sub-issue areas within. Finance and corporate governance were chosen as tightly interconnected areas that have taken blame as causal factors in creating the GFC. Bank capitalization, corporate risk-taking behavior, and executive compensation became salient issues during or in the wake of the crisis, creating incentives for policymakers to target these areas for reform as well as for companies to change their behavior in order to signal compliance and proactivity to regulators and the public.

Generally, each section first provides an overview of major legal and regulatory reforms or significant reform proposals across the four countries, before delving into the corresponding firm-level data and analyzing connections between changes on the legal and firm levels. Findings from the previous chapters on public discourse/issue salience and processes of mimetic isomorphism are incorporated where relevant. The analysis primarily draws on timing of changes, their directionality, and discussion of plausible and likely relationships. In order to support proposition *C-1*, we would expect to find bottom-up change more frequently when issues are of low political salience than when they are highly salient. Proposition *C-2* will be evaluated based on the previous empirical chapters' findings as well as the legal and regulatory changes to be discussed here—in order to support this proposition, we would expect the cases of bottom-up change found to be primarily rooted in firm-level change brought about by crisis-induced mimetism. To substantiate *C-3*,

we would expect most cases of bottom-up change found to be rooted, if not completed, during a crisis, and these cases to be on high and low-salience issues alike. Evidence supporting proposition *C-4* could take the shape of successful instances of bottom-up change enabled by ‘symbolic policymaking’ with high-profile announcements followed by weak attempts to implement legal change, or importing of ‘best practice’ regulation from abroad. To substantiate *C-5*, we would expect to find bottom-up change occurring more frequently in the decentralized political systems of the US and Switzerland than in the UK and Germany’s centralized systems.

## 6.2 Results

Results are discussed on an issue-by-issue basis, beginning with finance and accounting, before turning to corporate governance, and ending with labor relations. While these institutional spheres and the sub-issues therein were chosen for their connection to the GFC and are thus relevant across all four countries, in some countries certain issues did not see any meaningful legal or regulatory change over the period covered. This is noted where applicable.

### 6.2.1 Finance & Accounting

#### 6.2.1.1 Risk-Taking Behavior

##### 6.2.1.1.1 The Basel Accords

The Basel Committee on Banking Supervision (BCBS) is a banking supervision authority founded by the central banks of the G-10 countries in 1974, including all four countries included in this study. The Committee has issued three major sets of recommendations for supervision of the banking sector: Basel I, Basel II, and Basel III, collectively referred to as the Basel Accords. While the BCBS does not have the power to enforce these rules, the BCBS member countries implement the Basel rules—generally with only

minor adaptation—and enforce them within their jurisdiction (Basel Committee on Banking Supervision 2015).

The Basel I rules were finalized in 1988 and implemented in 1992, placing them outside the time period considered here. Nevertheless, it is important to note briefly the aims and scope of Basel I, as they provide important context for later developments. The first set of Basel rules was created in response to Latin American debt crisis of the 1980s, which exposed the inadequacy of capital held by international banks and created consensus among BCBS members for the need of a common approach to risk management and a level playing field in terms of capital requirements (Basel Committee on Banking Supervision 2015). Hence, Basel I was meant to “provide adequate capital to guard against risk in the creditworthiness of a bank’s loan book. It does not mandate capital to guard against risks such as fluctuations in a nation’s currency, changes in interest rates, and general macroeconomic downturns” (Balin 2008, p.2). Guarding against these latter risks was left to national regulators. More generally, however, Basel I left plenty of leeway for banks to exploit the rigid risk-weighting rules to their advantage and take on more risk: “the limited scope and general language of Basel I gives banks excessive leeway in their interpretation of its rules, and, in the end, allows financial institutions to take improper risks and hold unduly low capital reserves” (Balin 2008, p.1).

A new set of capital requirement rules for banks was first proposed by the BCBS in June 1999, aimed at replacing the 1988 Basel I Accord and fixing its shortcomings. The main purpose of this new set of rules was “to improve the way regulatory capital requirements reflect underlying risks and to better address the financial innovation that had occurred in recent years” (Basel Committee on Banking Supervision 2015, p.3). What the BCBS diplomatically refers to as ‘financial innovation’ are essentially the techniques banks used to skirt the Basel I rules, including sale of securitized assets and swapping long-term debt for short-term non-OECD debt (Balin 2008). The announcement of new rules to directly address those issues in June 1999 is therefore an important signal to banks in the four countries—the specter of

further regulation brought on by their own inadequate capitalization. Basel II also sought to integrate interest, market, and operational risk, which had been left out of Basel I.

The Basel II rules were finalized in July 2006 after a protracted seven-year deliberation period, during which American and British regulators won two major concessions (Balin 2008):

- (1) banks would be allowed and actively incentivized to implement their own internal risk evaluation methods; and
- (2) the Accord would only apply to major international banks rather than all banks.

Full national-level implementation of Basel II was agreed for the end of 2008. Even at the time, some shortcomings became obvious. As Balin (2008) argues, Basel II relies too heavily on rating agencies, leading to less diversification of the loan portfolio and a ‘race to the bottom’ whereby rating agencies are pressured to give favorable ratings, inflating banks’ risk exposure. Furthermore, internal risk measurement, based on expectations of future returns, incentivizes pro-cyclical lending, which “will tend to amplify recessions and perhaps spur inflation during periods of high economic growth” (Balin 2008, p.16).

Two of the three bank capitalization measures used in this study are related to Basel II. *1.1.1 Tier 1 Capital Ratio* measures the core capital banks hold against risk-weighted assets. Unchanged from Basel I, Basel II requires a minimum ratio of 4%. Including tier 1 capital as well as the slightly lower quality tier 2 capital, *1.1.2 Total Capital Ratio* is a wider measure of bank capitalization. Basel II requires a minimum of 8% on this measure.

In stark contrast to Basel II, Basel III went from proposal to final version very quickly—unsurprising perhaps given the urgency with which the rules were drafted and finalized at the height of the GFC. The subprime mortgage crisis of 2007 and the collapse of Lehman Brothers in September 2008 were clear signs that Basel II was inadequate, and that the “banking sector had entered

the financial crisis with too much leverage and inadequate liquidity buffers. These defects were accompanied by poor governance and risk management, as well as inappropriate incentive structures” (Basel Committee on Banking Supervision 2015, p.4). From this context, Basel III aims to improve bank resilience to economic and financial shocks, risk management and governance, and enhance transparency and disclosure. Basel III should therefore be seen as a direct regulatory response to the GFC. The speed of its conception gave banks only a very short window of opportunity to influence the rules and win concessions similar to those won during the creation of Basel II. From first concrete proposals in July 2009, Basel III was finalized only 18 months later in December 2010. Implementation was agreed to be completed by the end of 2017, with most changes phased-in starting in 2013.

All three bank capitalization measures used are related to Basel III. A main target of the new Accord, requirements on *1.1.1 Tier 1 Capital Ratio* are increased from 4% under Basel II to 6% minimum under Basel III. This was phased-in over a period of three years, requiring 4.5% from 2013, 5.5% from 2014, and the full 6.0% from 2015 (Basel Committee on Banking Supervision 2011). Although real-world tier 1 capitalization of banks tends to be much higher than the regulatory minimums, with investors often requiring 1.5 to 2 times the regulatory minimum, the increase in the minimum should still result in proportional real-world increases. The wider *1.1.2 Total Capital Ratio* is still part of Basel III, but the minimum has not increased from 8% compared to Basel II. This highlights the emphasis of the latest Basel rules of increasing highest quality capital and thus resilience to unforeseen shocks. Hence, this measure does not carry regulatory pressure around the GFC, but banks may still seek to increase their total capital ratio as a preemptive measure or signal to regulators and investors. A new measure in the Basel III Accord, *1.2.0 Tier 1 Leverage Ratio* is a similar bank capitalization measure to *1.1.1 Tier 1 Capital Ratio*, but uses a different denominator—here, assets are not risk-weighted. Basel III mandates a minimum of 3%, but sets higher requirements for systemically important banks. As part of the US implementation of the Basel accords, the US Federal Reserve mandates 6% for eight systemically

important banks, as announced in July 2013. It is implemented on trial basis until full implementation in 2018. We may thus expect some anticipatory effects on the firm level as banks begin to adjust in advance of the implementation date.

The firm-level results do not find evidence of bottom-up change affecting the Basel II rules, but the patterns are consistent with firm practices influencing Basel III.

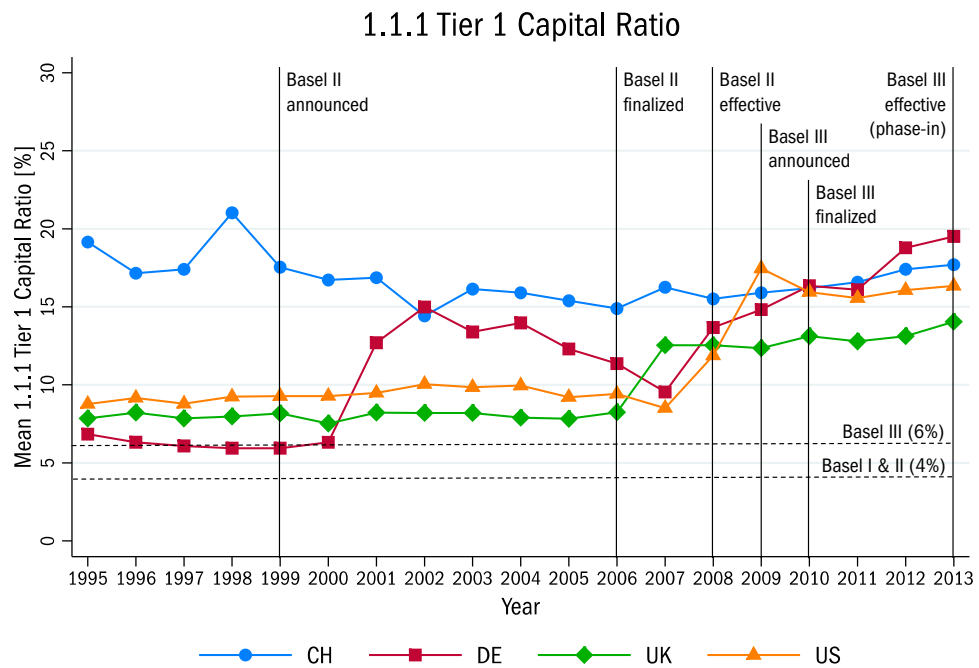


Figure 32: 1.1.1 Tier 1 Capital Ratio (annotated)

While the announcement of Basel II in June 1999 took place shortly before the dot-com crash unfolded, the crisis was long over by the time the rules were finalized in July 2006. Hence, most Basel II deliberations occurred in times of growth rather than crisis and at a time when neither banking regulation (*S01*) nor risk-taking behavior of companies (*S02*) were salient issues (Germany is an exception here and discussed later). These are conditions that should allow organized business interests ample direct influence in policymaking

(Culpepper 2011). Indeed, this appears to have been the case, as the example of American and British regulators winning important pro-business concessions in the Basel II negotiations mentioned earlier, illustrates. Bank capitalization behavior, meanwhile, changed very little on the two Basel II-related measures (*1.1.1 Tier 1 Capital Ratio* and *1.1.2 Total Capital Ratio*) between announcement and finalization of Basel II. Between finalization and implementation of Basel II by the end of 2008, banks in the three lower-capitalized countries (Germany, UK, and US) increased their tier 1 and total capitalization upwards. While this coincides with the beginning of the GFC and could thus also reflect banks anticipating and preparing for the crisis, these patterns are consistent with typical top-down institutional change—rules being changed in the political arena with some lobbying by business interests, and firm-level adjustments following the new rules.

As noted, Germany is an outlier in the Basel II period. German banks increased their tier 1 capital (*1.1.1*) and total capital (*1.1.2*) in the early 2000s, which coincided with a period of increased public discourse on risk-taking behavior of banks and firms (*S02*). The most plausible explanation for this is Germany's weak economic performance at the time, coupled with billion Euro write-downs in some of Germany's largest banks (Commerzbank, Hypo Vereinsbank) and a wave of corporate insolvencies, leading banks to decrease lending and boost capital in anticipation of losses (Die Welt 2002; Eigendorf 2002). It is therefore likely to be a reflection of the crisis in German banking and the wider economy, rather than Basel II.

Comparing firm-level change in bank capitalization to the introduction of the Basel III rules shows patterns consistent with processes of bottom-up change. The previous chapter found evidence of mimetic isomorphism on bank capitalization during the GFC in all four countries, both within countries and between them. Across the different capitalization measures, bank behavior spread in 2008 with the onset of the GFC before converging in 2009, when the first Basel III proposals were published, on significantly higher capitalization levels than before. Hence, the Basel III rules could be seen as merely formalizing through international regulation what firms have already



done. In fact, the Basel III rules raised core capital requirements by the same relative amount (50% increase from 4% under Basel II to 6% under Basel III) as banks had already done—ignoring Switzerland, which has higher capitalization throughout the period and showed no adjustments around the GFC, average tier 1 capitalization (1.1.1) rose from 9.7% in 2006 to 14.9% in 2009, also a 50% increase.

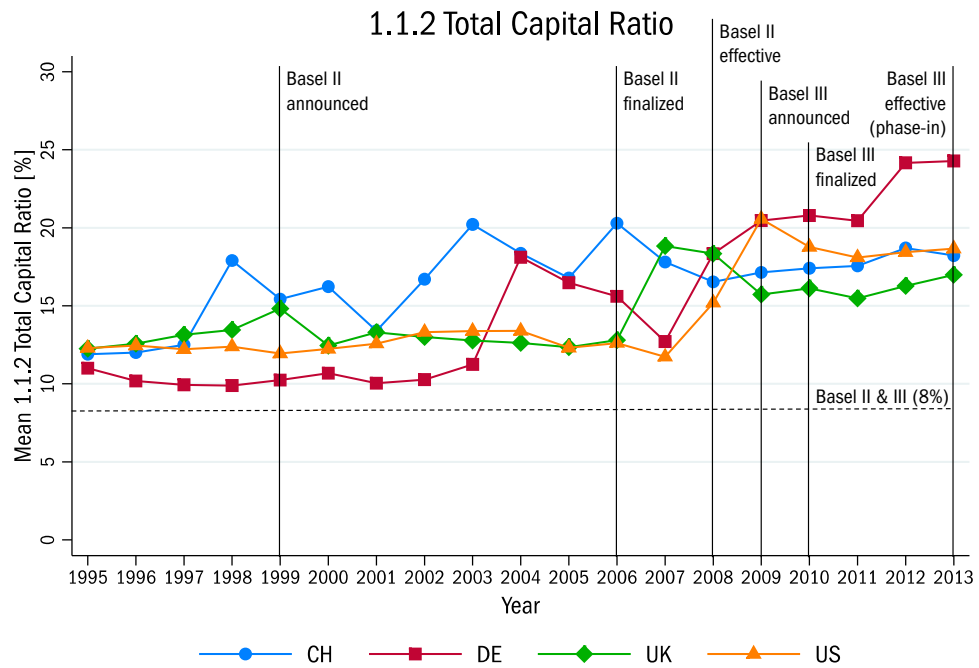


Figure 33: 1.1.2 Total Capital Ratio (annotated)

The wider capitalization measure *1.1.2 Total Capital Ratio* shows similar patterns. Between 2006 and 2009, average total capitalization across the four countries rose from 15.3% to 19.1%—a 25% increase. On this measure, regulators made no increase from the statutory minimum under the Basel II rules.

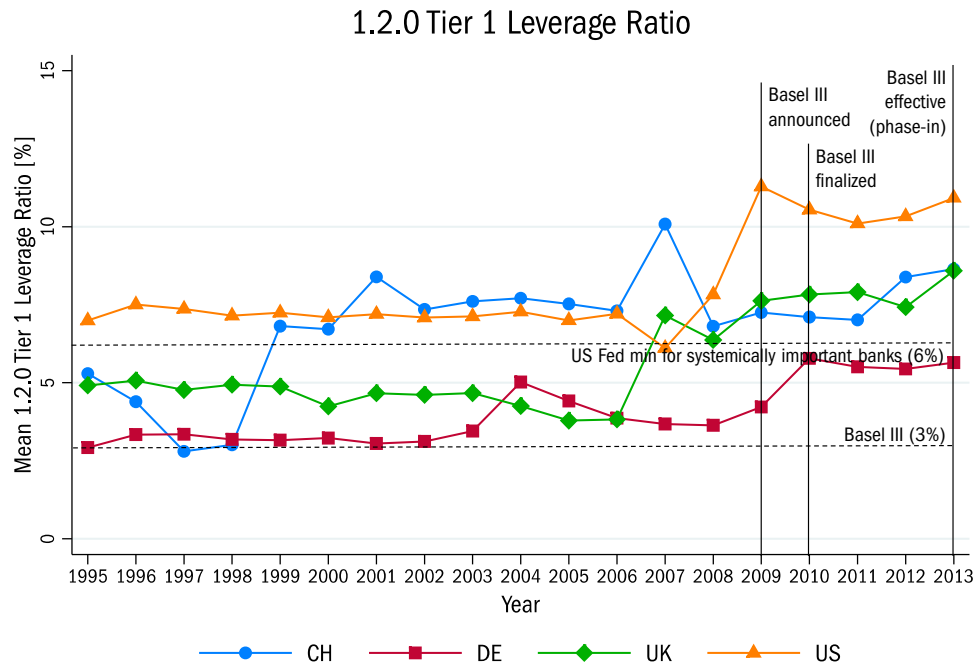


Figure 34: 1.2.0 Tier 1 Leverage Ratio (annotated)

Data for *1.2.0 Tier 1 Leverage Ratio* also supports the interpretation of Basel III being reactive to firm-level changes rather than the other way around. By the time Basel III was proposed, banks in the US, UK and Switzerland already comfortably exceeded the proposed Basel III minimum of 3%, with average tier 1 leverage in the three countries at 8.7% in 2009. Germany’s banks fared lower on this measure in 2009 at 4.2%, but significantly adjusted upward between the Basel III proposal and its finalization (5.8% in 2010). While the German case is thus best seen as reactive to the regulatory proposal, the other three countries support the view of Basel III merely formalizing firm-level change.

Taken together, these results support the propositions made as far as they are applicable. The Basel II introduction appears to have taken place in a mostly top-down way, with no evidence of firm-level change in capitalization or mimetic isomorphism taking place. This is unsurprising, given the low-salience status of the issues of banking regulation and risk-taking more broadly

at the time. In other words, in the absence of crisis (at least at the later stages of the Basel II deliberations) and public discourse, no significant firm-level changes took place that could influence policymaking from the bottom-up. Instead, organized business interests successfully pushed for concessions in the political arena—a typical low-salience top-down process of change (Culpepper 2011). With Basel III, on the other hand, the results support a bottom-up interpretation. The significant changes on the firm-level during the GFC, driven by processes of mimetic isomorphism, are an important precursor to bottom-up change and support proposition *C-2*. Given that regulatory change took place after these significant firm-level changes and at similar levels, unimpeded by high issue salience during the GFC, the results also support proposition *C-3*. As the Basel III changes took place during a severe crisis, proposition *C-1* does not apply; neither do *C-4* and *C-5* as a revision to an internationally coordinated regulation that all four countries had applied before.

#### 6.2.1.1.2 Country-Specific Financial Market Reforms

Further to the Basel Accords, which affect all four countries examined here very similarly, there are also more country-specific financial market reforms to consider. Related to the GFC are efforts to separate or insulate investment from retail banking. This was mooted only in the US and UK, possibly because the two countries found themselves at the center of the financial meltdown. The issue is considered here due to its direct relevance to bank capitalization and risk-taking behavior—universal banking that combines investment and retail banking is riskier, as losses sustained in the investment side of the business may affect the retail business and hence the savings of average bank customers. To put it differently, the mere mention of separating investment and retail banking sends a strong signal to financial firms that regulators consider their practices to be too risky. Germany has experienced a series of financial market reforms in the 1990s and early 2000s, which bear discussing. Switzerland has not experienced any significant financial market reforms beyond the Basel rules discussed earlier.

## United States

The Gramm–Leach–Bliley Act (GLBA), also known as the Financial Services Modernization Act of 1999, repealed the Glass-Steagall Act of 1933 that had separated investment and retail banking in the US. Universal banking, combining commercial banking, investment banking, and insurance was thus permitted again. While a landmark legislation without doubt, in many ways GLBA was merely the end result of a 20-year period of chipping away at Glass-Steagall, through financial firms increasingly finding ways of working around the restrictions as well as piecemeal regulatory changes blurring the sharp lines drawn by Glass-Steagall (Deeg 2012).

The primary regulatory response to the GFC in the US was the Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010. Passed within a year after being proposed, Dodd-Frank introduced several important reforms to financial regulation, including the creation of the Financial Stability Oversight Council tasked with monitoring and ensuring the stability of the overall US financial system. The council has the power to place non-bank financial firms under regulation of the Federal Reserve, whose remit was expanded to “regulate mega bank holding companies and designated non-bank financial companies through, *inter alia*, risk-based capital and leverage limits that include off-balance-sheet activities and are countercyclical, increasing in times of economic expansion and decreasing during economic contractions” (Deeg 2012, p.1264). The Dodd-Frank reforms also include what is referred to as the Volcker Rule—banning proprietary trading, i.e. banks owning or investing in hedge funds or private equity funds for their own profit, thus curbing one form of risk-taking of banks. Among the other changes enacted by the law are increased regulation of derivatives, insurance companies, and credit rating agencies (Huntington 2010). Non-binding ‘say on pay’ rules instituted by Dodd-Frank are discussed below in the corresponding section.

We could therefore reasonably expect banks to reduce risk in an effort to signal improved behavior to regulators and head of deeper changes. The firm-

level data, however, does not show such patterns—at least not on the three measures of bank capitalization used here (1.1.1, 1.1.2, and 1.2.0). American banks slightly decreased capitalization on all three measures in the year-long run-up to the passage of the Dodd-Frank Act in 2010. While banking regulation (*S01*) and risk-taking behavior (*S02*) were still salient issues in 2010, the regulatory threat did apparently not induce firm-level adjustments beyond the massive increases in capitalization between 2007 and 2009. There are two ways of looking at this: First, banks may not have had the ability to further increase capitalization after just having made significant increases, or they may have deemed their prior adjustments sufficient. In this case, we can regard the 2007-2009 capital increase as pre-Dodd-Frank adjustments. Second, banks may have adjusted in other ways that are not captured by the capitalization measures used here. In either case, the Dodd-Frank Act was passed and contained some fairly major reforms—including the ban on proprietary trading. From a historic perspective, however, it could well be argued that the Dodd-Frank reforms were limited. They did not separate commercial and investment banking, as the Glass-Steagall Act of 1933 had done, nor did they try to contain contagion through a ‘ring-fence’ as the British response would go on to do (discussed below). In other words, the firm-level changes may well have tamed the Dodd-Frank Act to some extent, but some ambiguity remains.

### **United Kingdom**

In reaction to the GFC, the UK government launched an inquiry in 2010 tasked with reviewing the stability of the British banking sector and issuing structural and non-structural reform recommendations. The Independent Commission on Banking (ICB), chaired by Sir John Vickers, produced its final report in September 2011 (Vickers et al. 2011). The ICB’s headline recommendations to the UK government are the creation of a ‘ring-fence’ to separate retail from investment banking activities, higher capital requirements, giving preference to depositors in case of insolvency, and more

competitive retail banking. Most of these recommendations, as well as a tougher oversight and certification regime for senior bank staff that makes reckless mismanagement a criminal offense, have become law through the Financial Services (Banking Reform) Act 2013, albeit only in broad-brush terms. Details on the functioning of the ring-fence, for instance, remain to be determined through secondary legislation before the target implementation date of 2019. The long timeframe and leeway in implementation open the door to potential watering down of the legislation's actual impact. Indeed, this appears to be taking place, with banks winning concessions over ring-fencing rules that weaken its cost to businesses, but also its potential utility (Dunkley & Binham 2015).

Between the launch of the Vickers inquiry in 2010 and passage of the Financial Services Act in 2013, British banks increased their capitalization by about one percentage point on all three measures. While certainly not a significant increase, a similar argument can be made here as in the US case—the fact that UK banks did not return to pre-crisis levels of capitalization, even on measures that did not see increased minimums under Basel III, is notable in its own right and may explain the less-than-radical nature of the reforms and the watering down of their actual impact before implementation.

If we accept the banking industry reforms in the US and UK as at least partially influenced by the practices of banks in the two countries, the results are consistent with the propositions applicable. The US changes that took place during and immediately after the GFC support *C-2*, as the crisis-induced processes of mimetic isomorphism had changed bank capitalization significantly, as well as *C-3* accepting that the Dodd-Frank Act was less radical than historic or contemporary equivalents. The UK banking sector overhaul was initiated at a later stage of the crisis and more prolonged, thus taking place at a time of lower issue salience of banking reform and risk-taking than the US equivalent. Keeping in mind that the UK's ring-fencing is significant, but was watered down before implementation, the results support *C-1*—declining salience appeared to increase the impact of bottom-up change, which was supplied by firm-level capitalization increases galvanized by the GFC,

supporting *C-2*. As the policies underlying the British reforms were hashed out at the tail end of the crisis in the Vickers Report, they are also likely to be weaker than reforms worked out during non-crisis situations. This would be another explanation for why and how firms were able to reduce the severity of the ‘ring-fence’ before implementation, supporting *C-4*. Comparing the US and UK cases, the patterns observed are consistent with British banks influencing banking reforms to larger extent than their American counterparts. As Britain is a more centralized system than the US, this does not support proposition *C-5* and indeed finds the opposite. However, given the different implementation time frames and circumstances elaborated above, the organization of the political system may play a subordinate role here.

### **Germany**

German financial markets were transformed through a series of Financial Market Promotion Acts. The first two in 1990 and 1994 took place before the time period covered, but essentially lowered taxes on financial transactions, established investment funds, and moved from self-regulation of the sector towards a single national financial markets regulator. The 1998 and 2002 reforms enabled a wide-scale shift away from Germany’s traditional debt-based corporate financing system towards an equity-based system by allowing firms to use international accounting standards, restricting share price manipulation, and eliminating taxes on long-term equity stakes held by banks or companies (Jackson & Sorge 2012). The latter change in particular heralded the significant weakening of German cross-shareholdings, allowing banks to free up capital to become Anglo-Saxon-style investment banks and allowing (or forcing) industrial firms to raise more financing on equity markets than before. While these changes have ramifications on German firms’ shareholder structure, we may also expect to see changes in German firms’ debt-equity ratio, as measured by *1.2.1 Financial Debt-Equity Ratio* and *1.2.2 Balance Sheet Leverage*.

### 1.2.1 Financial Debt-Equity Ratio

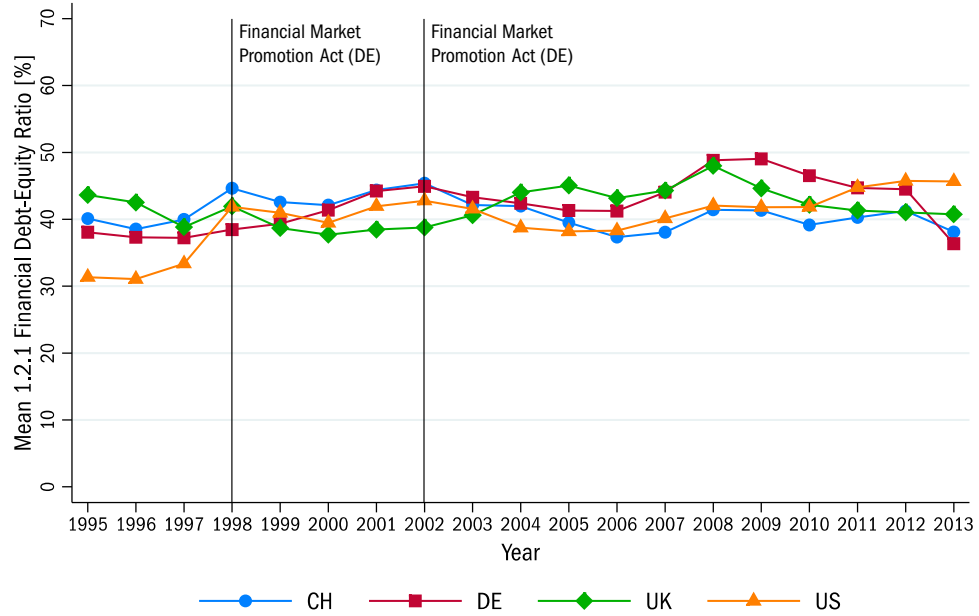


Figure 35: 1.2.1 Financial Debt-Equity Ratio (annotated)

The firm-level data suggests that the financial market reforms in Germany unfolded from the top down. As is evident from measure 1.2.1, German firms increased their reliance on debt up until the passage of the 2002 Financial Market Promotion Act, from which point onwards debt declined somewhat—the GFC, however, pushed debt levels significantly upwards again, as it did in all four countries. These developments are commensurate with the significance of the legal reforms discussed above—the 2002 Act was most significant on the legal level in incentivizing equity financing, which is reflected in the firm-level shift beginning then.



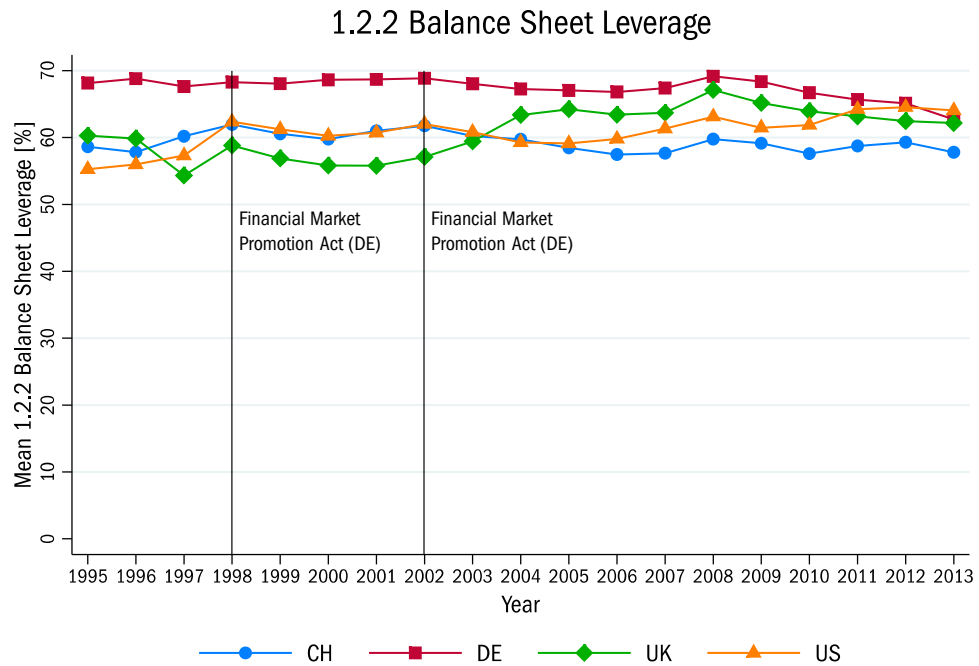


Figure 36: 1.2.2 Balance Sheet Leverage (annotated)

The conceptually similar, but wider measure 1.2.2 shows the same patterns in German firms, albeit at a more compressed level due to the measure also including non-financial liabilities. Furthermore, the absence of mimetic isomorphism on measures 1.2.0.1, 1.2.1 and 1.2.2 at the time—despite the marked rise in salience of corporate risk-taking behavior (S02)—suggests that firm-level processes of change are unlikely to have influenced the German financial market reforms.

## 6.2.1.2 Accountability & Transparency

### Audit Rotation Rules

Large companies often have long-standing business relationships with their auditors, sometimes lasting decades. These relationships have been described as ‘too cozy’ and potentially harming the objectivity and thoroughness of audits, leading some to blame auditing firms for failing to foresee the bank failures of the GFC. The relationship between corporations and their auditors

became a target for regulatory action fairly soon after the GFC. The EU first announced its intention to enforce auditor rotation in late 2011 in order to improve audit quality (Barker & A. Jones 2011). These early proposals also threatened a break-up of the big four auditing firms—a threat that was later dropped but that nonetheless sent a strong signal to audit firms and their client firms alike that change was needed. In late 2013, the EU’s regulation efforts became more concrete, requiring auditor rotation after 10 years. If put out to tender, the client may choose the same auditor for a further 10 years, hence allowing a total of 20 years with the same auditor (Fleming 2013). The reforms were adopted in April 2014 and will come into effect in 2016, affecting British and German firms directly. Some firms in those two countries may have started changing their behavior in anticipation of these reforms (Fleming & A. Smith 2014), perhaps to signal their prudence and accountability to investors and regulators, making *1.4.0 Auditor Change* a good measure of anticipatory and preemptive firm-level change.

Neither Switzerland nor the US have mandatory audit rotation rules. Large Swiss firms are required to change the lead audit partner every seven years, however this refers to the personally responsible partner in an audit firm who signs the audit report, not the audit firm (Baird & Renz 2014). So far, Swiss regulators have not signaled intentions to adopt the EU model or any other tightening of auditor rules.

In the US, mandatory audit rotation was considered for inclusion in the Sarbanes-Oxley Act of 2002 (SOX), following the Enron scandal and other high-profile corporate auditing failures. However, Congress decided against it at the time, commissioning the U.S. General Accounting Office (GAO) to produce a report on the potential effects of mandatory audit rotation rules. This report found that audit firms as well as large American corporations are strongly rejecting the idea of mandatory audit rotation over cost concerns and loss of company-specific expertise gained by long-standing audit relationships. Furthermore, the GAO recommended to wait several years to see whether some of the SOX-reforms, including mandatory audit partner rotation every seven years, auditor independence, and other measures would achieve the

same ends with a less interventionist and less costly approach (United States General Accounting Office 2003). In this sense, the GAO report represents a signal to auditors and their client firms that regulators expect to see improvements in practice and are willing to legislate should firm-level change not materialize. In 2011, the Public Company Accounting Oversight Board (PCAOB), an oversight body created through SOX that regulates the audit profession, revived the debate by suggesting that mandatory audit rotation could become part of a reform package for the industry (Chasan 2011). Within two years, however, Congress passed an amendment to SOX that prohibits the PCAOB from requiring companies to use specific auditors or to mandate audit rotation. Policymakers justified their ‘preemptive strike’ based on concerns that such rules would be detrimental to business and an overreach of the PCAOB’s authority, but also directly stated that it was intended as a reaction and signal to the EU’s mandatory audit rotation rules (Chasan 2011; Chasan 2014).

British regulators reacted to the high-profile corporate failures in the US and the passage of SOX by commissioning an inquiry chaired by Sir Robert Smith (2003) on “Audit Committees and Combined Code Guidance.” The Smith Report dealt with one of the key areas of failure in the Enron and Arthur Andersen debacle: the role of audit committees and auditor independence. Smith strongly backed the non-prescriptive ‘comply or explain’ approach of the UK corporate governance system and in his guidance emphasized the responsibility of audit committees to review the effectiveness of a company’s internal audit function, the terms of engagement with the external auditor as well as reviewing the auditor’s effectiveness and independence, and to develop and implement policy on provision of non-audit services by the auditor.

These various reforms can be grouped into two periods: 2002-03 following the dot-com crash and Enron scandal, and 2011-13 following the GFC. Both periods of legal change also correspond with periods of firm-level change on measure *1.4.0 Auditor Change*, but the data suggests that corporate practices may have influenced legal change more after the dot-com crash than following the GFC.

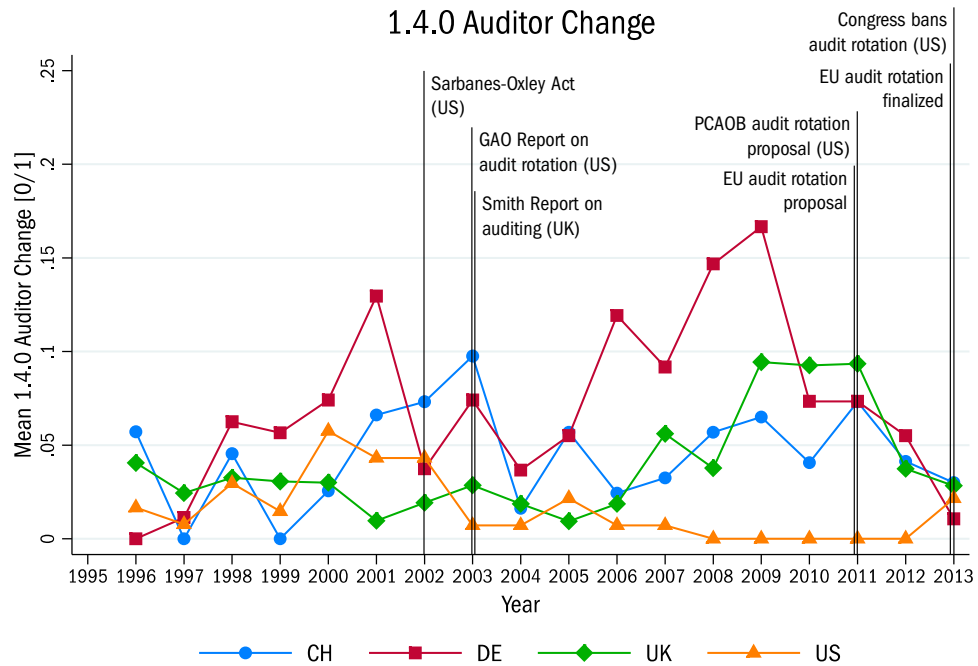


Figure 37: 1.4.0 Auditor Change (annotated)

In the US, the three years between 2000 and 2002 show the highest levels of companies changing their auditors throughout the observed time period, at around 5% of companies doing so per year. These firm-level changes were likely driven by mimetic isomorphism, induced by the crisis and high levels of public discourse on auditor change (*S03*) and the big four accounting firms (*S03Alt*), as discussed in the previous chapter. The SOX reforms, passed in 2002, notably mooted mandatory audit rotation, but did not legislate it, instead commissioning the GAO report released the following year, which laid the issue to rest for good in the US. Given this sequence of events—American firms comparatively high levels of auditor change before the passage of SOX—it is plausible that at least some of the weakening of SOX and the ensuing GAO report are due to bottom-up change influencing policymakers. The US case therefore provides support for proposition C-2, as the dot-com crisis and mimetic isomorphism galvanized corporate behavior around higher rates of auditor change. Taking place during the aftermath of

the dot-com crash and Enron collapse, this instance of bottom-up change also supports proposition *C-3*.

While audit rotation received no regulatory attention in Europe at the time of the dot-com crash, the issue became the target of EU proposals after the GFC. European companies more frequently changed their auditors during and after the GFC, driven at least in Germany and the UK by mimetic isomorphism. Yet, despite European companies' rather pro-active approach to shaking up their auditor relationships, the EU introduced their mandatory auditor change proposal in 2011 and finalized it in 2013—worth noting, however, is the sharp decline in companies changing auditors between these two dates. It therefore appears that the crisis initiated a wave of auditor changes, even in absence of a pronounced salience increase on related issues (*S03*, *S03Alt*), while the specific regulatory threat in 2011 did not. This is consistent with the findings of the previous chapter, in that the conditions created by a major crisis may be necessary for widespread corporate change to occur. In other words, despite the wave of auditor change at the height of the GFC creating supply of bottom-up change (supporting *C-2*), it failed to avert the introduction of the EU's reform proposal, by which time the conditions had changed enough to preclude further firm-level adjustments. Hence, the findings also support *C-3*, as bottom-up change did not lead to legal change (by way of averting it) outside the immediate crisis situation.

American firms, by comparison, behaved very differently during the GFC with the rate of US firms changing auditors close to nil from the mid-2000s onwards, showing no reaction to the crisis. In a parallel to the EU, US firms were also subject to a regulatory reform proposal in 2011, when the PCAOB, the accounting industry regulator, announced their intention to introduce mandatory audit rotation. However, this was struck down by Congress through essentially banning the PCAOB from ever enacting such requirements. Given the complete absence of firm-level change on measure *1.4.0* in the US, it is clear that this cannot be due to bottom-up change, but was most likely a striking victory for business interests directly influencing the

policymaking process—as we may expect outside the immediate crisis situation and with low political salience on the issue (Culpepper 2011).

## 6.2.2 Corporate Governance

This section first provides an overview of the origins and contemporary context of corporate governance in the four countries, making reference to major legislation and reforms. Specific impacts and comparisons with firm-level data are drawn in the sub-sections to follow.

### **United Kingdom**

The UK has been at the forefront of developing the modern understanding of corporate governance, introducing a comprehensive code of best practice ten years prior to the other three countries. The central piece in the UK's development of corporate governance standards was the Cadbury Report published in 1992. Following a string of high-profile governance failures (Maxwell Communications, BCCI, Polly Peck), Sir Adrian Cadbury was tasked with chairing “a committee whose aims were to investigate the British corporate governance system and to suggest improvements restore investor confidence in the system” (Arcot & Bruno 2006, p.5). The Cadbury Committee was set up in mid-1991 as a joint effort between the Financial Reporting Council, London Stock Exchange, and accountancy profession. While the FRC is partly government-funded, the Cadbury Committee can largely be seen as a private sector initiative.

The final version of the Cadbury Report (Cadbury 1992) made a number of recommendations that would become adopted as a benchmark in numerous countries (Arcot & Bruno 2006). The central recommendations were:

- (1) the establishment of three board committees made up of NEDs—an audit committee, a remuneration committee, and a nomination committee;

- (2) the appointment of at least 3 independent NEDs as well as striving for board balance in order to avoid any dominant person/group; and
- (3) the separation of the role of Chairman of the board and CEO (Mallin et al. 2005; Arcot & Bruno 2006; Cadbury 1992).

A key feature of the Cadbury Report was that it did not suggest that its recommendations be turned into prescriptive, mandatory regulation; instead it supplied a voluntary Code of Best Practice that companies may adapt to their own needs and circumstances, only requiring companies to disclose their compliance. Finding widespread acceptance upon publication, the Cadbury Report's recommendations were taken up by the London Stock Exchange, making it a listing requirement for companies to "state whether they comply with the Code, identify, and give reasons for any areas of non-compliance" (Arcot & Bruno 2006, p.6). This flexible "comply-or-explain" approach has become a hallmark of the UK corporate governance regime and has also been adopted in other countries.

In 1998, the committee chaired by Sir Ronald Hampel released its report reviewing the Cadbury Code and its implementation as well as the Greenbury report (discussed in the executive pay section). Satisfied that the goals of the Cadbury and Greenbury Codes were being achieved, Hampel did not seek changes to the UK's corporate governance system, but rather sought to consolidate and clarify previous codes, resulting in the first Combined Code (Hampel 1998). The Hampel Report's only significant change was the suggestion that companies publish a narrative account of their compliance or non-compliance with the code, rather than the previous box-ticking approach. This was seen as a way of loosening what many corporations felt was a prescriptive straightjacket (Arcot & Bruno 2006; Hampel 1998).

As a reaction to the GFC and related high-profile bank failures, the UK government commissioned 'a review of corporate governance in UK banks and other financial industry entities' by Sir David Walker (2009). A long-time banker and financial-industry insider, his appointment signaled a willingness of the British government to let the industry continue to be overseen and

governed by its own interests. The Walker Review suggests strengthening the role of NEDs through better selection and training, strengthening the role of institutional investors as ‘stewards’ of the company, establishment of a board risk committee, and slightly enhanced disclosure of executive pay (Slaughter and May LLP 2009). These recommendations received a mixed response upon publication, raising questions whether the proposed reforms had any real consequence. As Brendan Barber, TUC general secretary, stated, “while some of its proposals are an advance, the Walker Review comes across as the financial establishment putting forward the minimum proposals they think will head off root and branch reform so they can get back to business as usual” (TUC 2009).

### **Switzerland**

Corporate governance in Switzerland was traditionally dominated by insiders, such as founding families and owners more generally, who relied on “hidden reserves, restrictions on the transfer of shares (*Vinkulierung*) and voting right distortions” (Schnyder & Widmer 2011, p.106) to assert their power vis-a-vis outsiders. While the importance of blockholders and universal banks as lenders fit the typical CME-system usually associated with Germany (Hall & Soskice 2001), other features of the traditional Swiss system do not. Switzerland lacks extensive cross-shareholdings, bank ownership of non-financial firms, and has highly developed and capitalized stock markets. In the early to mid-1990s, the Swiss model underwent significant changes towards a more shareholder-friendly system. Reforms in 1991 severely limited the use of *Vinkulierung*, one of the control enhancing mechanisms of the traditional system, in listed companies and enhanced the rights of minority shareholders and owners on non-voting shares. The 1995 Federal Act on Stock Exchanges and Securities Trading (SESTA) further strengthened minority shareholder protection through new takeover rules and moved listed companies to international accounting rules. Schnyder and Widmer (2011) describe these changes as institutional layering, as they applied only to listed and thus large



Swiss companies; SMEs continued to be able to follow the traditional Swiss system and keep insider control. For large, listed companies—the focus of this study—these reforms were transformational: “By the late 1990s, ‘shareholder primacy’ was largely considered - by practitioners and legal scholars alike - to be the dominant paradigm in Swiss company law” (Schnyder & Widmer 2011, p.111).

The modern Swiss corporate governance system is in many ways quite similar to that in Britain. Both rely substantially on self-regulations through codes of best practice, which listed firms are supposed to follow in a ‘comply or explain’ approach. Hence, they remain at their core voluntaristic despite wide-spread adoption of the respective corporate governance codes. In Switzerland, corporate governance reforms took place in 2001-02 after high-profile corporate failures (ABB, SwissAir) but also as a Swiss response to the international debate on corporate governance at the time and the American Sarbanes-Oxley Act. The Swiss reforms were passed through two avenues: First, as part of the listing rules of the Swiss stock exchange, which were amended in 2002 to incorporate the EU Directive on Information Relating to Corporate Governance (DICG). Emphasizing disclosure rather than setting specific standards, DICG required companies to publish information on directors’ ties to the company and its stakeholders, activities in other Swiss and international firms including board appointments, and internal organizational structure—all on a comply or explain basis. Second, through a new Swiss Code of Best Practice for Corporate Governance, published in 2002 by Economiesuisse, an umbrella interest group organization for Swiss business. While not law, “its rules are considered by members of industry to be ‘quasi-obliging’” (Speck & Tanega 2005, p.475). The code is also enforced as part the SWX listing requirements through a comply-or-explain approach, making it de-facto regulation. The specific stipulations of the Swiss code are discussed in the corresponding sections.

## Germany

The traditional German stakeholder-system of corporate governance is distinctly different from the Anglo-Saxon type, by relying on insider-control and stakeholder-orientation. Employees, as a central stakeholder group, have broad codetermination rights through the supervisory board as well as works councils. Shareholders, which often include powerful blockholders from founding families or the company's *Hausbank*, take a long-term view of the business and rely on insider monitoring rather than public information. This traditional system, however, has gradually opened up to give shareholder interests more power. Two years after the first industry-led initiatives to introduce a German Code of Corporate Governance—primarily in order to cater to international investors who had little understanding of the German corporate governance system—the German government appointed a commission to draft the code in 2001. The German Code of Corporate Governance, released in 2002 and anchored in the law through the *Transparenz- und Publizitätsgesetz* (TransPuG) of the same year, sought to equally explain the German system of corporate governance to international investors and bring the German system somewhat more in line with international expectations. However, the strong role of German industry insiders in the creation of the code meant that the final version did more of the former than the latter, ending up “certainly less demanding than the Anglo-Saxon ‘best practice’” (Lütz et al. 2011).

Through the corporate governance code as well as a number of other reforms, discussed in the corresponding sections below, the German system was opened to international investors and their expectations of corporate governance. However, Jackson and Sorge (2012, p.1150) argue that these reforms have not transformed German corporate governance wholesale, but resulted in institutional layering: “The growing influence of shareholders and liberalized use of corporate equity co-exist with a largely unchallenged institution of employee codetermination through the supervisory board and works councils. New rules have thus been layered onto past rules, creating a

new combination or hybrid of shareholder and stakeholder corporate governance.”

### **United States**

The US had no national corporate governance system to speak of before passage of the Sarbanes-Oxley Act of 2002 (SOX), with corporate governance issues primarily regulated through state legislation, where pro-managerial rules dominated in order to attract businesses to the state—Delaware being the prime example. One of the most significant pieces of legislation within the issue areas and time period covered here, SOX can be seen as a “populist political reaction” (Deeg 2012, p.1254) to the dot-com crash and the series of high-profile corporate failures including the Enron collapse.

The passing of SOX is an example of decisive top-down policymaking, enabled by the severity of the crisis and public demand for comprehensive reforms—Cioffi (2010) argues that these pressures were so strong, they essentially eliminated the power of corporate elites and interest group politics from the policymaking process. Described as “the most significant reform of American securities law since the New Deal” (Cioffi 2010, p.97), the importance of SOX rests not only with the actual reforms it enacted, but also in signifying a break with previous modes of corporate governance regulation. As Cioffi (2010, p.97) argues, SOX “established forms of regulation and federalism in American corporate governance. It significantly expanded federal regulatory authority over corporate accounting and sought to protect shareholders by imposing self-enforcing regulatory mechanisms that strengthened the board of directors and internal monitoring of management rather than relying on rights-based litigious mechanisms of enforcement.”

Hence, SOX could be seen as a strong signal from federal legislators to corporations that the previous mostly hands-off approach had come to an end and corporate behavior would be subject to closer scrutiny and possibly further regulatory interventions. The law also made waves beyond the US, with many other nations implementing their own versions of SOX with

varying degrees of local adaption. Given this international dimension of the law and its impact several of the issue areas considered here, specific changes enacted by SOX are discussed in the corresponding sections.

### 6.2.2.1 Shareholder Orientation

#### **United States**

In May 2003, not long after the passage of SOX, US regulators signaled their intention to give shareholder more rights to nominate and elect directors. The SEC's advances, however, fell on deaf ears in the Bush administration and received little Congressional support. As Cioffi (2010, p.127) argues, "managers, business groups, and allied organizations attacked the proposed rules as destructive of corporate efficiency and as an invitation to public and union pension funds to use their vast holdings to pursue special interest agendas." By the end of 2004, the SEC dropped the proposals and the issue was laid to rest. While board nomination and election rules are not measured for this study, the signal sent by regulators on this issue is concern over board composition, which is discussed later, and, on a more fundamental level, shareholder rights.

The issue was revived again in September 2006, when the Committee on Capital Markets Regulation (CCMR) was formed under the auspices of the Bush administration. The committee consisted of a private group of experts that were not only generally opposed to regulation of business activities, but in particular skeptical towards the SOX regulations. However, the political angle used to reexamine SOX was international competitiveness of the US securities market, particularly compared to London's light-touch regulatory environment at the time. In its report released towards the end of 2006, the committee rather surprisingly recommended no changes to SOX, but recommended pro-shareholder reforms including enhanced voting rights on takeover defenses and director nomination and election, but notably not on executive pay (Cioffi 2010). This episode is therefore a policymaker signal

supporting the status quo in many ways, but also calling for stronger shareholder rights on board composition.

Shortly after, towards the end of 2006, a court decision brought the issue of shareholder rights in the director nomination and election process to the fore once more. Ruling in a case between a pension fund and AIG, the Second Circuit Court of Appeals (SCCA), covering New York, denied management's right to reject shareholder proposals to modify board nomination procedures. After a year, the Republican-dominated SEC reacted to the ruling by issuing regulatory changes to uphold managerial power, assuaging business fears that "expanded shareholder director nomination rights would politicize the corporation as labor and social investment groups took on a formal governance role and introduced stakeholder interests and non-economic agendas into the board room" (Cioffi 2010, p.136). Essentially, opponents of expanded shareholder rights were concerned about widening separation of ownership and control.

Post-GFC corporate governance reforms in the US doubled down on pro-shareholder orientation, with the SEC in mid-2009 pushing through the reforms that had previously failed—giving shareholders enhanced voting rights over board nominations and elections (Cioffi 2010). Around the same time, legislators also pursued two further important pieces of corporate governance reform: the introduction of non-binding shareholder votes on executive pay, and a 'Shareholders' Bill of Rights' that included a number of provisions on board composition and election. Both were eventually subsumed into the Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010, the provision of which are discussed where relevant. These changes not only dealt a blow to managerial power over the boardroom, but also further increased the federalization of corporate governance regulation.

Firm-level measure *2.3.0 Shareholder Rights (ISIV)* is highly relevant to these policy debates. A proxy measure for overall shareholder orientation, this dummy variable indicates whether the company has a unitary share structure

or uses any control enhancing mechanisms that distort control and cash flow rights. Hence, if companies want to show their commitment to shareholder rights, one way to do so is through a unitary share structure. Another related measure is the distribution of net value added (NVA), particularly 2.4.2 *NVA to Shareholders*, which measures the share of NVA paid to shareholders as cash dividends. Adopting the one-share-one-vote (1S1V) principle and paying generous dividends are ways for firms to pacify shareholders and dampen their demands for enhanced power.

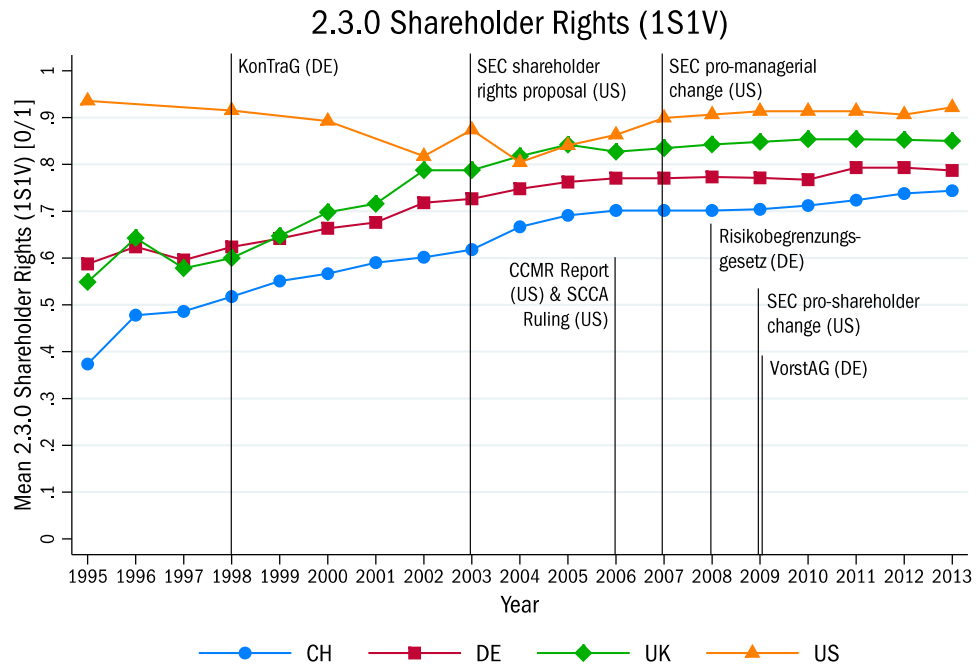


Figure 38: 2.3.0 Shareholder Rights (1S1V) (annotated)

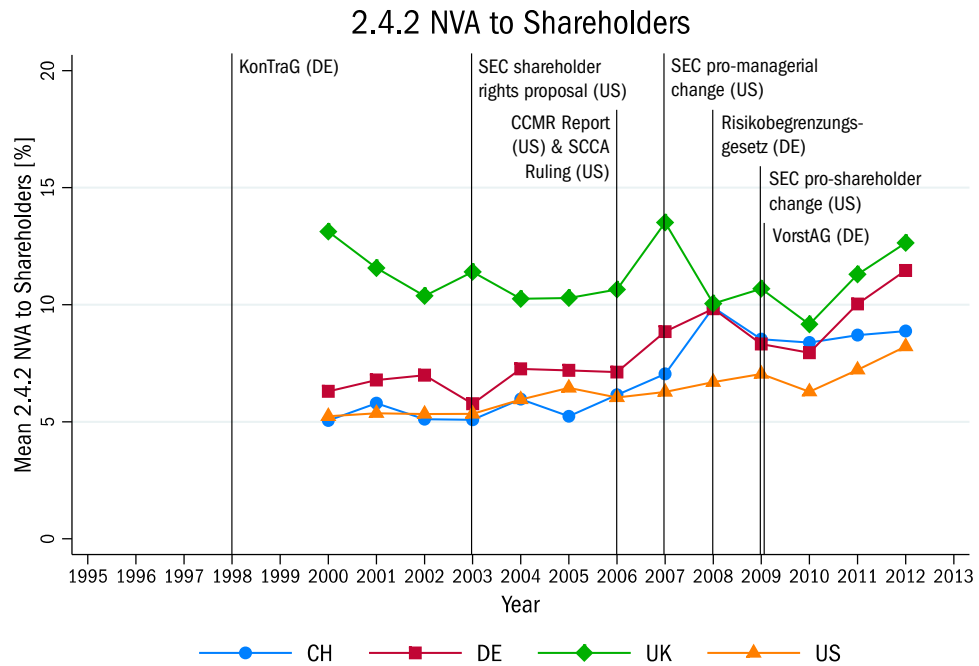


Figure 39: 2.4.2 NVA to Shareholders (annotated)

While US firms are generally highly shareholder value-oriented, as measured by 2.3.0, the data suggests two distinct periods of change: the gradual decline from 1995 to 2002-03, when the share of US companies applying the 1S1V principle declined from around 93% to just over 80%, and the period of growth between 2003-04 and 2007, when the share returned from 80% to over 90%. The share of NVA paid to shareholders (2.4.2) did not change in the early period (although data limitations pre-2000 apply), but increased from 5% to 6% between 2003 and 2007, also emphasizing increasing shareholder value-orientation in the later period.

The former period includes the dot-com boom and bust, but does not show elevated levels of public discourse on shareholder rights (S08). Discourse on corporate governance (S10) spikes in the last two years of the period due to the dot-com crash and Enron scandal, but is otherwise low. The latter period between 2003-04 and 2007 is marked by the issue of shareholder rights (S08) reaching higher salience than at any other time in the period, while corporate

governance (*S10*) remained highly salient despite starting to fade. It is in this period that we see convergence in corporate behavior on measure 2.3.0, as the between-group ANOVA results show, driving the return to over 90% of American firms adopting 1S1V.

It therefore appears that the SEC's pro-shareholder rights proposal in 2003 served as a wake-up call to companies to prioritize shareholder rights, galvanizing firm behavior around higher shareholder-value orientation as measured by 2.3.0 and 2.4.2. Although the 2006 report by the Commission on Capital Market Regulation and the Second Circuit Court of Appeals ruling of the same year appeared to presage pro-shareholder regulation, the 2007 SEC regulatory change strengthened management's rights vis-a-vis shareholders. Given the timing and direction of firm-level change in the years prior, it is plausible that the SEC's decision reflected that firms were embracing shareholder value to greater extent, allowing regulators to yield to business interests despite high issue salience. With this instance of bottom-up change taking place between the two major crises, it does not support proposition *C-1*. However, the case may be a good illustration for the decentralized political system of the US enabling bottom-up change—with high-ranking courts, an important committee, and the SEC at odds over the issue within a single year, the changes on the firm-level merely had to 'impress' one policymaking agency to result in bottom-up change, supporting proposition *C-5*.

However, the story did not quite end there; the SEC reversed its decision only two years later to grant shareholders further rights in nominating and electing board members. Why policymakers chose to revisit the issue again at that time is not entirely clear—public discourse on shareholder rights (*S08*) and corporate governance (*S10*) had declined from two years prior, and firm behavior had not changed either—but the GFC appears to have allowed regulators to push against business interests to enforce top-down change.



## Germany

The German corporate governance system was significantly revamped through the Gesetz zur Kontrolle und Transparenz im Unternehmensbereich (KonTraG), which came into effect in May 1998. While KonTraG also increased auditor independence and introduced disclosure requirements for ownership stakes above 5%, it also significantly strengthened the role of shareholders by “eliminating multiple voting rights and voting rights restrictions, barring banks from using proxy votes in conjunction with direct shareholding exceeding 5 per cent, requiring banks to solicit proxy instructions from shareholders, and giving the supervisory board greater duties of financial oversight” (Jackson & Sorge 2012, p.1148). By eliminating some forms of voting right distortions and incentivizing shareholder value orientation of German firms, KonTraG is an important reform directly connected to measure 2.3.0 *Shareholder Rights (ISIV)*.

The GFC, however, marks a turning point for Germany’s corporate governance system, with post-crisis reforms dialing back some of the previous pro-shareholder reforms and reemphasizing Germany’s stakeholder-based system. In August 2008, legislators passed the Risikobegrenzungs-gesetz, “to strengthen disclosure rules and regulatory constraints on investors ‘acting in concert’ in takeovers” (Cioffi 2010, p.220). The German government also bound companies to the principles of the social market economy, by explicitly anchoring the traditional stakeholder-oriented model in the revised German Corporate Governance Code. Finally, the role of the supervisory board and, by extension, board-level codetermination was strengthened by the Gesetz zur Angemessenheit der Vorstandsvergütung (VorstAG) in mid-2009. This law required the entire supervisory board to approve executive pay rather than a board committee, creates personal liability of supervisory board members for setting appropriate levels, structure, and incentives of executive pay, and generally emphasized long-term decision-making and reward structures (Cioffi 2010). In other words, the post-GFC reforms in Germany signify at least a partial return to German corporate governance values of yore,

emphasizing coordination, long-term thinking, and a stakeholder rather than shareholder orientation.

On the firm-level, however, it appears that there was no turning back after the 1998 KonTraG reforms increased shareholder value orientation (2.3.0) in German firms. Between 1998 and 2008, the share of German companies applying the ISIV principle increased from just over 60% to almost 80%. Similarly, the share of NVA paid to shareholders (2.4.2) increased from around 6% in 2000 (the earliest available data point) to just below 10% in 2008. The 2008 Risikobegrenzungsgesetz and 2009 VorstAG reforms, which sought to reemphasize traditional stakeholder orientation, by comparison, had no discernible firm-level effect on 2.3.0 *Shareholder Rights (ISIV)* and only a temporary reduction in 2.4.2 *NVA to Shareholders*. While these patterns suggest a top-down mode of change, with firm-level change following legal change, looking at German firms' behavior in context of the other countries raises the question whether the reforms are even responsible for increasing shareholder value. On 2.3.0, German firms followed the same trends as firms in the other European countries, while the move towards increasing dividends (2.4.2) is also evident in other countries. In other words, it may well be that the large German firms captured by the sample used here have always been much more globally-oriented, following international expectations on shareholder value rather than domestic ones. Smaller German firms may therefore show more pronounced patterns of change commensurate with the legal changes.

## 6.2.2.2 Board of Directors

### **Board Composition**

While the board-level corporate governance reforms contained in SOX are mostly concerned with enhancing the role and power of the audit committee, there are broader implications on board composition. For one, SOX brought rules that were previously part of stock exchange listing rules under federal law, including those on board independence and committee requirements.

Until 2002, the US had no federal or otherwise far-reaching requirements regarding the independence of board members. Although a majority independent board had been regarded as best practice from at least 1992, when the American Law Institute made that recommendation in its 'Principles of Corporate Governance,' this was not a requirement until 2002, when the NYSE included a majority independent board in its overhaul of stock exchange listing requirements (Gordon 2007). Regarding audit committee independence, rules prior to 1999 were fairly weak with poor definitions of what constitutes independence. In 1999, NYSE listing rules tightened the definition of independence and required the audit committee to consist of at least three independent directors (Gordon 2007). SOX imposed no stricter rules on board independence than the 2002 NYSE listing rules, but brought them under federal law. On audit committee independence, however, SOX did impose tougher rules, requiring audit committees to be composed fully of independent directors. Furthermore, SOX mandates a fully-independent compensation committee (Cioffi 2010).

As part of the UK government's response to the high-profile corporate scandals in the US and the passage of SOX, the Higgs Report (2003) reviewed the role of non-executive directors and made recommendations to improve their effectiveness. Most importantly, Higgs recommended the board to consist of at least 50% independent NEDs, separation of CEO and Chairman, a nomination committee of majority independent NEDS, an audit committee as recommended by the Smith Review, a remuneration committee of at least three members who are all independent NEDs, and tenure limits of two three-year terms for NEDs. Higgs supported the UK's 'comply-or-explain' approach, but did move towards setting the bar higher in many regards and removing some discretion. It could therefore be argued that Higgs started moving the Combined Code towards a more prescriptive approach. The Higgs recommendations were implemented through the 2003 revision of the Combined Code on Corporate Governance.

Released in its first version in 2002, the Swiss Code of Best Practice for Corporate Governance only mandated that a majority of the board consists

of non-executive directors, but included no general requirement of independence despite recommending a fully independent audit committee and majority independent compensation committee (Economiesuisse 2002). The 2014 revision of the Swiss Corporate Governance Code includes for the first time a requirement for a majority independent board. However, it uses a fairly weak definition of independence that boils down to not currently or within the last three years occupying an executive role in the company (Economiesuisse 2014). This is a significantly weaker definition of independence than the UK's, for instance, where the executive role cut-off period is 5 years and which also includes other criteria that do not apply in the Swiss case.

The 2002 version of the German Code of Corporate Governance set rather weak standards of board independence. It merely limited the number of former executive board members to two and required the audit committee to be chaired by an independent director—defined as not being a former executive. Yielding to pressure from EU legislators but insisting that Anglo-Saxon-style corporate governance measures are unsuitable for the German two-tier board structure and codetermination law, the 2005 revision of the German code included a requirement for an 'adequate' number of independent NEDs but remained otherwise largely unchanged (Lütz et al. 2011).

### 2.5.4 Independent Non-Executive Directors

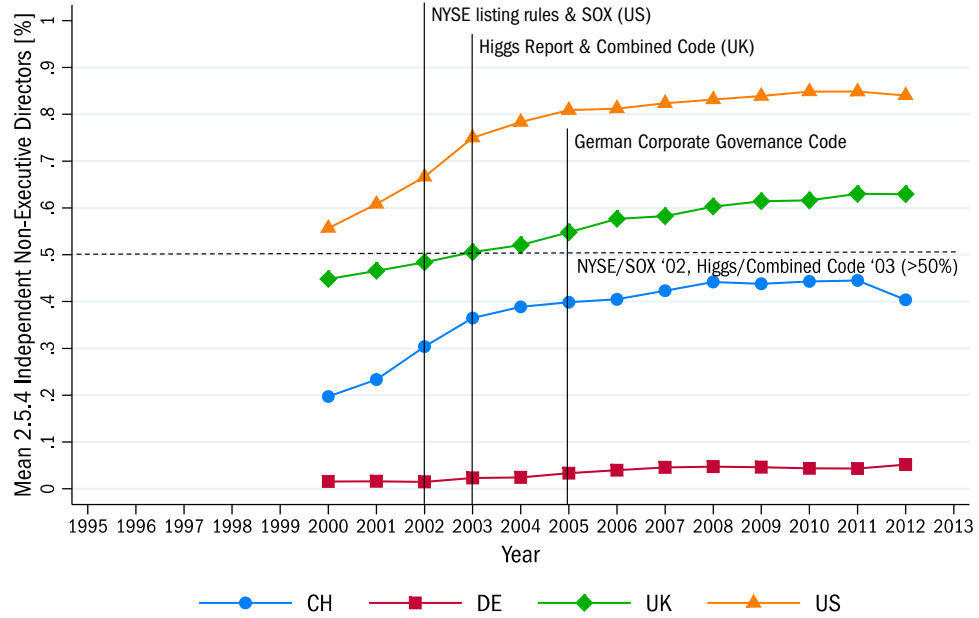


Figure 40: 2.5.4 Independent Non-Executive Directors (annotated)

In the US, UK and Switzerland, the early 2000s are a period of rapid growth in the share of independent NEDs (2.5.4). Between 2000 and 2004, the share increased from 55% to almost 80% in the US, 20% to 40% in Switzerland, and to lesser extent from 45% to 52% in the UK. In the US, NYSE listing rules were changed in 2002 to require a majority independent board, which was incorporated into SOX the same year. At that point in time, US firms already averaged 66% independent NEDs—easily above the new regulatory minimum. Nevertheless, the NYSE and SOX changes, paired with high salience of corporate governance (*S10*), initiated convergence among American firms between 2002 and 2004, driving 2.5.4 further upwards. Hence, the US case can be argued to be bottom-up change to some extent, as it merely formalized what large American firms were already doing; but at the same time it initiated a wave of further firm-level change, thus clearly having a top-down element as well. The crucial factor may be that mimetic

isomorphism only occurred after passage of SOX—a cautious interpretation should therefore regard this as mostly top-down change.

Interestingly, Swiss firm-level patterns are very similar to those in the US, with rapid growth in independent NEDs in the early 2000s, driven by mimetic isomorphism between 2002 and 2004. However, these firm-level changes occurred without regulatory threat and lower levels of issue salience (*S10 Corporate Governance*) than in the US or even UK at the time. An explanation for this behavior could be the international orientation of large Swiss companies, which requires them to conform to global expectations on ‘good’ corporate governance rather than domestic rules that set lower standards. Of course, it could be argued that the global orientation of Swiss firms is enabled by the very liberal Swiss corporate governance system, which in turn remains permissive because Swiss companies are proactive on implementing ‘best practice.’ To put it differently, the rapid adoption of independent NEDs at a time when the issue is highly salient in the US and other global markets may well be responsible for keeping the issue off the regulatory agenda in Switzerland. As such, we could see it as an instance of bottom-up change, whereby firm-level change preempted legal change, although it is difficult to support this interpretation in the absence of struck-down reform proposals or similar regulatory signals. If we do accept it as bottom-up change, the results support *C-2* as a groundswell of firm-level change driven by mimetic isomorphism, and with caveats, *C-3* by preempting legal change. Although outside the observed time period, the 2014 revision of the Swiss Corporate Governance Code, which finally implemented a majority independent board rule, is also consistent with this line of reasoning, given that the share of independent NEDs in Swiss firms has remained stagnant at around 45% since the late 2000s. Failure to catch up to international standards through self-regulation may have pushed regulators towards a more prescriptive approach.

The British case has some parallels to the US, but leans more clearly towards bottom-up change. In 2003, when the Higgs Report and Combined Code implemented a majority independent board requirement, British firms had just crossed 50% share of independent NEDs. It is thus similar to the US in

the sense that the regulatory changes formalized what companies were already, albeit barely, doing. Unlike in the US, however, the British legal changes did not lead to convergence of firm practices or a wave of adoption; the gradual year-over-year increase in the share of independent NEDs continued unabated at a very similar rate of growth as before. Absent clear top-down effects, interpreting this case as regulation formalizing pre-existing corporate practices is more fitting. As the previous chapter found no clear evidence of crisis-induced mimetic isomorphism on this issue for British firms, adoption of independent NEDs may have occurred through more gradual processes. This case therefore does not provide support for *C-2*. With the changes taking place during the dot-com crash, however, it does support *C-3*.

### **Board Diversity**

The share of women on company boards has been part of the post-GFC discourse on how to reduce excessive risk-taking, with more gender-balanced boards seen as making ‘better’ and less risky decisions (Vinnicombe et al. 2015). This issue is therefore a relevant current facet of the corporate governance debate and a best practice signal to stakeholders.

UK regulators have sent some important and effective regulatory signals on board diversity. In 2010, the Department for Business, Innovation and Skills commissioned Lord Davies to produce a report on Women on Boards and make policy recommendations. The Davies Report, published in 2011, strongly supported the call for more diverse boards, but stopped short of recommending quotas, instead calling on businesses to self-regulate and improve board diversity (Davies 2011). However, it also threw down the gauntlet to businesses that quotas need to be considered failing effective self-regulation: Davies set a target of 25% female directors by 2015 in the FTSE 100.

The European Commission made similar efforts around the same time, publishing a proposal for EU-wide board quotas in 2012 (European Commission 2012). The proposal suggested a 40% minimum quota for each

gender among non-executive directors, lamenting slow progress on board diversity among member states and apparently ineffective self-regulation. This represents a warning shot to businesses across the EU that regulation may be impending, should they fail to boost board diversity.

Swiss regulators made a gesture towards board diversity in the 2014 revision of the Swiss Corporate Governance Code. It states that boards should include men and women, and “appropriate diversity of board members” (Economiesuisse 2014, p.10), the first revision of the Code to include such rules. In 2015, Germany passed a law requiring a minimum 30% of female supervisory board members in large companies (Smale & Cain Miller 2015), reacting to the European Commission’s regulatory threat and preempting EU-level regulation on the issue. The US has not set any quotas for women on corporate boards, with such efforts meeting widespread resistance there (Smale & Cain Miller 2015).

### 2.5.5 Female Directors

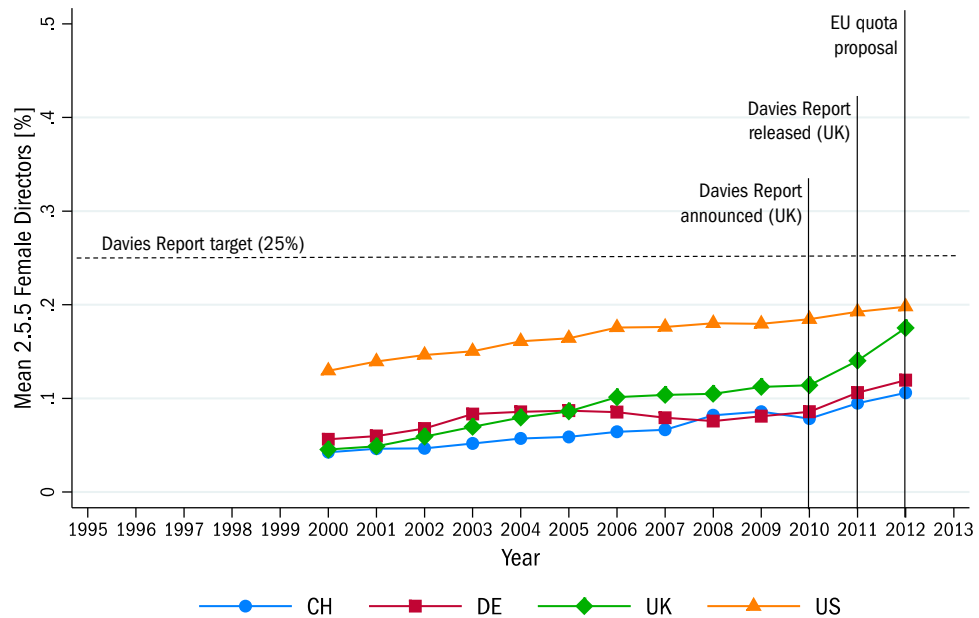


Figure 41: 2.5.5 Female Directors (annotated)



While the EU's proposal and Germany's introduction of a 30% quota occurred too late or even outside the observed period to make observations on their firm-level effect or whether they formalize existing practices, the UK's regulatory proposals offer some interesting insights. Up until 2010, when the UK Government announced an enquiry into women on company boards, British firms had slowly increased their share of female directors (2.5.5) year-over-year. Starting from a 5% share of female directors in 2000, very much in line with other European countries but almost 10 percentage points below US firms, British companies increased the share to 11% in 2010, slightly above their European counterparts whose share of female directors stood at around 9% that year. The very specific regulatory threats of 2010-11, which essentially told British businesses to increase the representation of women on their boards to 25% by 2015 or face mandatory quotas, appeared to initiate a step change in year-over-year growth. Between 2010 and 2012, the latest year for which data is available in this study, the share of female directors increased from 11% to 18%, almost closing the gap with US companies. The ANOVA results discussed in the previous chapter suggest, however, that this increase did not lead to clear convergence between small and large British companies on the issue. In other terms, some companies remained proactive on appointing women, while others remained laggards on doing so, not closing the gap between them.

These changes in Britain point to a very interesting dynamic we could term top-down enforced bottom-up change. In 2010-11, British policymakers could have chosen to simply implement a 25% quota to become effective in 2015. Instead, they made a very explicit and specific regulatory threat that led to very similar outcomes on the firm-level as 'hard' law likely would have—in March 2015, the share of women among the FTSE 100 was 23.5% (Vinnicombe et al. 2015), very close to reaching the 25% target by the end of the year. If the UK Government indeed accepts firms to have met the target and does not pursue mandatory quotas, this would be not only an example of firm-level change affecting legal change by averting formal regulation, but

also a case where regulators provided a very explicit incentive for firm-level change: the promise not to formally regulate.

While it is too early to draw conclusions on this case, absent the Government's decision on whether to pursue quotas or not, it does point to some important implications. First, it is strong evidence of the power of regulatory signals, particularly when tied to explicit goals and promises not to formally regulate if those targets are met. Second, it also points to the power of centralized political systems to make such signals and promises—as several previous examples of infighting among regulatory agencies and legislators in the US have shown, decentralized systems would find it much harder to make credible commitments of this sort. In other words, while decentralized systems may be more open to bottom-up change derailing legal change that are under way, centralized systems may be more open to bottom-up change that is incentivized or demanded by policymakers. It is therefore an important counterpoint to proposition *C-5*.

### 6.2.2.3 Executive Pay

Executive pay received considerable regulatory attention in the UK in 1995, following public outrage over excessive pay. Set up on the initiative of the Confederation of Business and Industry (CBI), “Britain’s biggest business lobby group” (Groom & Parker 2014), the committee headed by Sir Richard Greenbury examined executive remuneration practices of large UK companies and developed a code of best practice. In doing so, it responded to public and shareholder concern over the pay of British company directors, especially in recently privatized utility industries (Greenbury 1995). Much like the Cadbury Report (1992) before it, the Greenbury Report made the case against statutory controls, advocating a code of best practice paired with strengthened accountability to shareholders. The report recommended:

- (1) full disclosure of executive remuneration;
- (2) remuneration committees made up of NEDs;
- (3) tying executive pay to individual and company performance; and

- (4) a new code of best practice that LSE-listed companies are required follow as far as possible and disclose their compliance (comply-or-explain) (Greenbury 1995).

The GFC brought the issue back into the spotlight. Despite considerable public debate on executive remuneration, regulators in the four countries have not implemented caps on executive pay. The perhaps most high-profile case of such efforts was in Switzerland, where a popular initiative on a proposed CEO pay cap of 12 times the lowest employee salary was rejected by two-thirds of voters (Gemperli 2013). Instead, legislators have focused on using market means to control executive pay by giving shareholders more power to influence pay practices. The UK has been leading on this issue, where non-binding votes on executive pay (“say on pay”) were made mandatory through the Directors Remuneration Report Regulations 2002. These shareholder votes became binding in October 2013 through the Enterprise and Regulatory Reform Act 2013 and The Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013, implementing the recommendations made by the Kay Review of 2012. Henceforth, companies are required to produce a director’s remuneration policy that needs to be AGM-approved every three years.

Swiss regulators implemented ‘say on pay’ rules in 2013 through the Verordnung gegen übermässige Vergütungen bei börsenkotierten Aktiengesellschaften (VegüV), after a public referendum found broad support for such rules. VegüV introduced not only binding votes on executive and director pay, but also mandatory annual reelection of directors (Schweizerischer Bundesrat 2013). In the US, ‘say on pay’ rules were introduced through the Dodd-Frank Wall Street Reform Act of 2010, requiring non-binding shareholder votes on executive compensation as well as non-binding votes on ‘golden parachutes’ in the event of a merger or acquisition (Huntington 2010). German ‘say on pay’ rules are somewhat weaker still. Here, shareholder votes are not mandatory and are non-binding. These were introduced in 2009 through the Gesetz zur Angemessenheit der

Vorstandsvergütung (VorstAG) and consequently incorporated into the German Corporate Governance Code (Thomas & Van der Elst 2015).

On the EU-level, bonus caps in the banking industry were instituted through the Capital Requirements Directive (CRD IV), which came into effect on 1 January 2014. The EC stated that it began reforms in the banking sector as it suffered the biggest corporate governance defects during the financial crisis, but signaled its intentions to review the regulations covering other sectors and bring them in line if necessary. The CRD IV bonus cap sets the variable (bonus) component of executive pay at a maximum of 100% of the fixed (salary) component. A shareholder vote can increase the cap to 200%. CRD IV also includes further transparency requirements for executives earning more than €1 million per year. Sanctions are left to member states to set and define. Previously, CRD III required that “material risk takers,” such as senior management, receive at least 50% of their variable pay component through equity-linked or other non-cash instruments, and at least 40% of the variable pay component are deferred over at least 3 years. Firms also had to disclose their pay policies and practices of “material risk takers.” These rules continue to apply in CRD IV (European Commission 2013). In the UK, several large banks including Barclays, Lloyds, and HSBC announced to pay their CEOs larger salaries or share awards, in order to side-step the bonus cap. While this should be unsurprising as CRD IV does not place restrictions on the fixed pay component, EU policymakers nevertheless accused the UK of disregarding EU law (Rankin & Treanor 2014).

Comparing these legal changes in the four countries to firm-level change in executive pay measures 2.6.0 *Total Executive Pay*, 2.6.1 *Single Highest Executive Pay*, and 2.6.2 *CEO Pay Ratio* shows few points of direct connection. As found in the previous chapter, executive pay appears strongly tied to firm performance and thus bound by macroeconomic conditions. The firm-level data reflects this with two periods of lower executive pay—the dot-com crash in the US and the GFC in all four countries—interrupting the general upwards trend. While executive pay shows some reactivity to public discourse,

evidence of mimetic isomorphism is limited to financial firms during the GFC—those most affected by the crisis and criticized for their pay practices.

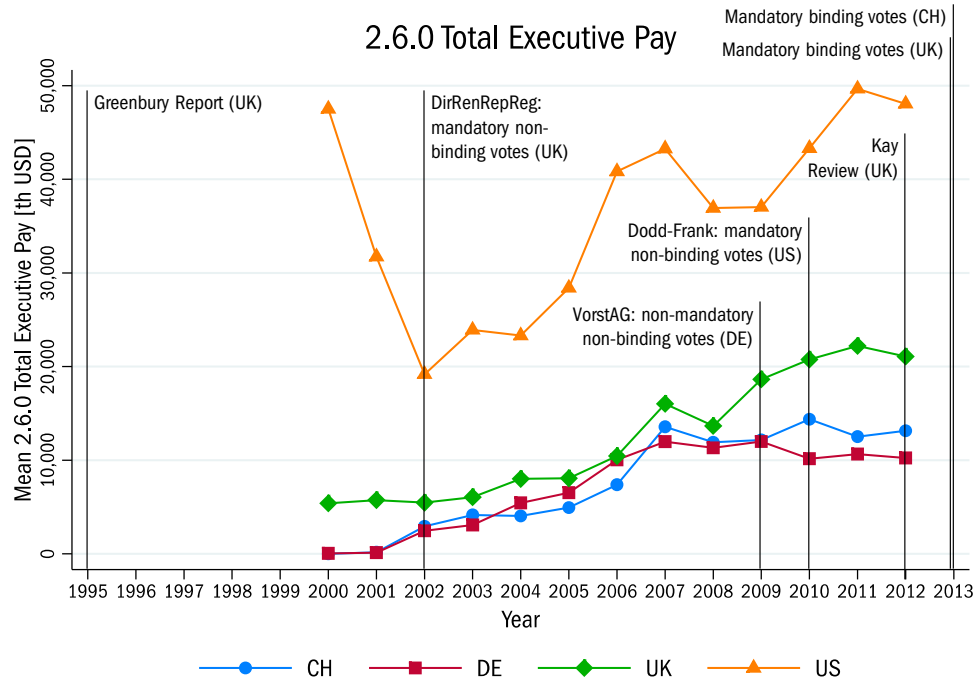


Figure 42: 2.6.0 Total Executive Pay (annotated)

### 2.6.1 Single Highest Executive Pay

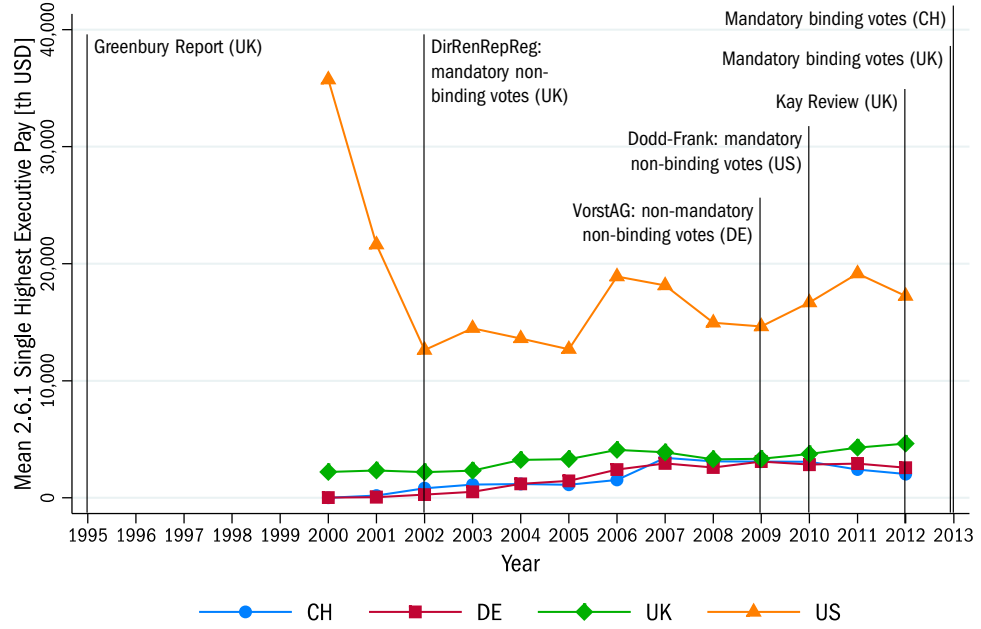


Figure 43: 2.6.1 Single Highest Executive Pay (annotated)

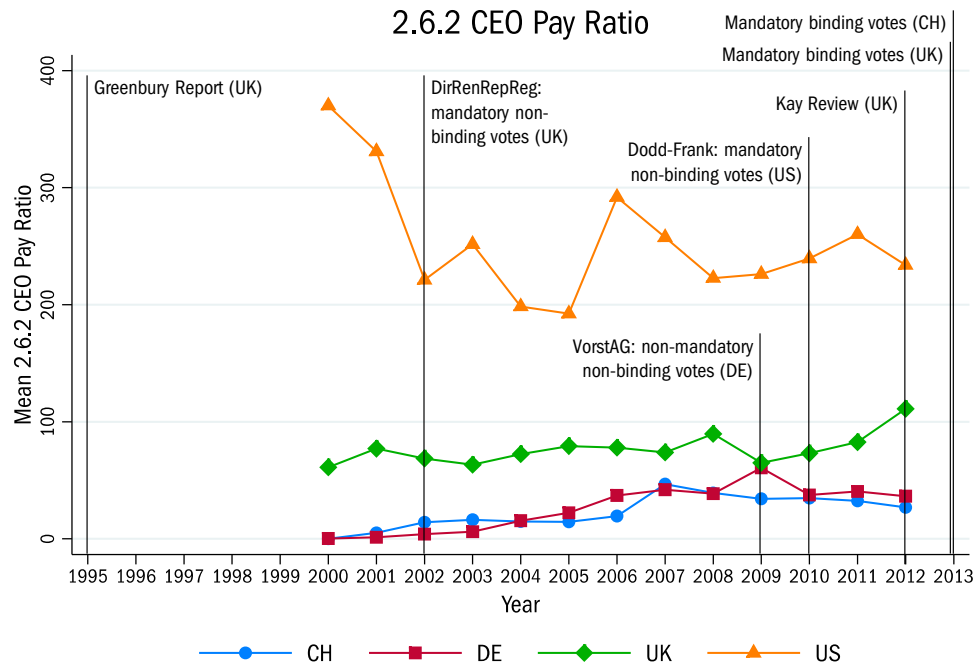


Figure 44: 2.6.2 CEO Pay Ratio (annotated)

While the Greenbury Report of 1995 in the UK and the 2013 reforms in Switzerland and the UK, which introduced mandatory and binding shareholder votes on executive pay, fall outside the range of available executive pay data (2000 to 2012), three major reforms are within the period. The introduction of mandatory non-binding votes in the UK in 2002 shows no discernible effect on any measure of executive pay practices, with pay relatively stable in the early 2000s in the UK.

Similarly, the introduction of mandatory non-binding votes in the US in 2010 appears to have had no dampening effect on executive pay. The slight decline in total (2.6.0) and single highest (2.6.1) executive pay between 2011 and 2012 in the US is also unlikely to be related to the 2010 reforms, as it can be linked to a slight decline in the market capitalization of US firms between 2010 and 2011. Consequently, with executive pay tied to stock price performance, the decline in pay is to be expected.

At first glance, Germany's VorstAG law of 2009, which introduced non-mandatory, non-binding shareholder votes on pay, appears to have halted the growth of executive pay in the country in the post-crisis years, when British and American executive pay continued pre-crisis growth. However, German firms' market capitalization has also grown much less in the post-crisis years than their British and American counterparts, casting doubt on the effect of the VorstAg reforms.

Taken together, the data fails to show any obvious connections between executive pay practices and regulation. To be sure, this may be due to limitations of the measures used here. After all, the reforms discussed are mostly on 'say on pay' rules, aimed at enhancing shareholder rights in setting pay through votes—something that is not directly measured in this study. However, if the ultimate goal of such rules is for pay to conform to market expectations and, at least to some extent, public expectations of justified executive pay, examining pay levels is nevertheless useful. Indeed, it could be argued that the approach policymakers have chosen to regulate executive pay and answer public outrage over excessive pay does not appear to be effective.

### 6.2.3 Labor Relations

Of the four countries included in this study, the US has the most flexible labor market, allowing employment-at-will with very low worker protection (Pontusson 2005). The weak role of labor in the US is rooted in the country's historically weak labor movement, which was further weakened by anti-union laws and dismantling of normative barriers, such as President Reagan's firing of striking air traffic controllers in 1981 (Deeg 2012). The US has a federal minimum wage, but unlike in the UK it is not annually adjusted, resulting in extended periods of declining purchasing power of minimum wage workers. The labor relations system of the US has not experienced any significant reforms over the period covered.

The UK's labor market is also very flexible, allowing 'zero hour contracts' and fairly easy hiring and firing. However, compared to the US, it is somewhat



stricter, for example through longer statutory notice periods (at least one week in the UK, none in the US), and more costly for employers, for instance due to longer statutory paid holiday and sick leave. While many significant labor and industrial relations reforms in the UK occurred before the beginning of the period covered—the dismantling of union rights under the Thatcher government—the period of the New Labour government from 1997 also brought about some changes, albeit through gradual transformation rather than major turning points (Gospel & Edwards 2012). Unions were strengthened by new recognition rights and employee’s information and consultation rights were enhanced; both, however, had little impact, Gospel and Edwards (2012) argue. As one of the key policies of Labour’s 1997 election campaign, the introduction of the national minimum wage in April 1999 marked a much more important change in British labor relations, particularly in light of the weakened labor movement and dismantling of collective bargaining. The national minimum wage is adjusted annually by the Low Pay Commission.

Germany’s traditional employment system is based on employment security and cooperative industrial relations. However, these features of the core sectors of the economy are not only slowly eroding, but also apply to an ever-shrinking proportion of the German labor market. Erosion in the core sectors—manufacturing—is mainly a result of employers leaving employer associations and decentralization of collective bargaining, while the declining coverage is due to employment shifting from the manufacturing to the service sector, which has never been brought under the traditional system (Jackson & Sorge 2012). A number of important reforms to employment and pay regulations have introduced more flexibility in the German labor market. Use of agency workers, which large manufacturing companies like to use in order to adjust their workforce more flexibly to changes in demand, was made easier in 1997 and fully liberalized in 2003. Similarly, use of fixed-term contracts has been liberalized in multiple steps in 1996, and the early and mid-2000s (Eichhorst & Tobsch 2013). In 2003, restrictions on marginal part-time work—a form of employment that is “not liable for income taxes and

employee social insurance contributions while at same time not providing full social protection” (Eichhorst & Tobsch 2013, p.22)— were lowered, making it easier for workers to take on second jobs, but also significantly changing employment patterns in the retail sector and hospitality industry. At the same time, “these trends were reinforced by reforms in the social insurance system and growth in active labor market policies” (Jackson & Sorge 2012, p.1151). While these Hartz reforms are beyond the scope of this study, they are important drivers of change in German employment and pay practices.

Despite these extensive pro-flexibility reforms, there have also been some counter-developments aimed at extending employment protection across the entire labor market, possibly in acknowledgement of the dualization of the German labor market. Works councils were modernized in 2001, in order to make them more inclusive of temporary and agency workers, and to make their use less bureaucratic. Towards the end of the observed period, the introduction of the national minimum wage marked a significant reform of the German labor market. The first statutory minimum wage in Germany was introduced for the construction industry as part of the *Arbeitnehmer-Entsendegesetz* 1996, “as a way of preventing social dumping, given the vast increase of migrant labour in the industry” (Jackson & Sorge 2012, p.1151). In 2013, the introduction of a national minimum wage became a campaign promise for the Social Democratic Party (SPD) as well as other left-leaning parties, and was included in the coalition agreement of the newly-formed CDU/CSU/SPD government—despite opposition from business organizations, who warned of job losses and decreased competitiveness. Passed in 2014 and effective from 2015, the *Mindestlohngesetz* (MiLoG) applies to all employees across all sectors, even in atypical employment contracts, and will be adjusted biannually through a minimum wage commission (Deutscher Gewerkschaftsbund 2015).

As is the case in other institutional spheres, Swiss labor relations are characterized by their hybrid nature, combined elements usually associated with liberal countries with those associated with coordinated economies. Legal provisions on working time and hiring and firing are weak, but supplemented

by stricter rules in collective agreements. Over recent decades, Swiss labor markets were further deregulated following the demands of businesses for increased international competitiveness, but at the same time experienced increasing labor protection on some issues as a result of coordination with EU laws (Emmenegger 2011). However, these reforms took place in the early 1990s before the beginning of the period observed here, with a very stable system since. Switzerland has relatively few restrictions on hiring and firing, especially compared with Germany and is only slightly more restrictive than the UK, as the OECD’s labor protection index highlights. On temporary forms of employment, such as temporary agency work or fixed-term contracts, Switzerland places higher labor protections than the UK and US, where these forms of employment are pretty much unregulated, and is at a similar level as Germany after the latter’s series of labor market reforms. The following graphs illustrate the four countries’ relative positions on labor protection, using the OECD’s labor protection index for regular employment and for temporary employment (OECD 2015).

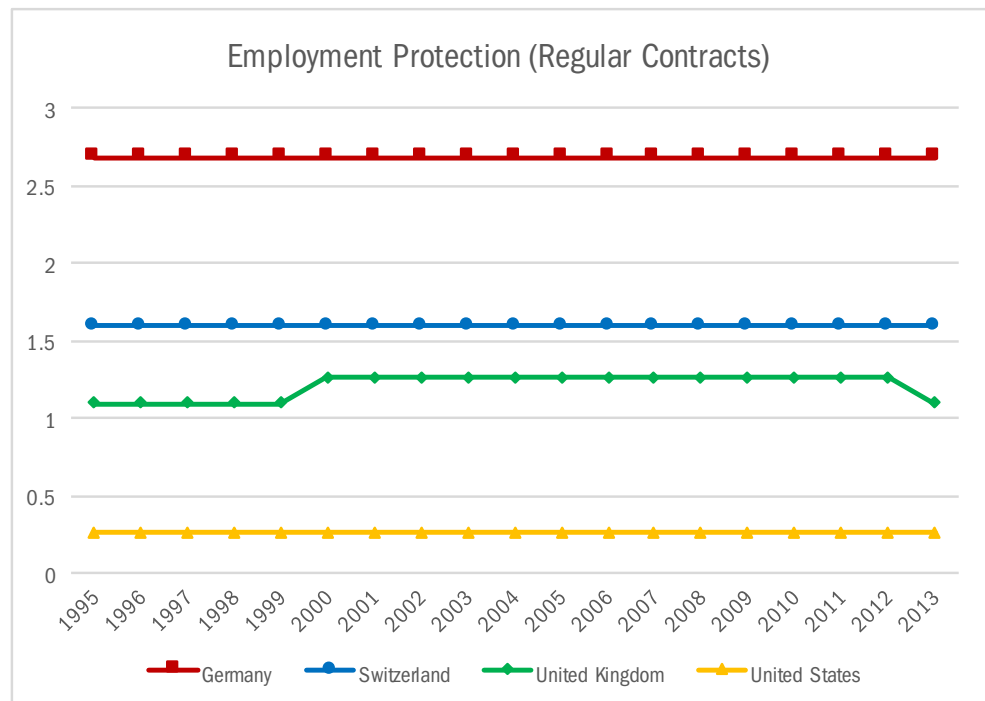


Figure 45: Employment Protection (Regular Contracts)

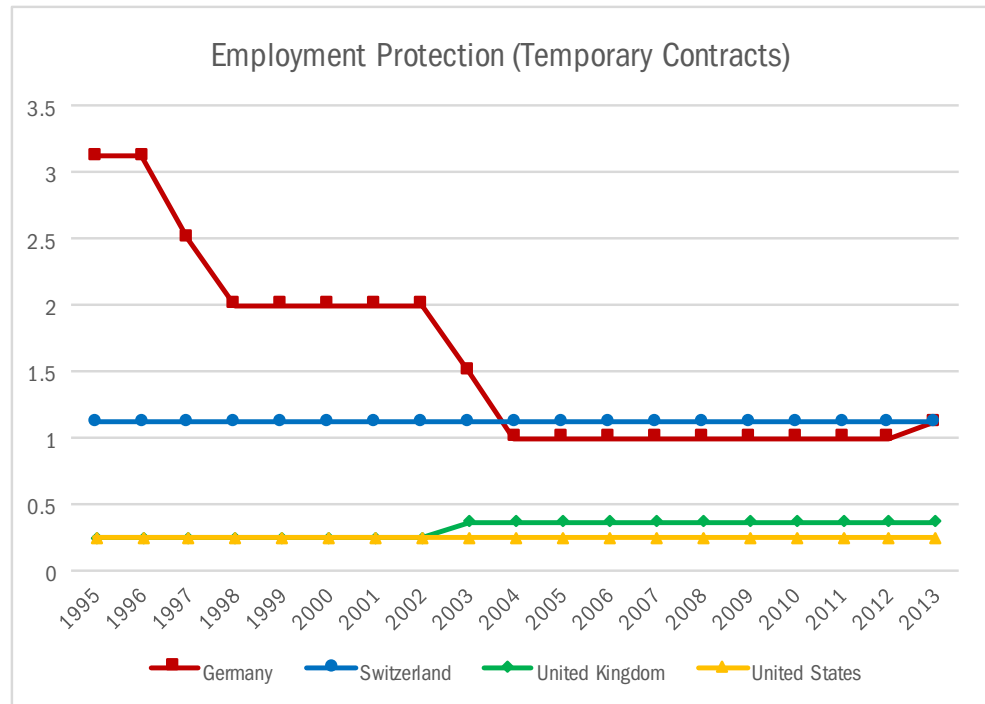


Figure 46: Employment Protection (Temporary Contracts)

Aside from the UK’s introduction of the national minimum wage in 1999, the employment and pay systems of the UK, US, and Switzerland have been stable over the observed period. Germany, on the other hand, has seen a series of reforms that have liberalized employment and pay in non-core sectors, i.e. mainly services and retail. However, neither the British nor German reforms have clear effects on the high-level corporate practice measures 3.1.0 *Employment Level* and 3.2.0 *Average Wage*.

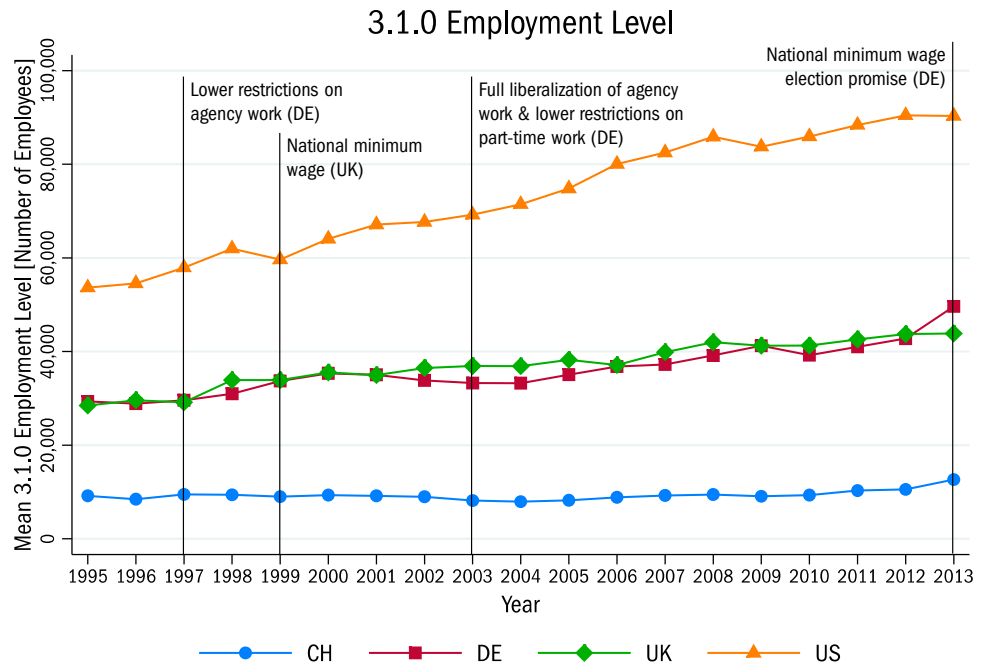


Figure 47: 3.1.0 Employment Level (annotated)

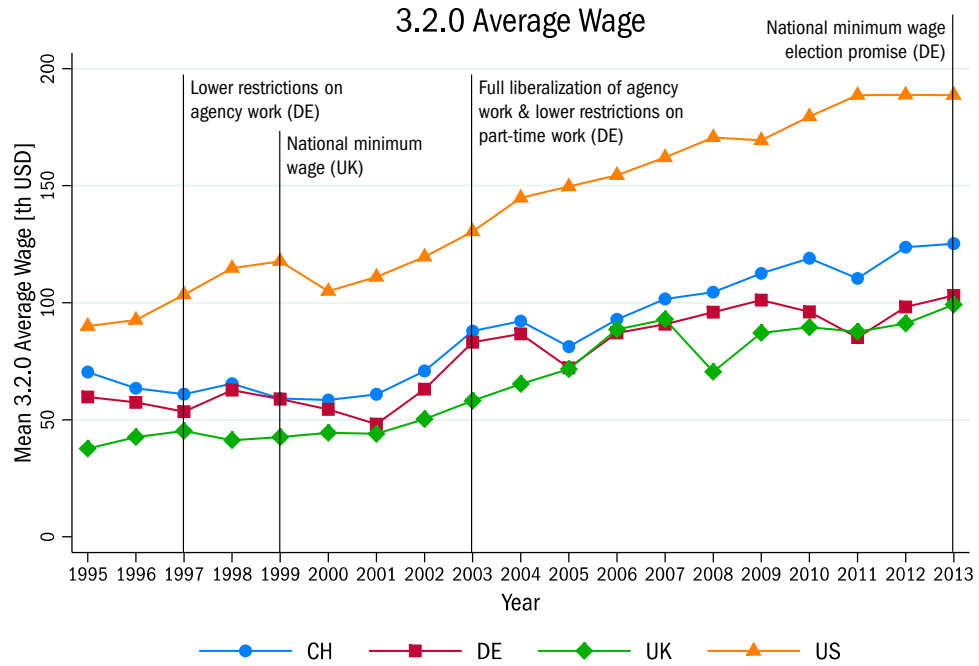


Figure 48: 3.2.0 Average Wage (annotated)

In general, both measures follow macroeconomic trends and firm performance, showing decreases in wages and employment during the dot-com crash and the GFC. The timing of firm-level adjustments also highlights the relative flexibility of the national labor markets. While firm performance, as measured by market capitalization and return on assets, was affected by the two crises across all four countries in 2002 and 2008-09, respectively, British and American companies adjusted their workforces and wages down sooner than their German and Swiss counterparts, in some cases even making anticipatory adjustments.

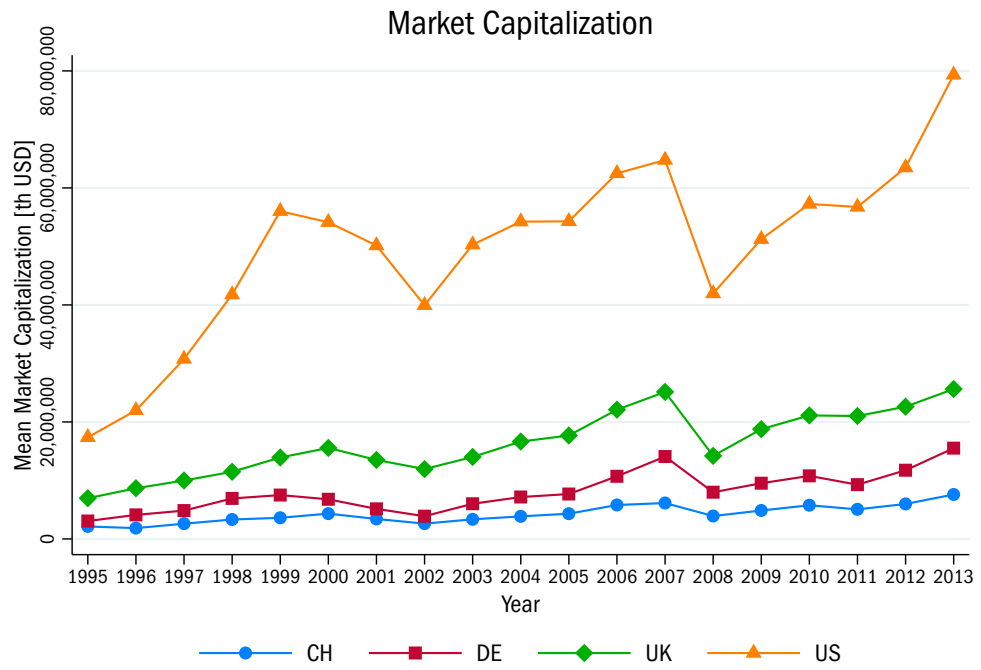


Figure 49: Market Capitalization

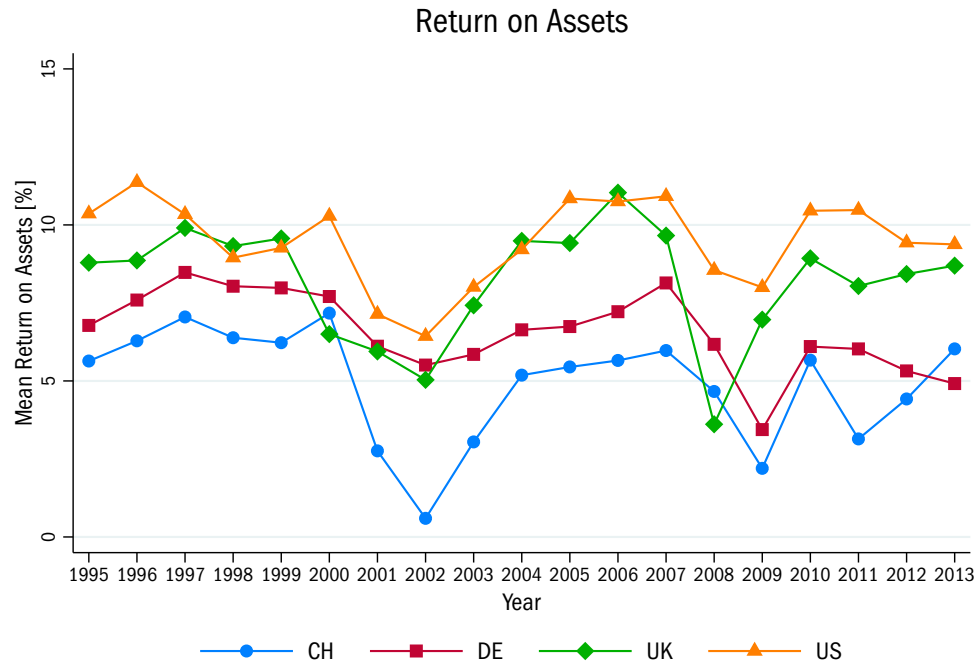


Figure 50: Return on Assets

Therefore, the downward adjustments in employment (3.1.0) and wages (3.2.0) in Germany in the early 2000s are most likely related to the economic downturn at the time, rather than the series of labor market reforms. This is not to say that the reforms had no impact on employment and pay practices, but the measures used may be too high-level to reveal it.

## 6.3 Summary

This chapter discussed several instances of bottom-up change, mostly in the spheres of finance and, to lesser extent, corporate governance, and analyzed them for the conditions under which bottom-up change is more or less likely to affect law or regulation. To this end, three questions were considered:

- (1) How does political salience and public discourse affect bottom-up change?



- (2) How does the nature of severe crises impact bottom-up change?
- (3) How does the structure of the political system mediate bottom-up change?

Regarding the first question, the results paint a mixed picture regarding proposition *C-1*, which suggests that higher issue salience reduces the impact of firm behavior on legal change, as it does for the power of business interests in top-down processes of change. Only two instances of bottom-up change taking place outside the two major crises were found. The first instance, supporting *C-1*, was UK banks' behavior weakening the impact of the Vickers Report and ring-fencing rules, which occurred after the GFC and under declining salience. The second instance, which did not support *C-1*, was the SEC's pro-managerial rule change of 2007, which appeared to recognize American firms' increasing shareholder orientation, as it occurred despite high issue salience. In light of the small number of non-crisis instances of bottom-up change and the contradictory results, we cannot conclusively support or reject proposition *C-1*.

On the second question, the results strongly support propositions *C-2* and *C-3*, which suggest that major crises increase the 'supply' of bottom-up change and that firm practices are more likely to affect legal rules in times of crisis, but fail to find much evidence relating to *C-4* on the effects of 'institutional softening.' Six instances of bottom-up change, originating in times of crisis and mostly driven by mimetic isomorphism, were found. These were primarily in the issue areas of risk-taking behavior and accountability & transparency, but also on board-level corporate governance. In one case of bottom-up change in times of crisis, relating to the introduction in 2003 of minimum quotas for independent NEDs on British boards, firm practices were not galvanized by the crisis and high issue salience. Six of the aforementioned seven cases of bottom-up change supported *C-3* as they brought about legal or regulatory change during major crises. The seventh case, the weakening of the Vickers Report and associated ring-fence for British banks, originated during the GFC, but was so drawn out it completed well

after the crisis. It was hence not counted as support for *C-3*, but the only instance of bottom-up change providing evidence related to *C-4*. It was found that the haste and pressure under which the Vickers Report was produced softened its ultimate impact by opening it up to watering down. In the absence of other instances of cases to support or contradict *C-4*, however, no firm conclusions can be drawn.

In terms of question three, the results only allow limited evaluation of *C-5*, given the small number of directly comparable cases of bottom-up change, but in the two instances where conclusions could be drawn the proposition was rejected. First, comparing the US and UK cases of financial market reform in reaction to the GFC found that British banks' behavior had influenced legal change more extensively than was the case in the US, rejecting *C-5*. Second, the case of 'top-down enforced bottom-up change' on UK board diversity provided an important counterpoint to *C-5*, suggesting that centralized systems may be more open to bottom-up change that is incentivized or demanded by policymakers, as they can make credible signals and promises in centralized systems. Taking a broader view of the findings in this chapter, most cases of bottom-up change found were in the UK and US, the former with a centralized, the latter with a decentralized political system. This suggests that organization of the political system may not be a differentiating factor for bottom-up change or that it matters in unexpected ways, as the UK example has pointed out. Possible explanations will be explored in the discussion chapter.

## 7 Discussion

### 7.1 Introduction

In pursuit of its overarching goal to further our understanding of bottom-up change, i.e. institutional change arising from or being shaped by corporate practices, this study focuses on a number of related issues that can be conceptualized within a triangle between the cornerstones of public discourse, corporate practices, and the law. While the literature has addressed some relationships on this triangle—the relationships between public discourse and the law, and some aspects of the relationship between corporations and the law—this study focuses on the lesser explored aspects of this triangle:

- (1) the relationship between public discourse and corporate practices, as changing discourse may drive changes in corporate behavior;
- (2) the cornerstone of corporate practices to explore how change gains ‘critical mass’ and establishes new norms of firm behavior; and
- (3) the relationship between corporate practices and the law, in terms of how widespread changes in corporate behavior may translate into changes in formal institutions.

The preceding empirical chapters explored the three focus areas in the order mentioned above. A comparative, mixed-methods research design was used, combining macro-level analysis of legal and regulatory change, micro-level analysis of changes in corporate practice, and change in public discourse in three institutional spheres (finance & accounting, corporate governance, labor relations) across four countries (Switzerland, Germany, United Kingdom, United States) over a 19-year time frame (1995 to 2013). This discussion chapter first reviews the findings of the three empirical chapters and what they

reveal about the respective relationships along the triangle. The last section pulls those strands together to discuss how they inform an understanding of institutional change that incorporates the role of corporations and their practices more fully.

## 7.2 Corporate Practice and Public Discourse

The first empirical chapter examined the relationship between public discourse and corporate practice. While this link has not been an area of intense focus in the institutional change literature, the literature offered some points of departure around two issues:

- (1) the role of corporate practices as signaling devices; and
- (2) the institutional mediation of external pressures.

### 7.2.1 Expectations

On the first point, the literature has shown that corporations sometimes adopt practices symbolically, but subvert them substantively, in order to respond to institutional pressures and signal compliance to other actors (Börsch 2007). Such corporate decoupling highlights the signaling power of symbolic corporate practices even when actual practices differ (Westphal & Zajac 1994; Westphal & Zajac 2001). The basis for this line of thought is Meyer and Rowan's (1977) concept of the 'loosely coupled organization,' which refers to organizations formally adopting certain institutionalized practices as a way to signal compliance and increase their legitimacy—even if they internally follow different behavior that may be more appropriate for their specific needs. Corporate decoupling offers a basic rationale for why companies would be reactive to public debate: although the law defines boundaries for what constitutes compliance and legitimate behavior, acceptable behavior within those boundaries is socially constructed. As a public expression of ideas,

discourse reflects changing perceptions of what constitutes acceptable compliance and legitimate behavior. We may therefore expect companies to generally react to public discourse and adjust their behavior in order to signal continued compliance and legitimacy.

However, we expected the extent to which companies yield to public debate and pressure to be mediated by the ability of companies to decouple their practices on the issue in question. It was argued that the ability to decouple practices is related to an issue's strategic or operational embeddedness within the firm, which can be conceptualized as the extent to which an issue structures the company's relationships with its stakeholders and thus influences its strategic and operational capabilities. This conception draws on the literature on the 'dynamic capabilities' of corporations (Teece et al. 1997; Dosi et al. 2001; Whitley 2007). In essence, dynamic capabilities are thus concerned with a company's ability to harness its relationships with financiers, owners, suppliers, employees, and other stakeholder groups to adapt to changing circumstances and realize new opportunities. Consequently, practices that structure these relationships can be seen as deeply strategically or operationally embedded—such as providing shareholder value in order to secure continued access to capital and finance new projects, or reliance on short-term or zero-hour contracts in order to gain staffing flexibility and react to changes in demand.

*Proposition A-1: Higher levels of public discourse are more likely to lead to corporations reducing associated controversial practices the less operationally embedded these practices are.*

On the second issue regarding the institutional mediation of public pressure, we expected higher levels of institutionalized coordination to result in public discourse being less likely to impact corporate behavior. Firm-level mechanisms of coordination provide institutionalized avenues for stakeholders to influence corporate behavior. Board-level codetermination and works councils, for instance, allow employees to voice their concerns and work out compromises with management. Blockholder ownership structures and network reputational monitoring, to use a further example, are means for

insider owners to wield enhanced control over management. In other words, these well-institutionalized ways for corporations to take the demands of the ‘affected public’ into account are alternatives to reacting to public discourse. Drawing on Hall and Soskice’s (2001) Varieties of Capitalism framework, we thus expected companies in CMEs to display less reactivity to public discourse than their counterparts in LMEs, where we expected the lack of coordinating institutions to result in firms being more likely to react to public discourse to do what is expected of them. To be sure, stakeholder pressure in CMEs should still result in shifts in corporate practice—and the changes in firm-level behavior of German firms suggest that they probably do—but the non-public expression and enforcement of those demands means that they are not captured by the methods adopted in this study.

*Proposition A-2: Higher levels of public discourse are more likely to lead to corporations reducing associated controversial practices in LME countries.*

## 7.2.2 Findings

The results generally supported proposition *A-1*, with firms adjusting their behavior in reaction to public discourse mainly on issues with strong signaling power that are less operationally embedded. Board-level corporate governance was found to be reactive to public debate (*S10 Corporate Governance* and *S11 Board of Directors*) in terms of the share of NEDs on the board (2.5.3), the share of independent NEDs (2.5.4), and the share of female directors (2.5.5). The results also found executive pay (2.6.1 *Single Highest Executive Pay* and 2.6.2 *CEO Pay Ratio*) to be reactive to public discourse, albeit in country-specific ways that suggest direct pressure (*S12 Executive Pay*) to have more sway in liberal economies and wider social concerns (*S09 Income Inequality*) to influence pay in coordinated economies. Issue areas with few or no statistically significant relationships between discourse and firm practice are shareholder value orientation and labor relations. With shareholder value orientation linked to future access to capital, and labor relations a core strategic concern for many companies, these issue areas tend to be more deeply embedded in

corporations' strategy and operations, which may explain their low levels of 'reactivity' to public discourse.

However, closer examination of the results shows some unexpected findings, either because they failed to find a relationship between discourse and practice where we expected one, or because they found evidence of discourse shaping firm behavior on rather deeply embedded issues.

First, no evidence was found of discourse on auditor change specifically (*S03*) or accounting firms more generally (*S03Alt*) shaping firm practices related to auditing (*1.4.0 Auditor Change*). Given that the choice of auditor is not deeply embedded in a company's operations and has strong signaling power by showing that the company takes auditor independence seriously, this is quite surprising. A possible explanation could be that firms do have deep relationships with their auditors that they are reluctant to sever for signaling purposes. Findings from the third empirical chapter on legal chapter support this view, with American businesses fighting mandatory audit rotation rules arguing that the trust and knowledge developed between a company and their auditor is crucial for successful audits, and that changing auditors is costly, fraught with friction, and difficult in a market place of only four major auditing firms. In other words, auditing may be a more deeply embedded issue than anticipated, in which case this result conforms to our expectations.

Second, in some cases banks were found to be reactive to discourse on risk-taking (*S02*) and banking regulation (*S01*) by increasing their capitalization levels (*1.1.1*, *1.1.2*, *1.2.0*). As capitalization is reflective of banks' lending behavior and risk exposure, it is a rather deeply strategically and operationally embedded issue, with knock-on effects on profitability, customer relations, etc. It is thus not an issue where we expected to find practices to vary with public discourse. However, examining the results more closely suggests some plausible interpretations. Swiss banks were found to increase capitalization in reaction to discourse on risk-taking rather than banking regulation. Given their comparatively high levels of capitalization, discourse on banking regulation may not pressure Swiss banks as they comfortably exceed

regulatory minimums and their international counterparts. Discourse on risk-taking on the other hand may lead to more prudent practices among Swiss banks in order to protect their reputation as safe havens for international investment—a public perception of reckless risk-taking would be counterproductive to that goal. Adjusting capitalization, despite its deep embeddedness, may thus be important to Swiss banks, as the perception of prudence and safety is a core part of their business. Swiss banks may also have been pressured to adapt to public discourse due to the depth of the crisis, which affected Swiss banks despite their comparatively high capitalization and necessitated a public bailout of UBS. Furthermore, Swiss banks' sheer size in relation to the Swiss economy could also increase their exposure to public pressure. British banks, on the other hand, were found to increase capitalization when discourse on banking regulation gains currency. With UK banks the least well-capitalized of the four countries included here, they are more exposed to the threat of tighter banking regulation, which may explain their proclivity to signal proactivity and compliance by increasing capitalization under public pressure.

Third, US companies at large were found to take higher risks by increasing leverage (*1.2.0.1 Shareholder Equity Ratio*, *1.2.1. Financial Debt-Equity Ratio*) as discourse on risk-taking of corporations grows (*S02*). Leverage reflects not only a company's financing choices, but also impacts its profitability through gearing, in turn affecting its relationship to shareholders and access to capital markets. It is therefore also a deeply embedded issue where we did not expect firms to change in reaction to discourse. Even more puzzling, perhaps, is that companies increased risk-taking when, in all likelihood, public discourse at the time warned of the dangers of excessive risk-taking. An explanation for this behavior could be the country's strong expectation of shareholder value orientation. Higher leverage promises higher short-term returns, which is why investors may prefer risk over prudence. Moving along with increasing risk-taking among US companies may therefore actually be a form of providing shareholder value and securing continued access to capital in the country's short-term orientated investment environment. More importantly, this also



suggests that, even in the most severe crisis in decades, companies still choose to follow shareholder interests rather than more prudential claims.

Taken together, the results therefore provide support for proposition *A-1* and suggest that companies are less likely to adjust to public discourse the deeper embedded an issue is in their operations or strategy. However, the dampening effect of embeddedness may be overcome in certain circumstances, making companies more likely to react to discourse even on such issues: First, where public perceptions are particularly relevant to companies' success or strategy, such as the case of Swiss banks relying on a risk-averse perception, or US companies providing high short-term returns and shareholder value. Second, where companies operate close to the margins of acceptable or compliant behavior, as in the case of British banks' low capitalization that made them more exposed to regulatory threats and likely to change in response to discourse.

In many ways, these findings are congruent with the 'loosely coupled organization' (Meyer & Rowan 1977). Companies were found to adapt their behavior to changing expectations and pressures, for example by reducing CEO pay in reaction to public outrage, even when they substantively subvert them, for instance by not adjusting the less visible total executive pay. This is very much in line with research on corporate decoupling, which has shown that companies engage in such symbolic behavior in order to show compliance and legitimacy (Börsch 2007; Westphal & Zajac 2001; Westphal & Zajac 1994). However, this study has shown that companies do not react to public discourse and pressure across the board, but tend to do so more frequently on issues that are arguably less deeply embedded in the corporations' strategy and operations. This suggests that operational embeddedness may inhibit decoupling, making it more difficult for companies to signal compliance without significantly altering their core parts of their behavior. On such issues, companies were found to adapt their practices only when it is central to their strategy, or when operating close to the boundaries of acceptable behavior. Further research on this issue could make a valuable contribution to the literature on corporate decoupling.

On the second issue regarding the institutional mediation of the relationship between public discourse and corporate practice, the results support proposition *A-2* and also show some interesting examples of institutional boundedness on certain issues. At a high level, discourse was found to impact the behavior of Swiss and German firms in significantly fewer cases than that of British and American firms: only four such instances were found in Switzerland and one in Germany, while six emerged in Britain and 10 in the US. The Swiss and German cases of reactivity to public discourse showed little commonality—while Swiss firms were found to react to issue salience on bank capitalization and some isolated aspects of corporate governance, German firms were only found to react to discourse on one measure of corporate governance.

In their domestic institutional contexts, however, these patterns make sense. As discussed earlier, Swiss banks rely on a public perception of being safe and prudent, making it important to react to discourse on risk-taking behavior of banks and adjust capitalization accordingly. Of the four countries included here, Germany is closest to being a ‘pure’ CME (Hall & Soskice 2001; Hall & Gingerich 2009), so the very low incidence of firms being reactive to public discourse falls in line with expectations.

### 7.3 Firm-Level Processes of Change

The second empirical chapter focused on firm-level processes of change, analyzing how processes of mimetic isomorphism translate triggers, such as major crises and public discourse, into changes in corporate behavior that may coalesce into new norms. Formation of such ‘critical mass’ is an important precursor for bottom-up change to occur, as it depends on some large and powerful firms or a large number of firms to change their behavior, pushing at the boundaries of the law and establishing new forms of compliance. Even where these changes in practice do not push at the boundaries of the law, but represent a significant shift in ‘average’ behavior

within legal boundaries, it could act as an important signal towards policymakers and regulators that companies are reacting to a crisis and are ‘righting the wrongs.’ The chapter examined three areas of interest with regards to firm-level processes of mimetic isomorphism:

- (1) where and how mimetic isomorphism occurs, i.e. whether it leads to initial spread of behavior and subsequent convergence;
- (2) how sectoral differences affect mimetic isomorphism, i.e. whether highly internationalized sectors are more likely to exhibit such behavior; and
- (3) whether different types of mimetic isomorphism are associated with different modes of change in firm practices.

### 7.3.1 Expectations

On the first question, the literature suggests that crises spread a ‘great confusion’ of sorts, leaving actors without their usual compass directing them on what behaviors are appropriate or even in their interest (Blyth 2002). One important way firms regain their footing is through following the lead of large, successful companies—role models that are seen as ‘best practice’ examples of how to cope with the crisis and the uncertainty surrounding it. This process—mimetic isomorphism—reduces uncertainty among actors by blending in with others, especially those seen as superior (Scott 1995). While companies have been shown to imitate each other’s behavior for legitimacy, reduction of uncertainty and taken-for-granted practices even in ‘normal’ circumstances (Meyer & Rowan 1977; DiMaggio & Powell 1991; Westphal et al. 1997), major crises are likely to accelerate the process due to the heightened levels of uncertainty and pressure to change behaviors made untenable or undesirable through the crisis. We therefore expected firm behavior on issues rising in public discourse during the crisis to show a pattern of initial spread and increased heterogeneity, followed by convergence on the practices of a small number of new role models.

*Proposition B-1: Institutions and practices discredited due to crisis become a source of uncertainty, initially leading to larger variation of practices.*

*Proposition B-2: Once new role models emerge, corporations start to mimic their behavior in order to blend in with perceived best practice. This leads to a convergence of corporate practices.*

Regarding the second question on sectoral differences, the literature pointed to 'dominance effects' (C. Smith & Meiksins 1995), whereby imitation of dominant economies and associated best practices among MNCs is intensified with increasing global economic integration. Mimetic isomorphism in reaction to a crisis should thus be more likely in highly internationalized sectors, leading us to expect the highly internationalized financial sector to exhibit more pronounced patterns of mimetic isomorphism than the more domestically bound non-financial firms. While dominance effects exist at all times, severe crises may create a new hierarchy of economies. As some economies suffer more than others, the previously dominant model may become discredited and replaced by an economic model that fared better throughout the crisis.

*Proposition B-3: Mimetic isomorphism is stronger in highly internationalized sectors, such as the financial industry.*

*Proposition B-4: Crises may establish a new hierarchy of dominant economies, creating new role models both in terms of economic policy and associated corporate practices.*

Finally, regarding the third question, three types of mimetic isomorphism were conceptualized along with expectations for their effects on firm practices. Within-group mimetism, whereby companies copy the behavior of their immediate peers, is similar to Abrahamson's (1991) innovation and reputation-based fad perspective. We expected this type of mimetism to yield relatively limited shifts in corporate practice. Drawing on Abrahamson's (1991) fashion perspective, outside-of-group (or between-group) mimetism is operationalized as mimetic isomorphism between sectors, i.e. between the financial and industrial sectors. As financial and industrial firms are likely to differ in some of their practices, this type of mimetism was expected to bear a

larger potential for shifting firm practices in a substantial way than within-group mimetism. International-level mimetism, whereby companies copy the behavior of global peers, was expected to be rare, but able to shift firm practices most radically.

*Proposition B-5: Changes in firm behavior induced by within-group mimetism are likely incremental, as firms within the same group are already relatively similar.*

*Proposition B-6: Outside-of-group mimetism has the potential to shift firm practices in a more radical way than within-group mimetism.*

*Proposition B-7: Cross-border mimetism has the largest potential for radically changing firm practices.*

### 7.3.2 Findings

Overall, the analysis of firm-level patterns of change produced evidence of mimetic isomorphism in reaction to major crises and associated spikes in public discourse. The results suggest that a crisis and high issue salience may be necessary, but not sufficient conditions for mimetic isomorphism to occur. Where mimetic isomorphism was found, it tended to show a divergence-followed-by-convergence pattern; in some cases, however, convergence was found to occur without prior divergence, on balance providing stronger support for proposition *B-2* than *B-1*.

Bank capitalization in response to the GFC was found to follow a divergence-and-convergence pattern across the four countries on measure *1.2.0 Tier 1 Capital Ratio*, while American banks showed such behavior on all three measures of bank capitalization during the GFC and on some measures even in response to the dot-com crash. The risk-taking behavior of industrial companies as measured by leverage (*1.2.0.1 Shareholder Equity Ratio*, *1.2.1 Financial Debt-Equity Ratio*, and *1.2.2 Balance Sheet Leverage*) across the four countries exhibited patterns consistent with isomorphism in reaction to the GFC. For Swiss and American firms, however, practices converged without prior divergence.

Executive pay practices were found to be subject to mimetic isomorphism only to limited extent and primarily through convergence without prior divergence. Extensive evidence was found of mimetic isomorphism on executive pay among American firms. Immediately following the dot-com crash, convergence of pay practices was evident both among financial and non-financial firms across all three measures of executive pay used (2.6.0 *Total Executive Pay*, 2.6.1 *Single Highest Executive Pay*, and 2.6.2 *CEO Pay Ratio*). During the GFC, only American financial firms were found to converge—on measure 2.6.0 and, to lesser extent, 2.6.1. British financial firms were found to converge on measures 2.6.1 *Single Highest Executive Pay* and 2.6.2 *CEO Pay Ratio* following the dot-com crash, but no clear patterns were found during or immediately after the GFC there. British non-financial companies exhibited no patterns of mimetism on executive pay. No convincing evidence for mimetic behavior was found for Swiss and German companies.

Auditor change (1.4.0) exhibited a divergence-followed-by-convergence pattern among Swiss non-financial companies immediately after the dot-com crash, as well as for German and British industrial firms following the GFC. Lack of variation in the US data precluded analysis there. In terms of corporate governance more broadly, evidence of mimetic isomorphism was rather limited. Swiss industrials were found to diverge and converge on 2.5.0 *Board Size* following the dot-com crash. No evidence of German firms showing mimetic isomorphism on corporate governance issues was found, which is possibly related to the country's idiosyncratic corporate governance system that renders many of the issues moot there. The results for British companies, while pointing to convergence on several board-level measure of corporate governance, were not found to convincingly point to mimetic isomorphism as they did not appear to shift behavior in significant ways. American firms were found to show mimetic isomorphism on 2.5.2 *CEO-Chairman Combined Role* and 2.5.4 *Independent Non-Executive Directors* immediately following the dot-com crash, however without prior divergence.

Taken together, these results found more support for proposition *B-2* than *B-1*, i.e. mimetic isomorphism does not necessarily follow an initial spread of

practices, but may lead to ‘smoother’ shifts from previous to new norms of behavior. The expectation of initial spread of firm practices after a severe crisis was based on Blyth’s (2002) argument that major crises spread great confusion among actors of what is expected of them, what constitutes legitimate behavior, and what their interests are. Examining the results of this study more closely suggests that such confusion may indeed have occurred on some issues, but not on others. The absence of confusion could be the result of an issue not being deeply enough affected by the crisis, or because what constitutes new appropriate behavior is abundantly clear. It may also indicate that confusion does not translate into action right away—companies may be confused about how to react to a crisis situation, but only change their behavior once alternatives start to emerge. In other words, the absence of divergence does not necessarily imply absence of confusion.

Banking capitalization was certainly a deeply affected issue during the GFC, with the risk-taking behavior of firms at the heart of the crisis. At first glance, however, what constitutes ‘better’ or more appropriate behavior following the crisis should be clear: higher capitalization. In practice, however, the issue is much more complex. At the height of the crisis, banks have very limited ability to raise capital as issuing new shares during a crisis is difficult and retail customers are inclined to withdraw rather than deposit funds. Public bailouts of banks provided an injected of fresh capital, of course, but otherwise the only avenue open to banks during the crisis is to curtail lending. While this is beneficial to the banks’ own survival and thus also reduces the risk of further fall-out from the financial crisis, it also chokes off economic recovery as businesses and the public find it harder to access capital. It is therefore a delicate balancing act of competing pressures and a ‘best practice’ approach was probably not immediately clear. Hence, the initial spread of practices found on bank capitalization would be explained by the issue being deeply impacted by the crisis as well as uncertainty about what constitutes new appropriate behavior.

Risk-taking of non-financial firms, on the other hand, was a more peripheral issue during the GFC. The direction of travel on leverage was likely also much

clearer—companies may have needed to increase leverage to bridge shortfalls in demand and increase their chances of surviving the crisis, regardless of public debate criticizing corporate risk taking. The absence of initial divergence of practices would thus be a result of the issue being less deeply affected and new behavior, whether deemed appropriate or not, emerging right away. Executive pay and board-level corporate governance also did not show initial divergence. Here, we can rule out that the issues were not deeply affected by crises—the former was subject of extensive outrage during the GFC, and failings of the latter were attributed to bringing about the Enron scandal and contributing to the dot-com crash. However, on both issues what constitutes new appropriate behavior is fairly obvious: lower executive pay and improved board governance through a larger share of independent NEDs and independent audit committees.

Regarding sectoral differences and international influences on patterns of mimetic isomorphism, the results generally failed to substantiate propositions *B-3* and *B-4*. In terms of risk-taking behavior, only limited cases of financial firms engaging in mimetic isomorphism were found, while industrial firms across all four countries imitated each other's risk-taking approach on a number of measures, thereby contradicting *B-3*. Results for executive pay did support *B-3* as most cases of mimetic isomorphism on this issue were found among financial firms rather than industrial firms. However, given the relatively limited occurrence of mimetism on executive pay, this should not be seen as very strong support. Corporate governance and auditing, where a fair number of instances of mimetic isomorphism were found, also did not support *B-3*; if anything the results for this issue point to the opposite—industrial firms may be more likely to imitate each other's corporate governance practices than financial firms. Regarding proposition *B-4* on the reshuffling of international hierarchies during crises, the results did not produce sufficient evidence to conclusively support or reject the proposition. While patterns in bank capitalization practices show patterns consistent with the Anglo-Saxon model of low capitalization being replaced with the Swiss model of high



capitalization as an international role model during the GFC, this is too isolated a case to provide convincing support for *B-4*.

While the failure to substantiate *B-4* is thus mostly due to the absence of clear empirical evidence on the issue, the findings with regards to *B-3* are more puzzling. Assuming that the comparison drawn here—between financial and industrial firms—is appropriate to capture a more internationally-oriented sector and one that is more domestically-bound, the results would suggest that Smith and Meiksins' (1995) argument of intensified borrowing of best practice with rising global economic integration does not apply to mimetic isomorphism. It would be consistent with a VoC-based (Hall & Soskice 2001) explanation, though, which would argue that increasing internationalization of markets and hence competition leads to more diversity, as companies focus on the institutional competitive advantages offered by their home countries. However, we also need to consider the limitations of how patterns related to internationalization were examined here. It could be argued that the entire sample of companies used in this study, i.e. all 130-odd financial and non-financial companies per country, are highly globally integrated and thus not suitable for testing *B-3*. Given their status as the largest listed firms of three of the world's largest economies, plus those of a smaller country that, for its size, has very large and internationally-oriented firms, it is a reasonable line of argument. Future research, using a sample composition tailored to testing this question, may be able to provide answers.

Regarding the impact of three types of mimetic isomorphism on shifting corporate practices, the results generally supported propositions *B-5*, *B-6*, and *B-7*: between-group and international-level mimetism were found to be associated with more significant shifts in corporate behavior than within-group mimetism.

In terms of risk-taking behavior, international-level mimetism was found to drive the significant increases in bank capitalization (*1.1.1*, *1.1.2*, *1.2.0*) during the GFC, as well as the shift from a trend towards increased leverage (*1.2.0.1*

and 1.2.2) pre-GFC towards deleveraging after the crisis. Both cases thus support *B-7*.

On executive pay, relatively few instances of mimetic isomorphism were found, making evaluation of the propositions difficult on this issue. Overall, the results suggested that changes in executive pay practices occur evenly across small and large companies, across industries, and within distinct country patterns. This would be consistent with executive pay being firm-performance bound, as the GFC would affect most companies in a similar way, hence shifting pay downward across the board. However, between-group mimetism found among American firms during the GFC, where executive pay declined most significantly of the four countries considered, did provide support for *B-6*. In other words, the executive pay adjustments among US companies appear to have gone beyond evenly distributed, performance-bound change, with financial and non-financial firms converging during the GFC on lower pay.

Results on corporate governance and auditing also suggested that higher-order types of mimetic isomorphism are associated with larger changes in corporate practice. The comparatively rapid growth in the share of NEDs on the board (2.5.3) of Swiss and British firms following the dot-com crash and Enron scandal was found to be driven by within and between-group mimetism. Similarly, the high growth rates in the share of independent NEDs (2.5.4) on American and Swiss boards in the same period was also attributed to within and between-group mimetism. Both cases thus support propositions *B-5* and *B-6*: while not radical in the sense of changing the direction of trends, the periods of accelerated change were linked to between-group mimetic isomorphism.

Taken together, these results provide strong support for the argument that higher-order forms of mimetic isomorphism, i.e. between-group or international-level, drive larger changes in firm behavior than within-group mimetism. By implication, we can expect firm-level change driven by between-group or cross-border to be more likely to translate into legal or

regulatory change. For one, it could be argued that such higher-order mimetism increases the legitimacy of the new behavior, as it implies that behavior has converged across a broader section of the economy or even internationally. Secondly, as the results have shown, higher-order mimetism tends to produce more significant changes in firm behavior. The potentially higher perceived legitimacy and more substantial nature of corporate change on these issues should therefore make it more likely that policymakers and regulators accept those new behaviors as appropriate forms of compliance.

Tying together the results of the first two empirical chapters, also raises the question whether public discourse and mimetic isomorphism are competing, alternative, or complementary drivers of firm-level change. A close reading of the results shows that in almost all cases, both a situation of crisis and high issue salience were present when mimetic isomorphism was observed. However, the reverse is not true—high salience and crisis did not always lead to mimetic isomorphism. In other words, high salience and a major crisis appear to be necessary, but not sufficient conditions for mimetic isomorphism.

This raises the question though why the presence of both conditions does not always lead to mimetic isomorphism, i.e. why do companies resist public pressure in the face of crisis-induced uncertainty on some issues, but not others? After all, if major crises indeed produce uncertainty on appropriate behavior (Blyth 2002), imitating the behavior of others on issues that are linked to the crisis through public discourse should reduce uncertainty and increase legitimacy (Scott 1995; Westphal et al. 1997; Meyer & Rowan 1977; Powell & DiMaggio 1991). Linking back to the first empirical chapter's insight on operational embeddedness provides a plausible explanation. As shown there, companies tend to be more reactive to public discourse and pressure the less deeply embedded an issue is in their strategy and operations. However, as the results in the second empirical chapter have shown, mimetic isomorphism during major crisis and high issue salience occurred primarily on risk-taking behavior and auditing, i.e. issues that are fairly embedded, while corporate governance and executive pay, i.e. less deeply embedded and more signal-heavy issues, showed mixed results with fewer cases of mimetic

isomorphism. This suggests that firms tend to be generally reactive to public discourse and pressure on less deeply embedded issues, but can become reactive to those pressures also on deeply embedded issues in times of severe crisis and uncertainty through mechanisms of mimetic isomorphism.

## 7.4 Corporate Practice and Legal Change

Turning from the antecedents of widespread changes in corporate behavior to how they translate into legal and regulatory change, the third empirical chapter focused on a number of issues neglected in the literature that are of particular relevance for a time period that includes two major crises as events of uncertainty and potential triggers for corporate-level change:

- (1) How does political salience and public discourse affect bottom-up change?
- (2) How does the nature of severe crises impact bottom-up change?
- (3) How does the structure of the political system mediate bottom-up change?

Fundamentally, these three issues are concerned with the conditions under which bottom-up change is more or less likely to take place. Drawing on insights from top-down change and other parts of the literature, a number of propositions was formulated.

### 7.4.1 Expectations

On the first question, the literature has shown from a top-down perspective of change that the power of business to influence policymaking declines as an issue rises in public discourse and thus becomes more politically salient (Culpepper 2011). As mechanisms of bottom-up change require implied or explicit consent of regulators, courts or policymakers in order to make the changed behavior an accepted form of compliance, we expected political salience to play a role in bottom-up change too. When salience is low, we

expected firm-level change to exert influence on laws and regulations more easily as policymakers and regulators are under less pressure to intervene. In high-salience situations, however, we expected increased scrutiny of corporate practices and a clamp-down on deviant behavior to lead to declining impact of firm behavior on the law.

*Proposition C-1: Higher issue salience reduces the ability of bottom-up mechanisms to change formal institutions.*

In times of severe crisis, however, different dynamics were hypothesized. Crises were expected to offer a conducive environment for bottom-up change for three main reasons. First, crisis-induced mimetic isomorphism may accelerate the formation of ‘critical mass’ on the firm-level, shifting corporate behavior from previous norms to new ways of doing things, thereby increasing the ‘supply’ of bottom-up change. Second, policymakers and regulators may accept changes in firm behavior as acceptable forms of compliance more easily, either due to agenda and resource constraints crowding out low-salience issues (Kingdon 1995), or because accepting firm changes as ‘self-regulation’ on high salience issues frees their agendas at a time of competing priorities (Mayer 2013). Third, based on the concept of institutional strength (Levitsky & Murillo 2009), we expected symbolic policymaking (Suárez 2014) and hastily-designed emergency legislation to soften institutions in times of major crisis, also enhancing the impact of corporate practices on the law. As a result of these factors, we expected crises to enhance the influence of corporations through bottom-up processes of change—unlike in the political arena, where crises tend to lower the power of corporate actors (Culpepper 2011).

*Proposition C-2: Severe crises increase the ‘supply’ of bottom-up change as they trigger change in corporate practices and accelerate the formation of new norms of behavior.*

*Proposition C-3: In times of severe crisis, bottom-up change may be more likely to lead to legal change than in non-crisis situations, regardless of issue salience.*

*Proposition C-4: Institutional softening may enhance the impact of bottom-up modes of change in times of crisis.*

On the third question, we expected the impact of bottom-up change to be mediated by degree of centralization or decentralization of the political system. In the former, law-making is concentrated in the legislative or executive branches and central enforcement, in the latter it extends to multiple, including private, agents (Milhaupt & Pistor 2008). The UK can be considered a typical case of a highly centralized system, while the US is a prime example of a decentralized system. Switzerland and the Germany are somewhat more mixed cases, but the former is closer to a decentralized system while the latter is closer to a centralized system. We expected decentralized systems to be more receptive to bottom-up change, as policymaking is more open to disruption from a variety of actors, increasing the likelihood that some actors recognize firm-level change as sufficient self-regulation or as an acceptable form of compliance. Furthermore, the more complex and resource-intensive policymaking process in decentralized systems was argued to exacerbate resource and agenda-setting constraints on policymakers, increasing the influence of corporate practices on legal change.

*Proposition C-5: Higher decentralization of the political system increases the efficacy of bottom-up change.*

## 7.4.2 Findings

The empirical results found ambiguous evidence on question one, generally confirmed the expectations outlined for question two, and rejected the proposition made on question three. Regarding the first question, the results provide a mixed picture on proposition *C-1*, which suggested that higher issue salience should reduce the impact of firm behavior on legal change, as it does for the power of business interests in top-down processes of change. Only two instances of bottom-up change taking place outside the two major crises were found, one of which supported *C-1*, while the other did not. The former was UK banks' behavior weakening the impact of the Vickers Report and ring-fencing rules, which occurred after the GFC and under declining salience. The non-crisis instance of bottom-up change that did not support *C-1* was the

SEC's pro-managerial rule change of 2007, which appeared to recognize American firms' increasing shareholder orientation, as it occurred despite high issue salience. Hence, we do not have sufficient evidence to conclusively accept or reject proposition *C-1*.

On the second question, the results strongly supported propositions *C-2* and *C-3*, which suggest that major crises increase the 'supply' of bottom-up change and that firm practices are more likely to affect legal rules in times of crisis, but fail to find much evidence relating to *C-4* on the effects of 'institutional softening.' Six instances of bottom-up change, originating in times of crisis and mostly driven by mimetic isomorphism, were found. These were primarily in the issue areas of risk-taking behavior and accountability & transparency, but also on board-level corporate governance. In one case of bottom-up change in times of crisis, relating to the introduction in 2003 of minimum quotas for independent NEDs on British boards, firm practices were not galvanized by the crisis and high issue salience. Six of the aforementioned seven cases of bottom-up change supported *C-3* as they brought about legal or regulatory change during major crises. The seventh case, the weakening of the Vickers Report and associated ring-fence for British banks, originated during the GFC, but was so drawn out it completed well after the crisis. It was hence not counted as support for *C-3*, but the only instance of bottom-up change providing evidence related to *C-4*. It was found that the haste and pressure under which the Vickers Report was produced softened its ultimate impact by opening it up to watering down. In the absence of other instances of cases to support or contradict *C-4*, however, no firm conclusions could be drawn.

In terms of question three, the results only allowed limited evaluation of *C-5*, given the small number of directly comparable cases of bottom-up change, but in the two instances where conclusions could be drawn the proposition was rejected. First, comparing the US and UK cases of financial market reform in reaction to the GFC found that British banks' behavior had influenced legal change more extensively than was the case in the US, rejecting *C-5*. Second, the case of 'top-down enforced bottom-up change' on

UK board diversity provided an important counterpoint to *C-5*, suggesting that centralized systems are not necessarily more closed to bottom-up change than decentralized systems, but may be open to it in different ways than decentralized systems.

Comparing cases of bottom-up change found in the third empirical chapter suggests that different dynamics are at play in decentralized and centralized systems. As hypothesized, decentralized systems were found to be receptive to change originating on the firm level by being more susceptible to disruption. A good illustration for this point is the infighting between regulatory agencies, Congress, and the executive branch in the US, which opened the door to disruption from the firm level on several of the bottom-up cases of change found there, such as the drawn-out battle over expanded shareholder board nomination and voting rights, whereby various actors defended managerial rights at different points in time. Centralized systems, on the other hand, appear to be open to bottom-up change in a different way: by being able to encourage, incentivize, and enforce bottom-up change from the top. Centralized systems do not suffer from the same levels of infighting among regulators and policymakers, allowing them to not only make more credible regulatory and legislative threats, but also enabling them to make credible commitments and promises to businesses. As the aforementioned case of UK board diversity rules aptly illustrates, regulators in such systems can encourage bottom-up change by setting clear goals for change in corporate practice while making a credible commitment not to formally regulate if targets are met. Hence, a national system's openness to bottom-up change does not appear to hinge on the organization of its political system; rather, the type of organization appears to influence in what ways the system is open to such change.

Taking a broader view of the findings in this chapter, most cases of bottom-up change found were in the UK and US, while very few cases were found for Switzerland and Germany. The lower incidence of bottom-up change arises not only from fewer cases of firm-level change translating into legal change, but also the lower 'supply' of bottom-up change that can be traced back



through the antecedents examined in the first two empirical chapters. Germany and Switzerland show fewer instances of crisis-induced mimetic isomorphism and fewer cases of firms being generally reactive to public discourse, as was found in relation to proposition *A-2*. The constellation of countries along the LME-CME divide (Hall & Soskice 2001), i.e. most cases of bottom-up change occurring in the LME countries, suggests that the mode of coordination may be an explanatory factor not only for the extent of firms being reactive to public discourse, but also for the likelihood of changes in firm behavior affecting legal change.

National-level coordination mechanisms, such as employer and employee-representation peak organizations, enable bi-partite or tri-partite wage setting, brokering of grand compromises, and consultation and inclusion on legal and regulatory change. For instance, it is difficult to imagine how Germany's wage restraint policies, which are often credited with returning the country's economy to growth (Jackson & Sorge 2012), or government-funded short-term work arrangements during the GFC (Schnyder & Jackson 2013), could have been worked out without these coordinating institutions on the national level. As a result, accommodation between business and public/governmental interests is likely to take place through these institutionalized channels rather than mechanisms of bottom-up change in CMEs. To look at it differently, these deeply institutionalized channels of coordination may not close off in times of crisis the way corporate influence on policymaking through lobbying and interest groups does in LMEs.

## 7.5 The Triangle of Institutional Change

The relationships examined in this study were conceptualized as constituting part of a triangle between the cornerstones of public discourse, corporate practice, and legal change. While some aspects of this triangle—the relationship between discourse and legal change, and the top-down aspects of the relationship between legal change and corporate practice—have been

studied extensively in the institutional change literature, the focal areas of this study (marked red in the graphic below) have received much less attention, but are important building blocks for a fuller understanding of institutional change.

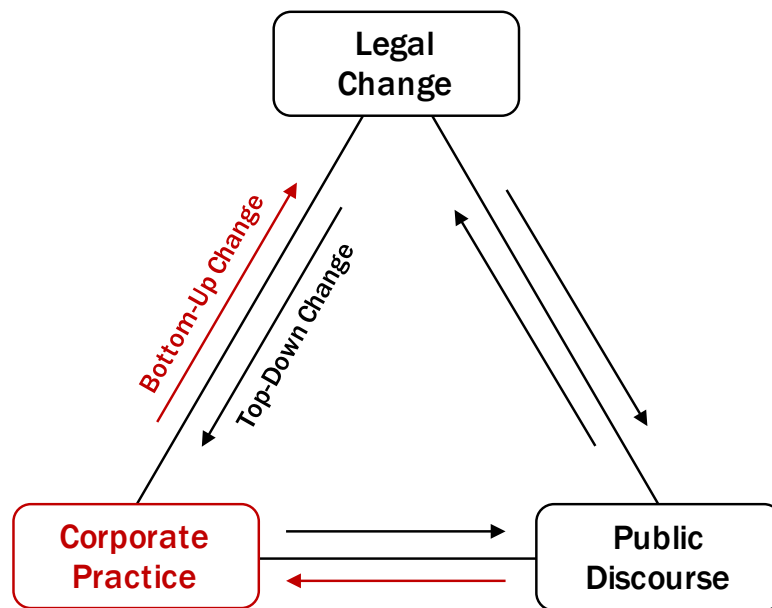


Figure 51: The Triangle of Institutional Change

The results of this study provide insights into processes of bottom-up change as well as their antecedents on the firm level. Corporate practices were found to be more reactive to public discourse in LMEs, where there are fewer institutionalized channels for coordination and accommodation between management and stakeholders. Even in LMEs, however, firms tend to be reactive to public discourse only on weakly embedded issues, i.e. those not central to a firm's strategy or operations, but with strong signaling power. While such general reactivity to public discourse is thus relatively rare, the twin forces of uncertainty brought about by major crises and political salience arising from public discourse appear to have a much larger impact on firm behavior. During major crises, firm practices on highly salient issues tend to

follow a divergence-followed-by-convergence pattern, indicating initial defection from previous norms of behavior before processes of mimetic isomorphism galvanize corporate practices into new norms. The extent to which mimetic isomorphism shifts corporate behavior appears to increase when firms imitate the practices of others beyond their immediate peer group in other sectors or countries. Corporate practices are able to influence law and regulation through mechanisms of bottom-up change at any time, but the aforementioned processes of mimetic isomorphism greatly increase the 'supply' of bottom-up change in times of major crisis. While high issue salience may reduce the likelihood of firm practices influencing legal change in 'normal' times, salience does not appear to have this effect in times of crisis. Consequently, bottom-up change features more frequently under such circumstances.

A key contribution of this study is therefore to contextualize the existing literature on bottom-up change, which has been focused on conceptualizing and empirically testing the specific mechanisms of such change (Streeck & Thelen 2005b; Mahoney & Thelen 2010a). While the existing literature has focused on this mode of change as a driver of incremental change in absence of major shock events, the evidence presented here shows them to be important in times of major crisis as well. The increased supply and impact of bottom-up change under such circumstances shows the importance of taking context into account, as the dynamics of change may differ greatly between 'normal' and 'crisis' times. The institutional environment was also found to play a role in bottom-up change processes, with LMEs appearing more receptive to this type of institutional change than CMEs. These findings contribute to the literature by shifting the focus from mechanisms of bottom-up change to embedding it in the wider institutional and socio-economic context. Furthermore, this study extends Streeck and Thelen's (2005b) and Mahoney and Thelen's (2010b) work by exploring the antecedents of bottom-up change in terms of public discourse and the formation of critical mass through mimetic isomorphism.

In light of the GFC, the literature has asked why the crisis, despite its magnitude, failed to translate into major changes to the neoliberal model of capitalism (Mayntz 2012; Schmidt & Thatcher 2013). A common refrain in this literature is that corporations have been underestimated as vastly powerful forces in modern capitalism, pointing to flaws in classic neo-liberal accounts that see markets as the dominant force. Instead, the sheer size of modern corporations has resulted, to use Crouch's (2011) conception, in the balance of power between markets, the state, and corporations heavily leaning towards the latter, giving them vast influence on the polity and on setting the rules of the marketplace. However, this literature is constrained by its narrow conception of corporate power exerting itself primarily through purposive intervention in the policymaking process. While it points to the crisis accentuating the "series of comfortable accommodations" (Crouch 2011) between corporations, markets, and the state, this top-down focused literature ultimately struggles to explain why more radical change failed to materialize. After all, the GFC and ensuing political salience should have weakened the power of businesses to influence policymaking and created a window of opportunity for policymakers emboldened by public outrage and demand for change to enact radical reforms (Culpepper 2011), tipping the balance back in favor of other forces. Hence, the net needs to be cast wider to consider forms of corporate influence beyond top-down change.

Placing the model of bottom-up institutional change elucidated here in this context of established top-down focused models of change shows that it does not compete with, but extends and complements them. Corporations usually hold extensive power to influence legal change by intervening directly in the policymaking process through lobbying and interest group pressure. However, their ability to shape top-down legal change declines as issues become more politically salient due to crises or scandals (Culpepper 2011). While these direct channels of influence close down in such circumstances, bottom-up change opens up. Here, major crises and scandals increase salience and spur relatively rapid and wide-scale change in corporate practice through processes of mimetic isomorphism. In turn, these shifts in corporate practice

may be seen as ‘self-regulation’ by policymakers, who cannot risk to antagonize or endanger the survival of those huge corporations due to their central role in financial markets, as employers, donors, and taxpayers. In other words, the power of business perpetuates itself also through bottom-up change, not only top-down. To be sure, such bottom-up change is not necessarily the result of purposive action, but may arise from normative and cognitive aspects of behavior among firms. Mimetic isomorphism reduces uncertainty and increases legitimacy through a logic of appropriateness (March & Olsen 1989), allowing firms to blend in with ‘best practices’ of perceived leaders in times of crisis, before they gain critical mass and become inevitable and taken-for-granted (Scott 1995). However, even without purposive action, bottom-up change enables accommodation between corporations and public/governmental interests when other channels, i.e. lobbying and interest group politics, close down.

Top-down and bottom-up modes of institutional change are not mutually exclusive or indeed neatly separable in many cases. Several instances of legal and regulatory change analyzed here mixed elements of bottom-up and top-down change, often involving regulatory signals or threats that further galvanize firm behavior before being formalized as acceptable forms of compliance. This may well be intentional on part of regulators, allowing them to straddle competing pressures from the public to ‘do what’s right’ and expected, while assuaging businesses fears of regulation and accommodating business interests by accepting firm-level change as sufficient ‘self-regulation.’ As a result, however, bottom-up change moderates institutional change in times of crisis—accepting and formalizing corporate change in law and regulation comes necessarily at the expense of deeper reforms that would set the bar higher and would require firms to change in more substantial ways.

By extending existing conceptions of institutional change through an emphasis on corporate practices, the findings of this study show that heretofore neglected aspects of corporate power are important pieces of the puzzle. Bottom-up change may be rare and inconsequential under ‘normal’ circumstances; in times of crisis, however, it represents an important

alternative dynamic of institutional change. While corporate influence in the policymaking process declines during crises, it is enhanced through the power of their practices influencing legal change. Although bottom-up change does not constitute purposive action, it nevertheless enables the continuation of “comfortable accommodations” (Crouch 2011) between corporations, markets, and the state—at the expense of rebalancing the model of capitalism to be less lopsided in favor of corporate interests.

## 8 Conclusions

Processes of bottom-up institutional change warrant close attention and consideration. While they may be limited in scope under ‘normal’ circumstances, they take on a central role in change processes during major crises. Direct and purposive channels of corporate influence on legal change become less effective in such circumstances, but the indirect and not necessarily purposive channels of bottom-up change appear to open up and enable the perpetuation of corporate power throughout such events. Crises and uncertainty act as stimulants for firm-level change, driving adoption of new or changed practices through processes of mimetic isomorphism, building critical mass. During major crises it is not only the ‘supply’ of bottom-up change that is increased, however, it is also more likely to be accepted and legitimated by policymakers. Facing resource and agenda-setting constraints, accepting change in corporate practice as self-regulation or redrawing regulatory boundaries to legitimate changed practices as new norms allows policymakers to focus on more pressing issues, such as macroeconomic stability. In other words, bottom-up change offers an explanation for the continued “comfortable accommodations” (Crouch 2011) between corporations, state, and markets throughout major crises.

The findings of this study have two overarching implications for theory. First, theories of institutional change need to consider the role of corporate practices and associated bottom-up processes of change more fully, as they are an important way for corporate power to assert itself—even in the absence of purposive action. Second, theory needs to become more sensitive to context. As this study has shown, major crises and public discourse may alter the dynamics of institutional change, closing down some avenues for change while opening up others. One way of taking both issues into consideration is through the conceptual framework elucidated here—the ‘triangle of institutional

change' that incorporates public discourse, corporate practice, and legal change. This study focused on three relationships along this triangle, offering more specific contributions to the literature.

On the first relationship between public discourse and corporate practice, discourse tends to shape practice more extensively in LMEs, with companies relying on public channels to meet expectations of affected groups, while their CME peers can use institutionalized channels for coordination and accommodation between management and stakeholders. Even in LMEs, however, firms tend to be reactive to public discourse only on weakly embedded issues, i.e. those not central to a firm's strategic or operational capabilities, which carry strong signaling power. With public discourse an expression of underlying ideas, these findings contribute to the constructivist institutionalism literature (Blyth 2002; Hay 2004; Schmidt 2010). Ideas, operationalized as public discourse, were drawn on in this study as an extraneous variable that can explain change in preferences and thus provide a solution to the circularity problem of classic conceptions that see preferences and institutions as mutually constitutive. By showing how the institutional setup mediates the relationship between ideas/discourse and corporate behavior, the above findings help address one of the key criticisms of the constructivist approach—an overt focus on agency at the expense of institutional factors (Bell 2011).

The second focus area was the cornerstone of corporate practice, to explore how processes of mimetic isomorphism accelerate the formation of 'critical mass' and establish new norms of firm behavior. Here, the findings show that the twin forces of uncertainty brought about by major crises and political salience arising from public discourse are able to induce mimetic isomorphism, shifting firm practices and building 'critical mass' that may ultimately shape formal institutions. During major crises, firm practices on highly salient issues tend to follow a divergence-followed-by-convergence pattern, indicating initial defection from previous norms of behavior before processes of mimetic isomorphism galvanize corporate practices into new norms. The extent to which mimetic isomorphism shifts corporate behavior



tends to be higher when firms imitate the practices of others beyond their immediate peer group in other sectors or countries. These findings make a contribution to the literature on organizational isomorphism (Meyer & Rowan 1977; DiMaggio & Powell 1991; Scott 1995; Westphal et al. 1997) by expanding on the notion of crises and uncertainty as triggers for mimetic isomorphism. The empirical evidence presented here confirms this premise, but also shows that uncertainty may initially cause divergence of practices before mimetism leads to convergence on new norms and the differential impact of different types of mimetic isomorphism on average firm behavior.

Related to the third relationship of interest between corporate practice and legal change, the findings contribute to two parts of the literature on institutional change. First, they contextualize the existing literature on bottom-up change, which has been focused on conceptualizing and empirically testing the specific mechanisms of such change (Streeck & Thelen 2005b; Mahoney & Thelen 2010a). The evidence presented here shows that major crises may greatly increase the ‘supply’ of bottom-up change, and illustrates how policymakers tend to be more inclined to accept bottom-up change as sufficient self-regulation under such circumstances—making it more likely to occur. The institutional environment was also found to play a role in bottom-up change processes, with LMEs appearing more receptive to this type of institutional change than CMEs. These findings are an important contribution to the literature, by shifting the focus from mechanisms of bottom-up change to embedding it in the wider institutional and socio-economic context. The second part of the institutional change literature these findings contribute to are political salience-based models of change (Culpepper 2011). While these models advanced our understanding of institutional change by showing the role of political salience as a mediator in the power relationship between corporations and policymakers, they did so only from a top-down perspective of change. Unlike in top-down modes of institutional change, rising salience does not appear to reduce the influence of corporations in bottom-up modes of change. Indeed, taking the increased supply of bottom-up change in times of crisis into account suggests that this

channel of change opens up in such circumstances, while direct and purposive channels of corporate influence close down. In other words, this study extends political salience models of change by incorporating the role of corporate practice-based change.

While implications for practitioners may be limited, two points can be made. For policymakers, the findings highlight the need to set the regulatory bar much higher than just a notch above current firm practices, including where firms have moved towards self-regulation, if they seek to rebalance the capitalist system to be less dominated by corporations. For firms themselves, the findings highlight their power but also their responsibility. The behavior of large and well-respected firms may take on 'best practice' status in times of crisis and thus cascade down to smaller firms. Corporate behavior thus has implications far beyond the boundaries of the firm. Relatedly and more generally, the findings also highlight once again that firms do not stand apart from their institutional environment—they are constituted by it as much as they constitute it.

This study and its findings are not without limitations. First, it has to contend with a common problem in this type of comparative political economy research: we do not know what the key actors of interest—corporations and policymakers—actually think and what precisely motivates their actions, requiring us to make inferences and assumptions in order to find plausible and likely explanations of their behavior. Second, and related to the first point, the comparative, macro-pattern focus of this study does not reveal extensive micro-level reasons or causes of the dynamics of institutional change on any one specific issue. This is mitigated, however, by the existing literature's emphasis on the mechanisms of bottom-up change, enabling this study to focus on the socio-economic and institutional contexts. Third, the public discourse measures used here are fairly coarse as they only measure the volume, but not shifts in the content of discourse. Consequently, we cannot be sure on the precise causal mechanisms that may lead firms to yield to public debate and pressure on some issues, but not others.

Future research may seek to address some of these limitations. Connected to the last point mentioned above, future research could employ more fine-grained measures of public discourse, going beyond volume to actually measure content. A promising approach could be to use textual analysis and appropriate dictionaries to measure positivity and negativity in press coverage (Tetlock 2007; Tetlock et al. 2008; Kuhnen & Niessen 2012; Loughran & McDonald 2011). This could show whether firm reactivity to public debate hinges on the tone of discourse, thus moving beyond the one-dimensional analysis based on issue salience. More generally, and connected to the first two limitations raised earlier, future research may seek to focus on specific case studies of bottom-up change, comparing detailed evidence of signals, statements, and actions on the policymaker level with more fine-grained measures of corporate practice in an effort to open the 'black box' of firm action and policymaker decisions.

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# Appendix

This appendix includes the following:

- (1) Full panel regression result tables, estimating the relationship between public discourse and corporate practice.
- (2) Full ANOVA result tables, testing for mimetic isomorphism

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	<b>D.1.1.1</b>	<b>D.1.1.2</b>	<b>D.1.2.0</b>	<b>1.2.0.1</b>	<b>1.2.1</b>	<b>1.2.2</b>	<b>1.4.0</b>
<b>Switzerland</b>	Tier 1 Capital Ratio (banks)	Total Capital Ratio (banks)	Tier 1 Leverage Ratio (banks)	Shareholder Equity Ratio	Financial D/E Ratio	Balance Sheet Leverage	Auditor Change
<b>Hausman Test (Prob&gt;chi2)</b>	0.9997	1.0000	0.9870				0.3219
<b>Model</b>	RE	RE	RE	FE	FE	FE	RE
<b>D.S01_DE_L1</b>	-2.6998***	-3.3600***	-0.2641	2.5906	-1.7694	-1.7444	
Banking Regulation	(0.5079)	(0.7718)	(0.2759)	(2.4071)	(2.7309)	(2.0435)	
<b>D.S02_DE_L1</b>	4.5614***	5.2605***	0.7163	-5.2427	4.7867	4.3239	
Risk-taking	(0.9344)	(0.7348)	(0.5885)	(4.3532)	(5.3543)	(3.9428)	
<b>S03_DE_L1</b>							0.0078
Auditor Change							(1.2589)
<b>S03Alt_DE_L1</b>							-0.0382
Big Four Auditors							(0.0362)
<b>S08_DE_L1</b>							
Shareholder Rights							
<b>S09_DE_L1</b>							
Income Inequality							
<b>S10_DE_L1</b>							
Corporate Governance							
<b>S11_DE_L1</b>							
Board of Directors							
<b>S12_DE_L1</b>							
Executive Pay							
<b>S13_DE_L1</b>							
Layoffs							
<b>ROA</b>	-0.1520	-1.4263**	0.1869	0.3727***	-0.4458***	-0.3083***	-0.0004
	(0.5684)	(0.6493)	(0.6278)	(0.1045)	(0.1575)	(0.0813)	(0.0007)
<b>D.Mcap_Ln</b>	0.5695	2.6895*	0.5746	0.8930	-2.4565*	-0.9694	0.0428**
	(1.7147)	(1.4625)	(0.4829)	(1.1110)	(1.4163)	(0.8925)	(0.0212)
<b>Year Dummies</b>	no	no	no	yes	yes	yes	yes
<b>Constant</b>	0.3071	0.8073	-0.2128	36.0943***	48.7632***	63.5063***	0.1012***
	(0.4356)	(0.5472)	(0.4612)	(1.1596)	(1.4690)	(0.9875)	(0.0359)
<b>F</b>	155.72***	96.22***	5.91	5.18***	5.48***	5.01***	63.19***
<b>R-squared</b>	0.0526	0.1664	0.0365	0.8639	0.8601	0.8891	0.0224
<b>Observations</b>	127	112	137	1,239	1,240	1,238	1,195
<b>Panel Size</b>	14	14	16	104	104	104	99

	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	<b>D.2.3.0</b>	<b>2.4.2</b>	<b>2.4.3</b>	<b>D.2.4.5</b>	<b>2.4.6</b>	<b>2.4.7</b>	<b>2.5.0</b>
<b>Switzerland</b>	Shareholder Rights (1S1V)	Pct of NVA to Shareholders	Pct of NVA to Employees	Pct of NVA to the State	Pct of NVA to Creditors	Pct of NVA to the Company	Board Size
<b>Hausman Test (Prob&gt;chi2)</b>	0.8087	0.0000	0.2932	1.0000			0.0131
<b>Model</b>	RE	FE	RE	RE	FE	FE	FE
<b>D.S01_DE_L1</b>							
Banking Regulation							
<b>D.S02_DE_L1</b>							
Risk-taking							
<b>S03_DE_L1</b>							
Auditor Change							
<b>S03Alt_DE_L1</b>							
Big Four Auditors							
<b>S08_DE_L1</b>	-0.0099	-9.0948	-14.2018	13.5636**	26.9424*	-36.1764	
Shareholder Rights	(0.0709)	(8.3147)	(14.1640)	(6.6929)	(15.9346)	(35.1204)	
<b>S09_DE_L1</b>		-4.9070	4.6611	-11.1949***	0.0076	5.3617	
Income Inequality		(7.4715)	(13.0897)	(3.7813)	(8.3452)	(27.2483)	
<b>S10_DE_L1</b>	-0.0081	-1.8952	4.8282	-0.2017	-6.1332	-0.0842	0.0727
Corporate Governance	(0.0376)	(1.4098)	(5.4057)	(0.9329)	(5.4972)	(6.0951)	(1.3717)
<b>S11_DE_L1</b>							-0.0926
Board of Directors							(0.0934)
<b>S12_DE_L1</b>							
Executive Pay							
<b>S13_DE_L1</b>							
Layoffs							
<b>ROA</b>	-0.0001	0.0894**	-0.8619***	0.0055	-0.1592***	-0.7489***	-0.0009
	(0.0001)	(0.0440)	(0.1090)	(0.0223)	(0.0417)	(0.1818)	(0.0109)
<b>D.Mcap_Ln</b>	0.0081*	-1.6064***	-1.9280**	0.1087	0.6463	2.5915	-0.1608
	(0.0045)	(0.4494)	(0.9397)	(0.3067)	(1.0858)	(1.6300)	(0.1469)
<b>Year Dummies</b>	yes	yes	yes	yes	yes	yes	yes
<b>Constant</b>	0.0247	6.5383***	57.9553***	0.0971	13.9676***	30.3564***	10.0367***
	(0.0155)	(0.8583)	(2.7296)	(0.4177)	(1.1383)	(3.0420)	(0.6731)
<b>F</b>	16.65	8.89***	313.32***	90.80***	7.06***	2.87***	1.64
<b>R-squared</b>	0.0110	0.4574	0.0200	0.0263	0.8905	0.2609	0.7758
<b>Observations</b>	1,209	1,222	1,144	1,034	1,167	1,240	699
<b>Panel Size</b>	102	104	102	102	100	104	70

	(15)	(16)	(17)	(18)	(19)	(20)	(21)
	<b>D.2.5.1</b>	<b>2.5.2</b>	<b>2.5.3</b>	<b>D.2.5.4</b>	<b>D.2.5.5</b>	<b>2.6.0_Ln</b>	<b>D.2.6.1_Ln</b>
<b>Switzerland</b>	CEO on Board	CEO-Chairman Combined Role	Pct of Non- Executive Directors	Pct of Independent Non- Executive Directors	Pct of Female Directors	Total Executive Pay	Single Highest Executive Pay
<b>Hausman Test (Prob&gt;chi2)</b>	1.0000	0.8930	0.9980	1.0000	0.9999	0.7782	0.9999
<b>Model</b>	RE	RE	RE	RE	RE	RE	RE
<b>D.S01_DE_L1</b>							
Banking Regulation							
<b>D.S02_DE_L1</b>							
Risk-taking							
<b>S03_DE_L1</b>							
Auditor Change							
<b>S03Alt_DE_L1</b>							
Big Four Auditors							
<b>S08_DE_L1</b>							
Shareholder Rights							
<b>S09_DE_L1</b>						0.1862	-0.3081
Income Inequality						(0.7997)	(1.2576)
<b>S10_DE_L1</b>	0.0251	-0.1133	-0.1432*	-0.0931	0.0455		
Corporate Governance	(0.1974)	(0.2365)	(0.0773)	(0.1604)	(0.0484)		
<b>S11_DE_L1</b>	-0.0041	0.0130	0.0159***	0.0077	-0.0022		
Board of Directors	(0.0101)	(0.0140)	(0.0049)	(0.0108)	(0.0027)		
<b>S12_DE_L1</b>						0.9580	0.1029
Executive Pay						(1.0181)	(1.3967)
<b>S13_DE_L1</b>							
Layoffs							
<b>ROA</b>	0.0003	-0.0016	-0.0006	-0.0007	0.0002	-0.0060	-0.0037
	(0.0011)	(0.0021)	(0.0005)	(0.0008)	(0.0001)	(0.0055)	(0.0093)
<b>D.Mcap_Ln</b>	0.0653	-0.0170	0.0143	-0.0085	0.0034	0.0227	0.1937
	(0.0489)	(0.0259)	(0.0112)	(0.0180)	(0.0038)	(0.1065)	(0.2073)
<b>Year Dummies</b>	yes	yes	yes	yes	yes	yes	yes
<b>Constant</b>	0.0352	0.0984	0.6461***	-0.0060	0.0092	6.0091***	1.5393**
	(0.0393)	(0.0689)	(0.0450)	(0.0382)	(0.0115)	(0.2937)	(0.7764)
<b>F</b>	40.62***	11.57	93.10***	65.39***	29.13**	90917.78***	NA
<b>R-squared</b>	0.0232	0.0005	0.1837	0.1260	0.0302	0.1022	0.1658
<b>Observations</b>	669	696	522	480	457	311	252
<b>Panel Size</b>	68	70	54	53	53	43	48



	(22)	(23)	(24)
	<b>2.6.2_w</b>	<b>D.3.1.0_Ln</b>	<b>D.3.2.0_w_Ln</b>
<b>Switzerland</b>	CEO Pay Ratio	Employment Level	Average Wage
<b>Hausman Test (Prob&gt;chi2)</b>	0.0000	0.9999	1.0000
<b>Model</b>	FE	RE	RE
<b>D.S01_DE_L1</b>			
Banking Regulation			
<b>D.S02_DE_L1</b>			
Risk-taking			
<b>S03_DE_L1</b>			
Auditor Change			
<b>S03Alt_DE_L1</b>			
Big Four Auditors			
<b>S08_DE_L1</b>			
Shareholder Rights			
<b>S09_DE_L1</b>	-64.2153*	0.0540	-0.0152
Income Inequality	(35.3367)	(0.1745)	(0.2000)
<b>S10_DE_L1</b>			
Corporate Governance			
<b>S11_DE_L1</b>			
Board of Directors			
<b>S12_DE_L1</b>	6.4734		
Executive Pay	(20.8823)		
<b>S13_DE_L1</b>		-0.0171	0.0006
Layoffs		(0.0261)	(0.0249)
<b>ROA</b>	0.1969	0.0029**	-0.0010
	(0.1564)	(0.0015)	(0.0016)
<b>D.Mcap_Ln</b>	1.6294	0.1024**	-0.0394
	(2.1979)	(0.0487)	(0.0422)
<b>Year Dummies</b>	yes	yes	yes
<b>Constant</b>	2.2408	0.0487**	0.0240
	(8.5313)	(0.0241)	(0.0485)
<b>F</b>	3.86***	128.76***	280.41***
<b>R-squared</b>	0.6422	0.0432	0.0599
<b>Observations</b>	486	1,211	1,207
<b>Panel Size</b>	53	104	104

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	<b>D.1.1.1</b>	<b>D.1.1.2</b>	<b>D.1.2.0</b>	<b>D.1.2.0.1</b>	<b>D.1.2.1</b>	<b>D.1.2.2</b>	<b>D.1.4.0</b>
<b>Germany</b>	Tier 1 Capital Ratio (banks)	Total Capital Ratio (banks)	Tier 1 Leverage Ratio (banks)	Shareholder Equity Ratio	Financial D/E Ratio	Balance Sheet Leverage	Auditor Change
<b>Hausman Test (Prob&gt;chi2)</b>	0.9998	0.9999		0.9590	0.9534	0.8869	1.0000
<b>Model</b>	RE	RE	FE	RE	RE	RE	RE
<b>D.S01_DE_L1</b>	0.1486	1.3459	0.6922	1.1115	0.6082	-2.3182	
Banking Regulation	(1.9345)	(1.4782)	(0.5871)	(2.3539)	(2.5600)	(2.5741)	
<b>S02_DE_L1</b>	1.5511	0.5011	0.0924	0.0090	0.0364	-0.0761	
Risk-taking	(1.5414)	(1.1321)	(0.4540)	(0.8603)	(0.8985)	(0.8313)	
<b>D.S03_DE_L1</b>							-1.1037
Auditor Change							(1.2314)
<b>D.S03Alt_DE_L1</b>							0.1284
Big Four Auditors							(0.0913)
<b>S08_DE_L1</b>							
Shareholder Rights							
<b>D.S09_DE_L1</b>							
Income Inequality							
<b>S10_DE_L1</b>							
Corporate Governance							
<b>D.S11_DE_L1</b>							
Board of Directors							
<b>S12_DE_L1</b>							
Executive Pay							
<b>S13_DE_L1</b>							
Layoffs							
<b>D.ROA</b>	0.3648	-0.0640	-0.0403	0.3054***	-0.5124***	-0.3183***	-0.0034
	(0.3583)	(0.2091)	(0.0564)	(0.0710)	(0.1044)	(0.0680)	(0.0022)
<b>D.Mcap_Ln</b>	-3.3081	-1.2725	-0.0910	2.6258***	-3.0689***	-2.6326***	0.0403
	(2.5538)	(1.1928)	(0.2488)	(0.6914)	(0.9445)	(0.6177)	(0.0357)
<b>Year Dummies</b>	no	no	no	yes	yes	yes	yes
<b>Constant</b>	-0.2865	0.3582	-0.2260	0.7253	1.0618	-0.4318	0.0733
	(0.8581)	(0.5758)	(0.2041)	(0.4502)	(0.7747)	(0.4189)	(0.0480)
<b>F</b>	7.34	13.77***	0.73	59.52***	93.28***	60.85***	37.74***
<b>R-squared</b>	0.0706	0.0123	0.3237	0.1554	0.1921	0.1753	0.0207
<b>Observations</b>	95	92	87	1,408	1,410	1,410	1,252
<b>Panel Size</b>	10	10	10	122	122	122	104

	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	<b>D.2.3.0</b>	<b>D.2.4.2</b>	<b>2.4.3</b>	<b>2.4.5</b>	<b>2.4.6</b>	<b>2.4.7</b>	<b>2.5.0</b>
<b>Germany</b>	Shareholder Rights (1S1V)	Pct of NVA to Shareholders	Pct of NVA to Employees	Pct of NVA to the State	Pct of NVA to Creditors	Pct of NVA to the Company	Board Size
<b>Hausman Test (Prob&gt;chi2)</b>	0.8961	1.0000				0.1130	
<b>Model</b>	RE	RE	FE	FE	FE	RE	FE
<b>D.S01_DE_L1</b>							
Banking Regulation							
<b>S02_DE_L1</b>							
Risk-taking							
<b>D.S03_DE_L1</b>							
Auditor Change							
<b>D.S03Alt_DE_L1</b>							
Big Four Auditors							
<b>S08_DE_L1</b>	0.1127	-1.0800	-4.2142	1.2269	15.1839	-2.0427	
Shareholder Rights	(0.0719)	(2.6628)	(9.7934)	(4.5202)	(9.3873)	(12.2222)	
<b>D.S09_DE_L1</b>		-10.2648	17.9262*	-5.3310	-23.3721	7.7278	
Income Inequality		(7.1650)	(10.7846)	(4.2106)	(18.0273)	(33.9782)	
<b>S10_DE_L1</b>	-0.0861	2.1501	1.8683	-3.5306	-10.7896	13.7020	0.6636
Corporate Governance	(0.0657)	(3.7243)	(9.2334)	(3.5432)	(6.5981)	(14.7085)	(1.3236)
<b>D.S11_DE_L1</b>							0.0011
Board of Directors							(0.0358)
<b>S12_DE_L1</b>							
Executive Pay							
<b>S13_DE_L1</b>							
Layoffs							
<b>D.ROA</b>	0.0004	-0.2983***	-0.3513***	0.0929	-0.0034	-0.0068	-0.0094*
	(0.0010)	(0.0861)	(0.0686)	(0.0579)	(0.0268)	(0.1628)	(0.0053)
<b>D.Mcap_Ln</b>	0.0043	0.2811	-0.2736	-0.3229	-0.0938	-1.2260	-0.0805
	(0.0126)	(0.8061)	(1.2879)	(0.5390)	(0.5472)	(2.2627)	(0.1610)
<b>Year Dummies</b>	yes	yes	yes	yes	yes	yes	yes
<b>Constant</b>	0.6967***	0.4335	55.7429***	7.7998***	10.6278***	22.9131***	19.8882***
	(0.0453)	(0.8528)	(1.1186)	(0.7016)	(0.7684)	(2.1930)	(0.2772)
<b>F</b>	11.74	75.12***	5.43***	3.11***	3.33***	23.5	11.82***
<b>R-squared</b>	0.0031	0.0704	0.0147	0.4585	0.9062	0.0079	0.9197
<b>Observations</b>	1,306	1,350	1,331	1,268	1,319	1,409	1,110
<b>Panel Size</b>	116	122	119	122	115	122	101

	(15)	(16)	(17)	(18)	(19)	(20)	(21)
<b>Germany</b>	<b>2.5.3</b>	<b>D.2.5.4</b>	<b>2.5.5</b>	<b>D.2.6.0_Ln</b>	<b>D.2.6.1_Ln</b>	<b>D.2.6.2_w</b>	<b>D.3.1.0_Ln</b>
	Pct of Non-Executive Directors	Pct of Independent Non-Executive Directors	Pct of Female Directors	Total Executive Pay	Single Highest Executive Pay	CEO Pay Ratio	Employment Level
<b>Hausman Test (Prob&gt;chi2)</b>	1.0000		0.9989	0.9999	0.9984	0.7220	0.9793
<b>Model</b>	RE	FE	RE	RE	RE	RE	RE
<b>D.S01_DE_L1</b>							
Banking Regulation							
<b>S02_DE_L1</b>							
Risk-taking							
<b>D.S03_DE_L1</b>							
Auditor Change							
<b>D.S03Alt_DE_L1</b>							
Big Four Auditors							
<b>S08_DE_L1</b>							
Shareholder Rights							
<b>D.S09_DE_L1</b>				-0.9102	-5.3872**	-94.3699	-1.6164
Income Inequality				(1.7451)	(2.3426)	(57.9224)	(1.9448)
<b>S10_DE_L1</b>	0.0274	-0.0020	-0.0376				
Corporate Governance	(0.0450)	(0.0205)	(0.0365)				
<b>D.S11_DE_L1</b>	-0.0008	0.0010	0.0003				
Board of Directors	(0.0007)	(0.0010)	(0.0010)				
<b>S12_DE_L1</b>				-0.1342	0.3002	10.6536	
Executive Pay				(0.1842)	(0.2186)	(14.8493)	
<b>S13_DE_L1</b>							-0.0366*
Layoffs							(0.0213)
<b>D.ROA</b>	0.0003**	0.0001	-0.0001	0.0089*	0.0120**	0.4153*	-0.0037***
	(0.0002)	(0.0001)	(0.0003)	(0.0052)	(0.0061)	(0.2462)	(0.0013)
<b>D.Mcap_Ln</b>	0.0024	0.0008	0.0048	0.2042**	0.1575	0.4147	0.0167
	(0.0045)	(0.0043)	(0.0045)	(0.0992)	(0.1258)	(4.3119)	(0.0241)
<b>Year Dummies</b>	yes	yes	yes	yes	yes	yes	yes
<b>Constant</b>	0.7101***	0.0015	0.0643***	0.6464***	0.1500	1.1825	0.0430***
	(0.0093)	(0.0021)	(0.0089)	(0.0200)	(0.1428)	(1.1494)	(0.0147)
<b>F</b>	1136.64***	8.45***	70.45***	2261.88***	128.98***	53.87***	49.17***
<b>R-squared</b>	0.1751	0.4261	0.0544	0.1204	0.1285	0.0194	0.0302
<b>Observations</b>	1,110	999	816	563	600	1,086	1,407
<b>Panel Size</b>	101	100	99	85	88	101	122

(22)	
<b>D.3.2.0_w_Ln</b>	
<b>Germany</b>	Average Wage
<b>Hausman Test (Prob&gt;chi2)</b>	1.0000
<b>Model</b>	RE
<b>D.S01_DE_L1</b>	
Banking Regulation	
<b>S02_DE_L1</b>	
Risk-taking	
<b>D.S03_DE_L1</b>	
Auditor Change	
<b>D.S03Alt_DE_L1</b>	
Big Four Auditors	
<b>S08_DE_L1</b>	
Shareholder Rights	
<b>D.S09_DE_L1</b>	0.0867
Income Inequality	(0.4878)
<b>S10_DE_L1</b>	
Corporate Governance	
<b>D.S11_DE_L1</b>	
Board of Directors	
<b>S12_DE_L1</b>	
Executive Pay	
<b>S13_DE_L1</b>	0.0096*
Layoffs	(0.0050)
<b>D.ROA</b>	0.0019
	(0.0015)
<b>D.Mcap_Ln</b>	-0.0070
	(0.0189)
<b>Year Dummies</b>	yes
<b>Constant</b>	-0.0230**
	(0.0106)
<b>F</b>	1075.17***
<b>R-squared</b>	0.2002
<b>Observations</b>	1,403
<b>Panel Size</b>	122

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<b>United Kingdom</b>	<b>D.1.1.1</b>	<b>D.1.1.2</b>	<b>D.1.2.0</b>	<b>1.2.0.1</b>	<b>D.1.2.1</b>	<b>D.1.2.2</b>	<b>D.1.4.0</b>
	Tier 1 Capital Ratio (banks)	Total Capital Ratio (banks)	Tier 1 Leverage Ratio (banks)	Shareholder Equity Ratio	Financial D/E Ratio	Balance Sheet Leverage	Auditor Change
<b>Hausman Test (Prob&gt;chi2)</b>	1.0000	1.0000	1.0000	0.8220	0.0516	0.0003	1.0000
<b>Model</b>	RE	RE	RE	RE	RE	FE	RE
<b>D.S01_DE_L1</b>	0.3670**	0.4627*	0.2989***	-2.0163*	-0.2727	0.7270	
Banking Regulation	(0.1863)	(0.2726)	(0.0686)	(1.0535)	(1.9876)	(1.2002)	
<b>D.S02_DE_L1</b>	-1.7043	-4.3991*	-2.5162**	21.7161*	5.7260	-5.6868	
Risk-taking	(1.7239)	(2.4455)	(1.0207)	(11.5672)	(21.4799)	(12.9769)	
<b>S03_DE_L1</b>							-0.1058
Auditor Change							(0.4736)
<b>S03Alt_DE_L1</b>							0.0080
Big Four Auditors							(0.0169)
<b>D.S08_DE_L1</b>							
Shareholder Rights							
<b>D.S09_DE_L1</b>							
Income Inequality							
<b>S10_DE_L1</b>							
Corporate Governance							
<b>S11_DE_L1</b>							
Board of Directors							
<b>D.S12_DE_L1</b>							
Executive Pay							
<b>S13_DE_L1</b>							
Layoffs							
<b>ROA</b>	-0.4300***	-0.5604***	-0.0247**	0.1863***	-0.1027***	-0.2656***	0.0001
	(0.0347)	(0.0225)	(0.0101)	(0.0708)	(0.0378)	(0.0419)	(0.0005)
<b>D.Mcap_Ln</b>	0.6609	0.5661*	0.8158***	1.8754***	-3.7351***	-1.4381**	0.0416*
	(0.4384)	(0.3216)	(0.1899)	(0.5916)	(0.9815)	(0.7225)	(0.0245)
<b>Year Dummies</b>	no	no	no	yes	yes	yes	yes
<b>Constant</b>	0.7915***	0.7952***	0.0628**	37.9542***	2.7502**	2.9403***	-0.0016
	(0.0704)	(0.0714)	(0.0263)	(2.1619)	(1.0878)	(0.6747)	(0.0105)
<b>F</b>	171.93***	634.04***	224.81***	101.72***	146.12***	10.60***	38.01***
<b>R-squared</b>	0.3282	0.3884	0.2201	0.0526	0.1011	0.1233	0.0128
<b>Observations</b>	52	52	57	1,215	1,152	1,144	1,103
<b>Panel Size</b>	5	5	5	111	110	110	93

	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	<b>D.2.3.0</b>	<b>2.4.2</b>	<b>D.2.4.3</b>	<b>D.2.4.5</b>	<b>D.2.4.6</b>	<b>2.4.7</b>	<b>D.2.5.0</b>
<b>United Kingdom</b>	Shareholder Rights (1S1V)	Pct of NVA to Shareholders	Pct of NVA to Employees	Pct of NVA to the State	Pct of NVA to Creditors	Pct of NVA to the Company	Board Size
<b>Hausman Test (Prob&gt;chi2)</b>	1.0000	0.9937	0.0049	1.0000	0.0869		1.0000
<b>Model</b>	RE	RE	FE	RE	RE	FE	RE
<b>D.S01_DE_L1</b>							
Banking Regulation							
<b>D.S02_DE_L1</b>							
Risk-taking							
<b>S03_DE_L1</b>							
Auditor Change							
<b>S03Alt_DE_L1</b>							
Big Four Auditors							
<b>D.S08_DE_L1</b>	0.0671	-10.0092	34.5992**	-0.0254	11.4962*	-47.1155**	
Shareholder Rights	(0.2556)	(7.2754)	(14.9713)	(6.4307)	(6.3005)	(19.1114)	
<b>D.S09_DE_L1</b>		4.2164	-25.1100***	-1.9486	-3.0300	6.5128	
Income Inequality		(4.4753)	(8.0610)	(4.6468)	(2.6508)	(8.2431)	
<b>S10_DE_L1</b>	-0.0773	-2.8579*	-3.9422	-0.3915	-2.5259*	4.2650	1.4241
Corporate Governance	(0.0969)	(1.7321)	(4.7619)	(0.7858)	(1.5069)	(7.0175)	(1.8957)
<b>S11_DE_L1</b>							-0.6704
Board of Directors							(0.8312)
<b>D.S12_DE_L1</b>							
Executive Pay							
<b>S13_DE_L1</b>							
Layoffs							
<b>ROA</b>	0.0014	-0.0772	-0.5554***	0.0279	-0.0680**	-0.0047	0.0034
	(0.0012)	(0.0675)	(0.1113)	(0.0203)	(0.0292)	(0.1468)	(0.0036)
<b>D.Mcap_Ln</b>	0.0013	-2.9816***	-3.7340***	2.3108**	-0.9591	2.6834*	0.2185
	(0.0085)	(0.7509)	(1.3447)	(0.8981)	(0.6543)	(1.5687)	(0.1511)
<b>Year Dummies</b>	yes	yes	yes	yes	yes	yes	yes
<b>Constant</b>	0.7756***	12.9528***	5.6999**	0.0894	-0.1894	19.4942***	0.2532
	(0.0471)	(1.1023)	(2.2683)	(0.4500)	(1.4325)	(1.9791)	(0.2902)
<b>F</b>	12.85	61.84***	6.18***	38.74***	49.05***	2.55***	23.60*
<b>R-squared</b>	0.0249	0.0281	0.0486	0.0259	0.0425	0.3311	0.0151
<b>Observations</b>	1,188	1,206	1,096	1,019	1,091	1,238	1,233
<b>Panel Size</b>	109	109	109	108	104	109	111

	(15)	(16)	(17)	(18)	(19)	(20)	(21)
<b>United Kingdom</b>	<b>D.2.5.1</b>	<b>D.2.5.2</b>	<b>2.5.3</b>	<b>2.5.4</b>	<b>D.2.5.5</b>	<b>D.2.6.0_Ln</b>	<b>D.2.6.1_Ln</b>
	CEO on Board	CEO-Chairman Combined Role	Pct of Non- Executive Directors	Pct of Independent Non- Executive Directors	Pct of Female Directors	Total Executive Pay	Single Highest Executive Pay
<b>Hausman Test (Prob&gt;chi2)</b>	0.9999	0.9229	0.9932	0.0669	0.9289	1.0000	1.0000
<b>Model</b>	RE	RE	RE	RE	RE	RE	RE
<b>D.S01_DE_L1</b>							
Banking Regulation							
<b>D.S02_DE_L1</b>							
Risk-taking							
<b>S03_DE_L1</b>							
Auditor Change							
<b>S03Alt_DE_L1</b>							
Big Four Auditors							
<b>D.S08_DE_L1</b>							
Shareholder Rights							
<b>D.S09_DE_L1</b>						-0.1430	-0.1465
Income Inequality						(0.5208)	(0.4489)
<b>S10_DE_L1</b>	-0.0168	0.0562	-0.2208***	-0.0482	0.1661**		
Corporate Governance	(0.1452)	(0.3477)	(0.0758)	(0.0767)	(0.0668)		
<b>S11_DE_L1</b>	0.0071	-0.0277	0.1096***	0.0420	-0.0705**		
Board of Directors	(0.0551)	(0.1516)	(0.0309)	(0.0318)	(0.0286)		
<b>D.S12_DE_L1</b>						0.1032	0.4060
Executive Pay						(0.2719)	(0.2743)
<b>S13_DE_L1</b>							
Layoffs							
<b>ROA</b>	-0.0000	-0.0003	0.0004	0.0006	0.0000	0.0019	0.0010
	(0.0004)	(0.0007)	(0.0005)	(0.0004)	(0.0001)	(0.0013)	(0.0014)
<b>D.Mcap_Ln</b>	0.0263**	0.0199	-0.0053	-0.0036	-0.0020	0.3778***	0.4784***
	(0.0126)	(0.0127)	(0.0058)	(0.0066)	(0.0046)	(0.0608)	(0.0553)
<b>Year Dummies</b>	yes	yes	yes	yes	yes	yes	yes
<b>Constant</b>	0.0125	-0.0110	0.5024***	0.4323***	0.0262**	0.1185	0.0755
	(0.0459)	(0.0402)	(0.0224)	(0.0228)	(0.0112)	(0.0743)	(0.0881)
<b>F</b>	29.07**	13.88	188.86***	125.18***	61.83***	143.17***	217.72***
<b>R-squared</b>	0.0337	0.0161	0.1659	0.1739	0.0536	0.0769	0.0990
<b>Observations</b>	1,233	1,233	1,230	1,228	923	1,218	1,217
<b>Panel Size</b>	111	111	111	111	111	111	111



	(22)	(23)	(24)
	<b>2.6.2_w</b>	<b>D.3.1.0_Ln</b>	<b>D.3.2.0_w_Ln</b>
<b>United Kingdom</b>	CEO Pay Ratio	Employment Level	Average Wage
<b>Hausman Test (Prob&gt;chi2)</b>	1.0000	0.5327	1.0000
<b>Model</b>	RE	RE	RE
<b>D.S01_DE_L1</b>			
Banking Regulation			
<b>D.S02_DE_L1</b>			
Risk-taking			
<b>S03_DE_L1</b>			
Auditor Change			
<b>S03Alt_DE_L1</b>			
Big Four Auditors			
<b>D.S08_DE_L1</b>			
Shareholder Rights			
<b>D.S09_DE_L1</b>	68.6764	0.0124	-0.2162
Income Inequality	(98.2804)	(0.0601)	(0.1406)
<b>S10_DE_L1</b>			
Corporate Governance			
<b>S11_DE_L1</b>			
Board of Directors			
<b>D.S12_DE_L1</b>	2.5343		
Executive Pay	(49.2172)		
<b>S13_DE_L1</b>		-0.0182**	0.0207*
Layoffs		(0.0090)	(0.0116)
<b>ROA</b>	1.3927**	0.0002	0.0014*
	(0.5912)	(0.0007)	(0.0008)
<b>D.Mcap_Ln</b>	2.6580	0.0455*	0.0037
	(13.5923)	(0.0248)	(0.0203)
<b>Year Dummies</b>	yes	yes	yes
<b>Constant</b>	72.8006***	0.0331	-0.0179
	(27.5393)	(0.0228)	(0.0408)
<b>F</b>	36.10***	51.41***	893.25***
<b>R-squared</b>	0.0136	0.0333	0.1747
<b>Observations</b>	1,214	1,245	1,243
<b>Panel Size</b>	110	111	110

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	<b>D.1.1.1</b>	<b>D.1.1.2</b>	<b>D.1.2.0</b>	<b>D.1.2.0.1</b>	<b>D.1.2.1</b>	<b>D.1.2.2</b>	<b>1.4.0</b>
<b>United States</b>	Tier 1 Capital Ratio (banks)	Total Capital Ratio (banks)	Tier 1 Leverage Ratio (banks)	Shareholder Equity Ratio	Financial D/E Ratio	Balance Sheet Leverage	Auditor Change
<b>Hausman Test (Prob&gt;chi2)</b>	0.9707	0.9970	0.9883	0.0005	0.0956	0.0006	1.0000
<b>Model</b>	RE	RE	RE	FE	RE	FE	RE
<b>D.S01_DE_L1</b>	-0.1434	-0.1357	-0.0176	0.2870**	-0.1410	-0.1397	
Banking Regulation	(0.0999)	(0.1082)	(0.0333)	(0.1396)	(0.1794)	(0.1195)	
<b>D.S02_DE_L1</b>	1.1761	1.2828	0.1180	-4.8388**	4.2155**	2.9616*	
Risk-taking	(1.1297)	(1.1280)	(0.3621)	(1.8620)	(2.0352)	(1.5120)	
<b>D.S03_DE_L1</b>							0.0127
Auditor Change							(0.0112)
<b>S03Alt_DE_L1</b>							-0.0014
Big Four Auditors							(0.0018)
<b>S08_DE_L1</b>							
Shareholder Rights							
<b>D.S09_DE_L1</b>							
Income Inequality							
<b>S10_DE_L1</b>							
Corporate Governance							
<b>S11_DE_L1</b>							
Board of Directors							
<b>S12_DE_L1</b>							
Executive Pay							
<b>S13_DE_L1</b>							
Layoffs							
<b>ROA</b>	-0.4952***	-0.5023***	-0.1283***	0.1952***	-0.0889***	-0.2015***	-0.0000
	(0.0892)	(0.0820)	(0.0236)	(0.0421)	(0.0333)	(0.0371)	(0.0002)
<b>D.Mcap_Ln</b>	-0.6550	-0.7261	0.0296	3.0416***	-3.3537***	-2.3309***	0.0159
	(0.8888)	(0.8173)	(0.3166)	(0.6756)	(0.9436)	(0.7111)	(0.0100)
<b>Year Dummies</b>	no	no	no	yes	yes	yes	yes
<b>Constant</b>	1.0938***	1.1013***	0.3224***	-0.8906	1.5595**	0.7745	0.0479**
	(0.1595)	(0.1443)	(0.0460)	(0.5835)	(0.6694)	(0.5789)	(0.0195)
<b>F</b>	133.69***	157.04***	55.15***	9.82***	67.76***	8.10***	24.28
<b>R-squared</b>	0.2140	0.2211	0.0899	0.0923	0.0698	0.0796	0.0232
<b>Observations</b>	153	153	156	1,674	1,672	1,672	1,713
<b>Panel Size</b>	15	15	15	134	134	134	134

	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	<b>2.3.0</b>	<b>D.2.4.2</b>	<b>2.4.3</b>	<b>D.2.4.5</b>	<b>D.2.4.6</b>	<b>2.4.7</b>	<b>2.5.0</b>
<b>United States</b>	Shareholder Rights (1S1V)	Pct of NVA to Shareholders	Pct of NVA to Employees	Pct of NVA to the State	Pct of NVA to Creditors	Pct of NVA to the Company	Board Size
<b>Hausman Test (Prob&gt;chi2)</b>	0.7996	0.7785		0.0008	0.5024	0.8612	0.0000
<b>Model</b>	RE	RE	FE	FE	RE	RE	FE
<b>D.S01_DE_L1</b>							
Banking Regulation							
<b>D.S02_DE_L1</b>							
Risk-taking							
<b>D.S03_DE_L1</b>							
Auditor Change							
<b>S03Alt_DE_L1</b>							
Big Four Auditors							
<b>S08_DE_L1</b>	-0.0658	-3.1424***	10.4800**	5.4294**	-8.1063**	-1.2927	
Shareholder Rights	(0.1110)	(1.1190)	(4.7968)	(2.4418)	(3.2515)	(5.5654)	
<b>D.S09_DE_L1</b>		0.7989	-4.5558	-1.8562	1.3702	0.2969	
Income Inequality		(0.8684)	(3.2222)	(1.6571)	(2.0410)	(3.8648)	
<b>S10_DE_L1</b>	-0.0129	0.6978**	-1.2834*	0.2687	1.5319**	-0.3079	0.2186
Corporate Governance	(0.0325)	(0.2916)	(0.7095)	(0.3590)	(0.7031)	(1.0020)	(0.2006)
<b>S11_DE_L1</b>							-0.4083
Board of Directors							(0.3403)
<b>S12_DE_L1</b>							
Executive Pay							
<b>S13_DE_L1</b>							
Layoffs							
<b>ROA</b>	-0.0007	0.0054	-0.6396***	0.1529***	-0.0179	0.0585	0.0143
	(0.0011)	(0.0109)	(0.0837)	(0.0458)	(0.0169)	(0.1187)	(0.0111)
<b>D.Mcap_Ln</b>	-0.0180	-0.2713	0.3713	0.4630	-3.1407***	-0.8162	0.4325***
	(0.0125)	(0.4794)	(0.9150)	(0.6816)	(1.0625)	(1.3632)	(0.1566)
<b>Year Dummies</b>	yes	yes	yes	yes	yes	yes	yes
<b>Constant</b>	0.9468***	0.7252	44.4286***	-4.7280***	1.9940*	40.8868***	12.8258***
	(0.0632)	(0.5017)	(1.2992)	(1.2437)	(1.0394)	(2.1559)	(0.3071)
<b>F</b>	NA	61.77***	7.91***	2.17***	47.07***	22.17	2.23***
<b>R-squared</b>	0.0225	0.0180	0.6627	0.0044	0.0699	0.0145	0.7140
<b>Observations</b>	1,533	1,681	1,519	1,530	1,387	1,713	1,650
<b>Panel Size</b>	134	134	127	133	121	134	134

	(15)	(16)	(17)	(18)	(19)	(20)	(21)
	<b>D.2.5.1</b>	<b>2.5.2</b>	<b>2.5.3</b>	<b>2.5.4</b>	<b>D.2.5.5</b>	<b>2.6.0_Ln</b>	<b>2.6.1_Ln</b>
<b>United States</b>	CEO on Board	CEO-Chairman Combined Role	Pct of Non- Executive Directors	Pct of Independent Non- Executive Directors	Pct of Female Directors	Total Executive Pay	Single Highest Executive Pay
<b>Hausman Test (Prob&gt;chi2)</b>	0.9917	0.9830	0.9990	0.9687	0.9999	0.0001	0.0392
<b>Model</b>	RE	RE	RE	RE	RE	FE	FE
<b>D.S01_DE_L1</b>							
Banking Regulation							
<b>D.S02_DE_L1</b>							
Risk-taking							
<b>D.S03_DE_L1</b>							
Auditor Change							
<b>S03Alt_DE_L1</b>							
Big Four Auditors							
<b>S08_DE_L1</b>							
Shareholder Rights							
<b>D.S09_DE_L1</b>						-0.0550	-0.1579
Income Inequality						(0.2587)	(0.2283)
<b>S10_DE_L1</b>	-0.0002	0.0339	-0.0079	-0.0180**	-0.0018		
Corporate Governance	(0.0039)	(0.0361)	(0.0060)	(0.0074)	(0.0031)		
<b>S11_DE_L1</b>	0.0020	-0.0627	0.0100	0.0235**	0.0009		
Board of Directors	(0.0040)	(0.0479)	(0.0070)	(0.0094)	(0.0030)		
<b>S12_DE_L1</b>						-0.0680	-0.0674
Executive Pay						(0.0473)	(0.0446)
<b>S13_DE_L1</b>							
Layoffs							
<b>ROA</b>	0.0006	0.0017	-0.0001	0.0000	-0.0001	0.0123***	0.0150***
	(0.0004)	(0.0020)	(0.0003)	(0.0005)	(0.0001)	(0.0038)	(0.0040)
<b>D.Mcap_Ln</b>	-0.0074	-0.0668**	0.0093**	0.0068	-0.0023	0.0343	0.0234
	(0.0091)	(0.0338)	(0.0046)	(0.0073)	(0.0036)	(0.0714)	(0.0705)
<b>Year Dummies</b>	yes	yes	yes	yes	yes	yes	yes
<b>Constant</b>	-0.0061*	0.8131***	0.8162***	0.5942***	0.0064	9.7162***	9.4112***
	(0.0035)	(0.0473)	(0.0091)	(0.0165)	(0.0052)	(0.0918)	(0.0833)
<b>F</b>	11.24	30.58**	97.32***	477.40***	18.54	28.14***	13.17***
<b>R-squared</b>	0.0076	0.0234	0.0812	0.2466	0.0116	0.5296	0.4596
<b>Observations</b>	1,635	1,650	1,648	1,650	1,273	1,642	1,644
<b>Panel Size</b>	134	134	134	134	127	134	134

	(22)	(23)	(24)
	<b>2.6.2_w</b>	<b>3.1.0_Ln</b>	<b>D.3.2.0_w_Ln</b>
<b>United States</b>	CEO Pay Ratio	Employment Level	Average Wage
<b>Hausman Test (Prob&gt;chi2)</b>	1.0000		0.9596
<b>Model</b>	RE	FE	RE
<b>D.S01_DE_L1</b>			
Banking Regulation			
<b>D.S02_DE_L1</b>			
Risk-taking			
<b>D.S03_DE_L1</b>			
Auditor Change			
<b>S03Alt_DE_L1</b>			
Big Four Auditors			
<b>S08_DE_L1</b>			
Shareholder Rights			
<b>D.S09_DE_L1</b>	-17.7865	0.2132**	0.1029**
Income Inequality	(42.9563)	(0.0861)	(0.0517)
<b>S10_DE_L1</b>			
Corporate Governance			
<b>S11_DE_L1</b>			
Board of Directors			
<b>S12_DE_L1</b>	-19.3355**		
Executive Pay	(8.8716)		
<b>S13_DE_L1</b>		0.0217**	-0.0006
Layoffs		(0.0088)	(0.0016)
<b>ROA</b>	2.6253***	-0.0021	-0.0014*
	(1.0031)	(0.0024)	(0.0008)
<b>D.Mcap_Ln</b>	31.5634*	-0.0684*	-0.0830**
	(16.1166)	(0.0375)	(0.0340)
<b>Year Dummies</b>	yes	yes	yes
<b>Constant</b>	323.0944***	10.3588***	0.0485
	(37.4038)	(0.0579)	(0.0301)
<b>F</b>	72.40***	5.70***	66.37***
<b>R-squared</b>	0.0273	0.9279	0.0318
<b>Observations</b>	1,534	1,711	1,584
<b>Panel Size</b>	126	134	125

**ANOVA Results: Within-Group (Switzerland, Financial Companies)**

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>TotalAssets</b>	F-test	1.972	1.934	3.796	3.245	2.853	2.851	2.699	2.813	2.824	3.183	3.246	2.879	3.087	2.757
	Prob>F	0.178	0.182	0.067	0.089	0.107	0.107	0.116	0.109	0.108	0.090	0.086	0.105	0.094	0.128
<b>ShareholdersFunds</b>	F-test	2.110	2.092	4.032	3.879	3.712	3.655	3.614	3.602	3.813	3.852	3.957	3.631	3.971	2.991
	Prob>F	0.165	0.166	0.060	0.065	0.068	0.070	0.072	0.072	0.065	0.064	0.060	0.071	0.060	0.114
<b>NetIncome</b>	F-test	1.971	1.638	0.167	2.029	3.098	2.632	3.381	0.416	1.918	0.820	3.386	3.322	0.092	3.126
	Prob>F	0.178	0.218	0.688	0.172	0.094	0.120	0.081	0.526	0.181	0.376	0.080	0.083	0.764	0.107
<b>ROE</b>	F-test	0.613	0.025	3.213	6.930	2.367	3.876	30.890	6.468	0.000	3.907	5.609	3.065	2.129	12.220
	Prob>F	0.445	0.875	0.090	0.018	0.140	0.063	0.000	0.019	0.985	0.062	0.028	0.095	0.160	0.006
<b>ROA</b>	F-test	0.010	0.001	1.029	3.639	0.127	0.069	6.348	1.108	1.146	3.673	1.929	1.793	2.160	3.110
	Prob>F	0.921	0.973	0.324	0.074	0.725	0.796	0.020	0.305	0.297	0.070	0.179	0.196	0.157	0.108
<b>OperatingRevenue</b>	F-test	2.054	2.014	3.848	3.540	4.169	4.065	3.615	4.162	8.887	4.603	5.242	4.561	4.742	2.775
	Prob>F	0.170	0.174	0.066	0.077	0.055	0.057	0.073	0.056	0.007	0.044	0.033	0.045	0.042	0.127
<b>Mcap_Ln</b>	F-test	35.780	27.980	20.050	21.760	21.240	30.100	34.290	37.600	29.610	33.740	35.480	23.860	23.590	29.540
	Prob>F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>1.1.1</b>	F-test	0.463	NA	0.648	1.396	2.298	3.527	4.171	1.260	0.506	3.280	3.753	0.574	9.811	0.000
	Tier 1 Capital Ratio	0.545	NA	0.457	0.282	0.173	0.102	0.080	0.291	0.493	0.098	0.077	0.463	0.008	0.994
<b>1.1.2</b>	F-test	2.537	NA	NA	NA	NA	NA	NA	1.040	1.709	4.261	4.502	0.908	6.186	0.233
	Total Capital Ratio	0.252	NA	NA	NA	NA	NA	NA	0.338	0.224	0.066	0.057	0.361	0.027	0.637
<b>1.2.0</b>	F-test	0.008	0.429	0.061	0.097	0.116	0.068	0.196	0.224	3.458	0.708	1.023	0.020	1.593	1.218
	Tier 1 Leverage Ratio	0.938	0.548	0.814	0.766	0.742	0.801	0.668	0.647	0.086	0.415	0.330	0.889	0.226	0.288
<b>1.2.0.1</b>	F-test	1.791	1.279	2.010	2.019	2.744	3.418	3.745	4.488	5.687	5.316	6.028	6.314	6.292	4.583
	Shareholder Equity Ratio	0.195	0.271	0.171	0.170	0.112	0.079	0.067	0.046	0.027	0.031	0.023	0.021	0.021	0.046
<b>1.2.1</b>	F-test	0.636	0.648	1.086	0.405	1.968	2.763	2.382	2.604	4.183	4.264	2.271	1.683	1.441	0.397
	Financial Debt-Equity Ratio	0.436	0.432	0.311	0.533	0.176	0.112	0.138	0.122	0.054	0.052	0.147	0.209	0.244	0.543
<b>1.2.2</b>	F-test	0.832	0.448	0.497	0.427	2.094	2.938	3.583	4.569	4.573	4.526	5.862	5.369	5.537	0.616
	Balance Sheet Leverage	0.374	0.512	0.490	0.522	0.163	0.102	0.073	0.045	0.045	0.046	0.025	0.031	0.029	0.451
<b>1.4.0</b>	F-test	1.000	0.269	NA	NA	1.096	NA	0.913	0.913	2.435	0.913	NA	1.000	1.000	NA
	Auditor Change	0.329	0.610	NA	NA	0.307	NA	0.350	0.350	0.134	0.350	NA	0.329	0.329	NA
<b>2.3.0</b>	F-test	0.039	0.411	0.411	0.411	1.242	0.492	0.492	0.492	0.492	0.492	0.492	0.277	0.277	0.410
	Shareholder Rights (1S1V)	0.845	0.529	0.529	0.529	0.279	0.491	0.491	0.491	0.491	0.491	0.491	0.605	0.605	0.531
<b>2.4.1</b>	F-test	2.074	2.011	3.458	3.529	2.599	2.589	2.639	2.895	4.782	2.782	2.671	2.388	2.480	2.738
	Net Value Added	0.168	0.174	0.079	0.085	0.123	0.124	0.121	0.105	0.042	0.112	0.118	0.139	0.132	0.129
<b>2.4.2</b>	F-test	3.949	3.047	1.863	0.049	1.600	0.573	4.735	8.378	6.924	0.721	4.390	4.737	3.413	1.318
	NVA to Shareholders	0.063	0.099	0.189	0.828	0.221	0.458	0.042	0.009	0.018	0.407	0.049	0.043	0.080	0.284
<b>2.4.3</b>	F-test	1.420	3.511	11.750	7.392	6.533	3.503	8.254	3.609	0.690	1.985	15.260	3.129	4.885	0.258
	NVA to Employees	0.250	0.078	0.004	0.015	0.021	0.079	0.011	0.075	0.420	0.177	0.001	0.096	0.041	0.623
<b>2.4.5</b>	F-test	0.367	3.149	0.205	1.160	3.379	1.957	3.052	3.169	5.301	3.152	1.476	1.130	1.004	0.033
	NVA to the State	0.553	0.096	0.657	0.299	0.082	0.178	0.097	0.091	0.035	0.093	0.239	0.302	0.329	0.860
<b>2.4.6</b>	F-test	0.069	0.436	1.343	4.827	8.285	7.174	4.358	1.771	1.268	4.456	4.703	0.584	3.929	1.840
	NVA to Creditors	0.796	0.519	0.265	0.044	0.011	0.017	0.053	0.202	0.281	0.051	0.046	0.456	0.066	0.208
<b>2.4.7</b>	F-test	0.020	2.943	0.001	2.012	3.028	4.130	0.722	0.092	0.516	2.838	0.003	0.123	0.460	1.579
	NVA to the Company	0.888	0.104	0.975	0.174	0.098	0.056	0.406	0.765	0.481	0.108	0.960	0.730	0.506	0.237
<b>2.5.0</b>	F-test	0.033	0.010	2.045	1.069	1.806	1.023	0.004	0.252	0.120	0.485	0.450	0.074	0.090	NA
	Board Size	0.860	0.920	0.176	0.322	0.200	0.329	0.950	0.624	0.734	0.497	0.512	0.793	0.772	NA
<b>2.5.1</b>	F-test	0.312	0.964	1.300	1.469	0.385	0.385	0.008	0.021	0.645	1.524	0.817	NA	NA	NA
	CEO on Board	0.588	0.345	0.275	0.249	0.545	0.545	0.930	0.887	0.434	0.237	0.380	NA	NA	NA
<b>2.5.2</b>	F-test	0.185	0.571	0.347	0.257	0.438	0.438	0.257	0.347	0.529	NA	NA	NA	NA	NA
	CEO-Chairman Combined Role	0.676	0.464	0.566	0.621	0.519	0.519	0.621	0.566	0.478	NA	NA	NA	NA	NA
<b>2.5.3</b>	F-test	NA	NA	NA	NA	0.798	0.890	0.841	0.714	0.572	0.229	0.351	NA	NA	NA
	Non-Executive Directors	NA	NA	NA	NA	0.413	0.389	0.401	0.426	0.474	0.645	0.568	NA	NA	NA
<b>2.5.4</b>	F-test	NA	NA	NA	NA	0.959	0.966	0.957	2.278	2.417	4.600	2.186	1.973	2.841	NA
	Independent NEDs	NA	NA	NA	NA	0.372	0.371	0.373	0.175	0.164	0.064	0.173	0.198	0.130	NA
<b>2.5.5</b>	F-test	NA	NA	NA	NA	1.494	1.454	2.388	2.015	0.693	0.903	0.563	3.043	0.574	NA
	Female Directors	NA	NA	NA	NA	0.289	0.314	0.262	0.229	0.443	0.374	0.475	0.132	0.471	NA
<b>2.6.0</b>	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total Executive Pay	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>2.6.1</b>	F-test	NA	NA	NA	NA	NA	NA	NA	31.540	9.626	18.840	15.790	24.720	NA	NA
	Single Highest Executive Pay	NA	NA	NA	NA	NA	NA	NA	0.002	0.027	0.005	0.007	0.003	NA	NA
<b>2.6.2</b>	F-test	NA	NA	NA	NA	0.393	0.674	0.567	0.990	0.521	0.764	3.203	3.533	1.584	NA
	CEO Pay Ratio	NA	NA	NA	NA	0.558	0.449	0.486	0.358	0.498	0.411	0.111	0.102	0.249	NA
<b>3.1.0</b>	F-test	15.800	19.440	22.300	20.360	22.920	22.070	23.340	21.980	26.120	26.750	27.090	17.120	24.350	14.270
	Employment Level	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.002
<b>3.2.0</b>	F-test	6.675	2.997	2.122	0.349	4.006	5.302	5.125	3.169	0.445	0.000	0.393	0.320	0.022	0.069
	Average Wage	0.017	0.098	0.161	0.562	0.059	0.032	0.035	0.090	0.513	0.983	0.538	0.578	0.883	0.796

**ANOVA Results: Within-Group (Switzerland, Industrial Companies)**

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>TotalAssets</b>	F-test	8.944	6.819	6.411	6.283	7.022	7.121	8.540	8.410	7.947	7.571	7.746	8.400	7.214	2.094
	Prob>F	<b>0.004</b>	<b>0.011</b>	<b>0.013</b>	<b>0.014</b>	<b>0.010</b>	<b>0.009</b>	<b>0.005</b>	<b>0.005</b>	<b>0.006</b>	<b>0.007</b>	<b>0.007</b>	<b>0.005</b>	<b>0.009</b>	0.156
<b>ShareholdersFunds</b>	F-test	8.811	7.338	5.982	6.127	6.389	6.357	7.479	7.958	7.105	8.135	6.792	8.071	7.246	1.978
	Prob>F	<b>0.004</b>	<b>0.008</b>	<b>0.017</b>	<b>0.016</b>	<b>0.014</b>	<b>0.014</b>	<b>0.008</b>	<b>0.006</b>	<b>0.009</b>	<b>0.006</b>	<b>0.011</b>	<b>0.006</b>	<b>0.009</b>	0.168
<b>NetIncome</b>	F-test	7.378	2.187	2.288	3.665	6.004	5.967	7.948	7.879	2.897	5.136	2.037	5.169	5.527	2.010
	Prob>F	<b>0.008</b>	0.143	0.134	0.059	<b>0.017</b>	<b>0.017</b>	<b>0.006</b>	<b>0.006</b>	0.093	<b>0.026</b>	0.158	<b>0.026</b>	<b>0.021</b>	0.165
<b>ROE</b>	F-test	8.938	0.412	8.160	0.031	1.143	2.270	7.433	7.426	2.790	7.848	7.053	6.635	2.523	7.076
	Prob>F	<b>0.004</b>	0.523	<b>0.006</b>	0.860	0.288	0.136	<b>0.008</b>	<b>0.008</b>	0.099	<b>0.006</b>	<b>0.010</b>	<b>0.012</b>	0.117	<b>0.012</b>
<b>ROA</b>	F-test	7.730	0.910	14.860	10.360	8.645	7.713	9.854	7.358	6.542	12.740	4.805	9.769	4.805	9.188
	Prob>F	<b>0.007</b>	0.343	<b>0.000</b>	<b>0.002</b>	<b>0.004</b>	<b>0.007</b>	<b>0.002</b>	<b>0.008</b>	<b>0.013</b>	<b>0.001</b>	<b>0.031</b>	<b>0.003</b>	<b>0.032</b>	<b>0.004</b>
<b>OperatingRevenue</b>	F-test	6.734	6.593	5.583	5.320	6.119	6.741	7.288	7.206	5.970	5.734	4.873	7.708	7.360	1.985
	Prob>F	<b>0.011</b>	<b>0.012</b>	<b>0.021</b>	<b>0.024</b>	<b>0.016</b>	<b>0.011</b>	<b>0.008</b>	<b>0.009</b>	<b>0.017</b>	<b>0.019</b>	<b>0.030</b>	<b>0.007</b>	<b>0.008</b>	0.167
<b>Mcap_Ln</b>	F-test	131.700	119.000	132.500	124.000	132.300	129.500	137.500	131.700	133.100	138.000	134.500	122.500	114.800	116.700
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>1.1.1</b> Tier 1 Capital Ratio	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.1.2</b> Total Capital Ratio	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.2.0</b> Tier 1 Leverage Ratio	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.2.0.1</b> Shareholder Equity Ratio	F-test	0.040	0.342	1.061	0.113	0.038	0.309	0.061	0.037	0.102	0.109	0.740	0.234	0.150	0.180
	Prob>F	0.842	0.560	0.306	0.738	0.846	0.580	0.805	0.848	0.751	0.743	0.393	0.630	0.700	0.673
<b>1.2.1</b> Financial Debt-Equity Ratio	F-test	0.036	0.915	3.732	1.314	0.259	0.011	0.000	0.005	0.244	0.196	0.936	0.040	0.189	0.080
	Prob>F	0.850	0.342	0.057	0.255	0.612	0.917	1.000	0.945	0.622	0.659	0.336	0.843	0.665	0.779
<b>1.2.2</b> Balance Sheet Leverage	F-test	0.006	0.515	1.043	0.031	0.065	0.168	0.005	0.052	0.342	0.262	0.328	0.582	0.588	0.019
	Prob>F	0.941	0.475	0.311	0.861	0.799	0.683	0.944	0.821	0.561	0.610	0.568	0.448	0.446	0.893
<b>1.4.0</b> Auditor Change	F-test	1.179	1.042	0.004	4.978	1.000	0.004	2.170	1.027	2.114	0.182	0.367	0.001	0.000	0.775
	Prob>F	0.281	0.311	0.947	<b>0.029</b>	0.321	0.947	0.145	0.314	0.150	0.671	0.546	0.973	0.985	0.382
<b>2.3.0</b> Shareholder Rights (1S1V)	F-test	0.835	0.002	0.138	0.021	0.006	0.027	0.021	0.408	0.408	0.320	0.034	0.004	0.359	0.074
	Prob>F	0.364	0.968	0.712	0.884	0.938	0.871	0.885	0.525	0.525	0.573	0.854	0.947	0.551	0.786
<b>2.4.1</b> Net Value Added	F-test	8.456	7.447	6.138	11.520	11.680	3.487	8.381	8.340	6.354	6.906	4.568	8.611	7.997	2.643
	Prob>F	<b>0.005</b>	<b>0.008</b>	<b>0.015</b>	<b>0.001</b>	<b>0.001</b>	0.066	<b>0.005</b>	<b>0.005</b>	<b>0.014</b>	<b>0.010</b>	<b>0.036</b>	<b>0.004</b>	<b>0.006</b>	0.112
<b>2.4.2</b> NVA to Shareholders	F-test	0.267	2.122	0.461	7.588	9.208	7.381	7.247	3.624	5.171	3.652	1.564	10.450	1.544	6.881
	Prob>F	0.607	0.149	0.499	<b>0.007</b>	<b>0.003</b>	<b>0.008</b>	<b>0.009</b>	0.061	<b>0.026</b>	0.060	0.215	<b>0.002</b>	0.218	<b>0.013</b>
<b>2.4.3</b> NVA to Employees	F-test	12.160	14.430	4.004	8.796	16.470	15.550	20.500	17.010	20.140	11.590	15.500	18.030	12.330	8.279
	Prob>F	<b>0.001</b>	<b>0.000</b>	<b>0.050</b>	<b>0.004</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	<b>0.007</b>
<b>2.4.5</b> NVA to the State	F-test	3.576	9.085	4.028	3.855	4.499	16.570	9.728	0.121	0.451	1.053	11.390	11.070	7.457	12.540
	Prob>F	0.063	<b>0.004</b>	<b>0.049</b>	0.054	<b>0.037</b>	<b>0.000</b>	<b>0.003</b>	0.729	0.504	0.309	<b>0.001</b>	<b>0.001</b>	<b>0.008</b>	<b>0.001</b>
<b>2.4.6</b> NVA to Creditors	F-test	3.241	0.131	2.115	1.291	0.137	0.003	0.145	0.003	1.091	1.186	0.072	0.002	0.041	2.369
	Prob>F	0.076	0.718	0.150	0.259	0.713	0.956	0.705	0.957	0.300	0.280	0.790	0.964	0.840	0.133
<b>2.4.7</b> NVA to the Company	F-test	10.570	5.253	1.915	0.772	1.064	0.031	0.164	0.002	1.061	0.380	0.576	0.118	1.437	0.003
	Prob>F	<b>0.002</b>	<b>0.025</b>	0.170	0.382	0.305	0.861	0.686	0.969	0.306	0.539	0.450	0.732	0.235	0.960
<b>2.5.0</b> Board Size	F-test	0.511	0.245	3.469	4.594	4.271	4.160	2.785	1.412	2.002	3.774	3.504	5.321	3.520	NA
	Prob>F	0.479	0.624	0.071	<b>0.039</b>	<b>0.045</b>	<b>0.047</b>	0.102	0.241	0.164	0.058	0.068	<b>0.026</b>	0.068	NA
<b>2.5.1</b> CEO on Board	F-test	0.125	0.367	0.379	0.949	0.540	0.746	0.117	0.000	0.306	0.167	1.816	0.147	0.005	NA
	Prob>F	0.725	0.548	0.542	0.336	0.467	0.393	0.734	1.000	0.583	0.685	0.185	0.704	0.944	NA
<b>2.5.2</b> CEO-Chairman Combined Role	F-test	0.057	0.523	0.588	0.687	0.052	1.199	1.193	0.376	0.287	0.287	0.579	1.184	0.901	NA
	Prob>F	0.813	0.474	0.448	0.413	0.821	0.279	0.281	0.543	0.595	0.595	0.451	0.283	0.348	NA
<b>2.5.3</b> Non-Executive Directors	F-test	0.304	NA	NA	NA	0.055	2.058	6.099	3.712	2.144	0.949	1.527	0.060	0.122	NA
	Prob>F	0.587	NA	NA	NA	0.816	0.160	<b>0.018</b>	0.062	0.152	0.336	0.224	0.807	0.729	NA
<b>2.5.4</b> Independent NEDs	F-test	0.390	NA	NA	NA	0.069	0.124	1.171	0.124	0.146	0.082	0.014	0.233	0.052	NA
	Prob>F	0.539	NA	NA	NA	0.794	0.727	0.286	0.727	0.704	0.777	0.908	0.632	0.820	NA
<b>2.5.5</b> Female Directors	F-test	0.347	NA	NA	NA	0.224	0.836	4.700	1.775	3.877	1.601	4.659	7.748	9.037	NA
	Prob>F	0.562	NA	NA	NA	0.640	0.367	<b>0.037</b>	0.192	0.057	0.214	<b>0.037</b>	<b>0.008</b>	<b>0.005</b>	NA
<b>2.6.0</b> Total Executive Pay	F-test	NA	NA	NA	NA	NA	NA	0.275	11.600	2.739	17.560	1.461	2.956	3.765	NA
	Prob>F	NA	NA	NA	NA	NA	NA	0.608	<b>0.002</b>	0.108	<b>0.000</b>	0.237	0.098	0.063	NA
<b>2.6.1</b> Single Highest Executive Pay	F-test	NA	NA	NA	NA	NA	NA	3.272	16.080	9.637	9.755	2.463	5.756	0.009	NA
	Prob>F	NA	NA	NA	NA	NA	NA	0.094	<b>0.000</b>	<b>0.004</b>	<b>0.003</b>	0.128	<b>0.025</b>	0.927	NA
<b>2.6.2</b> CEO Pay Ratio	F-test	NA	NA	NA	NA	0.985	0.725	1.074	4.428	3.191	6.777	7.263	7.443	2.694	NA
	Prob>F	NA	NA	NA	NA	0.329	0.400	0.307	<b>0.043</b>	0.084	<b>0.013</b>	<b>0.010</b>	<b>0.010</b>	0.109	NA
<b>3.1.0</b> Employment Level	F-test	37.650	29.920	32.440	29.840	38.460	43.680	44.930	46.950	35.580	37.480	43.570	39.050	50.390	36.370
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>3.2.0</b> Average Wage	F-test	0.017	0.358	0.008	0.038	1.230	1.224	0.006	0.525	0.027	0.383	0.257	0.018	0.344	0.337
	Prob>F	0.896	0.551	0.930	0.847	0.271	0.272	0.937	0.471	0.870	0.538	0.614	0.895	0.559	0.564

**ANOVA Results: Within-Group (Germany, Financial Companies)**

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>TotalAssets</b>	F-test	7.257	7.432	6.543	6.497	6.396	6.115	4.076	3.780	3.003	3.578	2.982	3.012	2.533	NA
	Prob>F	<b>0.015</b>	<b>0.014</b>	<b>0.020</b>	<b>0.021</b>	<b>0.020</b>	<b>0.023</b>	0.057	0.067	0.100	0.077	0.103	0.103	0.134	NA
<b>ShareholdersFunds</b>	F-test	5.335	6.567	5.407	5.842	6.720	6.530	7.141	7.341	7.031	5.283	4.641	5.141	4.698	NA
	Prob>F	<b>0.034</b>	<b>0.020</b>	<b>0.033</b>	<b>0.027</b>	<b>0.017</b>	<b>0.019</b>	<b>0.015</b>	<b>0.014</b>	<b>0.016</b>	<b>0.035</b>	<b>0.047</b>	<b>0.039</b>	<b>0.048</b>	NA
<b>NetIncome</b>	F-test	1.862	6.070	0.513	1.160	0.860	5.680	7.016	6.681	0.164	0.517	7.170	3.649	2.636	NA
	Prob>F	0.190	<b>0.025</b>	0.484	0.296	0.365	<b>0.027</b>	<b>0.015</b>	<b>0.018</b>	0.690	0.482	<b>0.017</b>	0.075	0.127	NA
<b>ROE</b>	F-test	0.599	0.071	0.247	0.003	0.795	0.172	3.948	0.129	0.335	1.763	0.371	0.622	0.034	NA
	Prob>F	0.450	0.794	0.626	0.960	0.383	0.683	0.061	0.723	0.570	0.203	0.551	0.442	0.857	NA
<b>ROA</b>	F-test	2.580	1.276	7.730	6.800	3.193	6.666	1.555	1.547	0.647	0.452	1.403	0.236	0.844	NA
	Prob>F	0.127	0.274	<b>0.013</b>	<b>0.018</b>	0.089	<b>0.018</b>	0.227	0.229	0.432	0.511	0.254	0.634	0.374	NA
<b>OperatingRevenue</b>	F-test	7.452	8.449	5.583	5.842	6.791	7.714	9.064	9.359	4.457	5.469	5.549	6.498	5.164	NA
	Prob>F	<b>0.014</b>	<b>0.010</b>	<b>0.030</b>	<b>0.027</b>	<b>0.017</b>	<b>0.012</b>	<b>0.007</b>	<b>0.006</b>	<b>0.049</b>	<b>0.033</b>	<b>0.032</b>	<b>0.022</b>	<b>0.039</b>	NA
<b>Mcap_Ln</b>	F-test	29.060	26.170	33.460	31.240	29.630	30.200	34.600	32.230	34.550	33.780	32.130	32.120	36.050	18.940
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>
<b>1.1.1</b>	F-test	0.360	1.706	5.309	1.801	4.211	1.740	0.496	0.000	2.339	2.199	2.896	2.141	1.900	1.283
	Prob>F	0.574	0.239	0.061	0.228	0.086	0.235	0.507	0.984	0.170	0.189	0.140	0.203	0.227	0.321
<b>1.1.2</b>	F-test	0.142	0.001	4.842	0.387	3.453	1.798	0.516	0.023	2.301	1.993	2.693	1.768	1.727	1.397
	Prob>F	0.722	0.974	0.079	0.561	0.112	0.229	0.499	0.885	0.173	0.208	0.152	0.241	0.246	0.303
<b>1.2.0</b>	F-test	2.628	1.517	0.011	0.414	7.403	6.801	2.197	6.643	3.798	5.655	2.468	1.101	0.574	0.023
	Prob>F	0.180	0.285	0.918	0.548	<b>0.035</b>	<b>0.035</b>	0.182	<b>0.042</b>	0.099	0.063	0.167	0.342	0.483	0.887
<b>1.2.0.1</b>	F-test	3.538	4.628	4.353	4.228	3.966	6.670	3.133	3.166	3.138	4.415	4.409	3.846	1.662	1.356
	Prob>F	0.075	<b>0.044</b>	<b>0.050</b>	0.053	0.060	<b>0.018</b>	0.092	0.091	0.093	0.052	0.052	0.069	0.217	0.267
<b>1.2.1</b>	F-test	3.909	5.898	8.522	8.616	7.007	7.207	3.980	5.514	5.310	5.497	5.356	5.058	3.174	NA
	Prob>F	0.065	<b>0.027</b>	<b>0.010</b>	<b>0.009</b>	<b>0.016</b>	<b>0.014</b>	0.060	<b>0.030</b>	<b>0.033</b>	<b>0.032</b>	<b>0.034</b>	<b>0.040</b>	0.097	NA
<b>1.2.2</b>	F-test	3.559	5.595	7.595	7.280	6.451	6.532	4.072	4.737	4.689	5.054	5.074	4.566	2.729	NA
	Prob>F	0.076	<b>0.030</b>	<b>0.014</b>	<b>0.015</b>	<b>0.020</b>	<b>0.019</b>	0.057	<b>0.042</b>	<b>0.044</b>	<b>0.039</b>	<b>0.039</b>	<b>0.050</b>	0.121	NA
<b>1.4.0</b>	F-test	1.134	0.007	NA	NA	1.312	1.000	3.529	0.882	3.062	2.333	NA	NA	1.000	1.185
	Prob>F	0.304	0.935	NA	NA	0.271	0.334	0.080	0.362	0.102	0.149	NA	NA	0.334	0.300
<b>2.3.0</b>	F-test	1.642	0.980	0.133	0.133	0.133	2.043	0.562	0.562	2.647	3.529	3.529	3.062	3.062	3.086
	Prob>F	0.218	0.337	0.720	0.720	0.720	0.171	0.464	0.464	0.125	0.080	0.080	0.102	0.102	0.104
<b>2.4.1</b>	F-test	4.281	3.966	3.473	3.233	3.846	2.783	2.648	3.129	3.614	3.108	2.997	2.787	2.865	NA
	Prob>F	0.054	0.063	0.080	0.090	0.064	0.111	0.119	0.093	0.073	0.097	0.103	0.116	0.113	NA
<b>2.4.2</b>	F-test	1.851	0.060	1.627	1.059	1.562	0.222	0.050	0.013	1.403	0.261	0.445	0.001	0.248	NA
	Prob>F	0.191	0.811	0.222	0.319	0.226	0.643	0.825	0.912	0.255	0.617	0.514	0.975	0.627	NA
<b>2.4.3</b>	F-test	2.696	0.102	0.597	3.812	2.847	1.956	2.565	1.479	1.109	3.774	3.683	3.599	0.936	NA
	Prob>F	0.123	0.754	0.453	0.071	0.112	0.181	0.128	0.242	0.310	0.072	0.077	0.082	0.352	NA
<b>2.4.5</b>	F-test	0.760	0.344	0.182	1.637	0.001	0.004	2.010	0.540	0.296	1.371	0.023	0.280	1.352	NA
	Prob>F	0.398	0.567	0.677	0.223	0.980	0.949	0.173	0.474	0.599	0.261	0.883	0.607	0.264	NA
<b>2.4.6</b>	F-test	1.329	2.313	4.177	3.347	1.864	4.959	2.225	4.040	7.118	0.311	0.189	0.520	0.043	NA
	Prob>F	0.270	0.152	0.062	0.090	0.197	<b>0.044</b>	0.160	0.070	<b>0.026</b>	0.588	0.672	0.494	0.840	NA
<b>2.4.7</b>	F-test	0.031	2.518	0.902	1.874	0.169	0.357	0.256	1.815	1.796	0.435	0.111	0.552	0.344	NA
	Prob>F	0.862	0.131	0.356	0.189	0.686	0.557	0.619	0.194	0.197	0.519	0.744	0.469	0.567	NA
<b>2.5.0</b>	F-test	3.977	10.400	9.442	4.281	8.982	8.919	2.677	8.661	6.321	12.750	16.480	18.630	4.017	NA
	Prob>F	0.066	<b>0.006</b>	<b>0.008</b>	0.058	<b>0.010</b>	<b>0.010</b>	0.126	<b>0.011</b>	<b>0.026</b>	<b>0.004</b>	<b>0.002</b>	<b>0.001</b>	0.068	NA
<b>2.5.1</b>	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>2.5.2</b>	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>2.5.3</b>	F-test	0.033	0.436	1.407	1.643	2.019	1.233	0.074	0.467	1.583	2.533	0.663	0.848	0.460	NA
	Prob>F	0.859	0.520	0.255	0.221	0.177	0.285	0.790	0.505	0.230	0.138	0.431	0.375	0.510	NA
<b>2.5.4</b>	F-test	NA	NA	0.583	NA	0.583	0.583	0.650	0.766	0.411	0.735	0.735	0.846	1.405	NA
	Prob>F	NA	NA	0.458	NA	0.458	0.458	0.435	0.396	0.533	0.408	0.408	0.377	0.259	NA
<b>2.5.5</b>	F-test	2.037	0.011	0.712	0.810	4.686	3.548	0.966	6.474	8.483	7.177	3.483	1.631	0.542	NA
	Prob>F	0.187	0.918	0.423	0.389	0.051	0.084	0.347	<b>0.025</b>	<b>0.012</b>	<b>0.025</b>	0.095	0.230	0.476	NA
<b>2.6.0</b>	F-test	NA	NA	NA	NA	4.513	9.049	4.677	0.202	11.470	2.511	5.508	5.226	1.356	NA
	Prob>F	NA	NA	NA	NA	0.101	<b>0.020</b>	0.063	0.664	<b>0.012</b>	0.157	0.101	0.106	0.309	NA
<b>2.6.1</b>	F-test	NA	NA	NA	1.344	0.489	1.493	0.789	0.359	0.337	0.333	1.854	1.285	1.194	NA
	Prob>F	NA	NA	NA	0.366	0.507	0.261	0.395	0.561	0.576	0.578	0.267	0.339	0.336	NA
<b>2.6.2</b>	F-test	NA	NA	0.600	0.625	0.113	2.100	3.265	3.903	2.099	0.823	2.289	2.562	3.939	NA
	Prob>F	NA	NA	0.451	0.442	0.742	0.169	0.094	0.068	0.171	0.382	0.156	0.135	0.071	NA
<b>3.1.0</b>	F-test	12.390	12.490	8.764	13.250	9.163	10.780	9.943	8.781	8.355	4.183	7.755	11.850	6.124	5.568
	Prob>F	<b>0.002</b>	<b>0.002</b>	<b>0.008</b>	<b>0.002</b>	<b>0.007</b>	<b>0.004</b>	<b>0.005</b>	<b>0.008</b>	<b>0.010</b>	0.058	<b>0.013</b>	<b>0.004</b>	<b>0.026</b>	<b>0.040</b>
<b>3.2.0</b>	F-test	0.066	0.478	1.043	0.602	2.315	0.007	0.972	1.277	0.247	2.164	0.961	1.115	0.451	0.451
	Prob>F	0.800	0.497	0.319	0.447	0.145	0.933	0.336	0.272	0.625	0.161	0.342	0.308	0.512	0.512



**ANOVA Results: Within-Group (Germany, Industrial Companies)**

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>TotalAssets</b>	F-test	15.770	16.250	17.040	18.150	18.780	18.670	19.160	22.670	22.270	22.550	24.820	22.010	19.250	6.988
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>ShareholdersFunds</b>	F-test	15.920	15.490	20.840	21.150	20.510	20.950	23.050	26.250	29.790	28.670	29.250	29.250	22.770	7.276
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.010</b>
<b>NetIncome</b>	F-test	12.570	5.922	0.000	7.033	20.070	19.350	32.890	29.090	12.410	2.382	24.160	9.793	6.777	5.062
	Prob>F	<b>0.001</b>	<b>0.017</b>	0.993	<b>0.009</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	0.126	<b>0.000</b>	<b>0.002</b>	<b>0.011</b>	<b>0.030</b>
<b>ROE</b>	F-test	3.605	0.079	0.209	0.224	0.247	0.763	0.451	0.091	0.037	0.409	9.103	4.383	2.723	2.005
	Prob>F	0.061	0.779	0.649	0.637	0.620	0.385	0.503	0.764	0.848	0.524	<b>0.003</b>	<b>0.039</b>	0.103	0.164
<b>ROA</b>	F-test	0.796	0.018	0.005	0.635	0.897	0.276	0.007	2.666	0.464	0.000	1.355	0.463	4.566	5.233
	Prob>F	0.375	0.892	0.944	0.427	0.346	0.600	0.936	0.106	0.497	0.993	0.248	0.498	<b>0.036</b>	<b>0.027</b>
<b>OperatingRevenue</b>	F-test	18.270	20.390	21.050	23.140	22.530	23.300	23.890	28.020	29.910	27.120	26.010	22.520	20.670	7.362
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.009</b>
<b>Mcap_Ln</b>	F-test	250.300	240.000	251.900	234.200	218.400	231.500	262.100	232.500	198.900	181.500	185.600	199.000	181.800	188.100
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>1.1.1</b>	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tier 1 Capital Ratio	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.1.2</b>	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Capital Ratio	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.2.0</b>	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tier 1 Leverage Ratio	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.2.0.1</b>	F-test	1.149	0.117	1.754	2.883	5.879	2.402	1.311	7.921	2.664	0.908	2.115	3.160	1.218	1.724
	Shareholder Equity Ratio	0.286	0.733	0.188	0.093	<b>0.017</b>	0.124	0.255	<b>0.006</b>	0.106	0.343	0.149	0.079	0.273	0.193
<b>1.2.1</b>	F-test	0.058	0.036	0.347	2.597	2.354	0.387	1.059	5.729	1.213	0.805	1.924	3.893	3.256	2.700
	Financial Debt-Equity Ratio	0.810	0.851	0.557	0.110	0.128	0.535	0.306	<b>0.019</b>	0.274	0.372	0.169	0.052	0.075	0.107
<b>1.2.2</b>	F-test	1.707	0.366	2.297	3.406	6.085	2.498	1.566	9.017	2.452	0.933	2.426	3.451	1.626	0.557
	Balance Sheet Leverage	0.194	0.547	0.133	0.068	<b>0.015</b>	0.117	0.214	<b>0.003</b>	0.121	0.337	0.123	0.067	0.206	0.460
<b>1.4.0</b>	F-test	0.320	0.561	0.005	0.895	1.863	0.142	0.497	2.535	11.860	0.591	0.766	4.256	0.002	NA
	Auditor Change	0.573	0.456	0.943	0.347	0.176	0.707	0.483	0.115	<b>0.001</b>	0.444	0.384	<b>0.042</b>	0.963	NA
<b>2.3.0</b>	F-test	2.299	1.500	0.545	0.001	0.632	0.082	0.097	0.097	0.136	0.366	0.732	0.040	0.021	0.000
	Shareholder Rights (1S1V)	0.134	0.224	0.463	0.975	0.429	0.776	0.756	0.756	0.714	0.547	0.395	0.842	0.886	0.984
<b>2.4.1</b>	F-test	17.760	16.980	21.450	19.290	23.080	25.120	28.480	29.870	29.210	28.090	27.880	25.540	23.430	8.845
	Net Value Added	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.005</b>
<b>2.4.2</b>	F-test	0.000	0.742	0.002	1.668	0.944	2.381	0.811	0.440	1.284	0.097	0.733	0.748	0.008	1.447
	NVA to Shareholders	0.985	0.391	0.962	0.200	0.334	0.126	0.370	0.509	0.260	0.756	0.394	0.390	0.929	0.236
<b>2.4.3</b>	F-test	18.730	10.640	2.462	7.359	5.369	6.939	13.840	5.987	6.275	0.602	5.362	3.255	5.491	1.418
	NVA to Employees	<b>0.000</b>	<b>0.002</b>	0.120	<b>0.008</b>	<b>0.023</b>	<b>0.010</b>	<b>0.000</b>	<b>0.016</b>	<b>0.014</b>	0.440	<b>0.023</b>	0.075	<b>0.022</b>	0.241
<b>2.4.5</b>	F-test	1.924	1.228	5.243	0.199	0.997	1.848	0.501	0.017	3.006	0.037	4.944	6.312	0.396	0.017
	NVA to the State	0.169	0.271	<b>0.024</b>	0.657	0.321	0.177	0.481	0.898	0.087	0.848	<b>0.029</b>	<b>0.014</b>	0.531	0.898
<b>2.4.6</b>	F-test	3.993	0.688	2.508	0.513	1.771	0.580	2.815	9.493	2.016	3.584	2.198	2.837	1.019	1.225
	NVA to Creditors	<b>0.049</b>	0.409	0.117	0.476	0.186	0.448	0.097	<b>0.003</b>	0.159	0.062	0.142	0.096	0.316	0.274
<b>2.4.7</b>	F-test	9.124	11.680	0.024	7.380	1.413	2.549	12.400	6.103	6.468	1.672	1.338	0.251	0.955	0.358
	NVA to the Company	<b>0.003</b>	<b>0.001</b>	0.876	<b>0.008</b>	0.237	0.114	<b>0.001</b>	<b>0.015</b>	<b>0.013</b>	0.199	0.250	0.617	0.331	0.552
<b>2.5.0</b>	F-test	5.491	10.270	15.060	14.750	18.240	37.660	45.440	44.070	47.060	38.640	20.580	30.990	21.350	0.058
	Board Size	<b>0.022</b>	<b>0.002</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.811</b>
<b>2.5.1</b>	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	CEO on Board	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>2.5.2</b>	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	CEO-Chairman Combined Role	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>2.5.3</b>	F-test	1.689	3.550	1.389	0.007	0.033	0.020	0.488	1.681	3.116	1.107	0.007	0.061	0.865	0.134
	Non-Executive Directors	0.198	0.064	0.242	0.934	0.856	0.887	0.487	0.198	0.081	0.296	0.933	0.806	0.355	0.717
<b>2.5.4</b>	F-test	0.179	0.268	0.130	1.366	1.282	0.523	0.623	0.240	0.658	0.753	1.052	1.627	2.009	NA
	Independent NEDs	0.674	0.607	0.720	0.247	0.262	0.472	0.433	0.626	0.420	0.388	0.309	0.206	0.161	NA
<b>2.5.5</b>	F-test	1.937	2.389	0.350	0.155	0.235	0.144	0.172	0.873	0.042	0.094	1.199	0.021	0.006	0.381
	Female Directors	0.171	0.129	0.557	0.696	0.630	0.706	0.680	0.354	0.839	0.761	0.279	0.886	0.941	0.542
<b>2.6.0</b>	F-test	NA	0.653	7.785	13.420	15.900	27.700	72.270	58.910	40.370	57.060	21.800	19.030	18.280	2.751
	Total Executive Pay	NA	0.504	<b>0.012</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	0.108
<b>2.6.1</b>	F-test	0.196	0.063	0.040	4.327	7.089	7.326	12.120	15.780	14.760	16.360	8.455	7.887	31.210	2.753
	Single Highest Executive Pay	0.681	0.809	0.844	<b>0.046</b>	<b>0.011</b>	<b>0.009</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.006</b>	<b>0.007</b>	<b>0.000</b>	0.110
<b>2.6.2</b>	F-test	0.968	0.819	0.016	6.513	6.098	11.060	10.790	12.640	16.850	2.567	16.050	10.810	8.491	0.272
	CEO Pay Ratio	0.329	0.369	0.901	<b>0.013</b>	<b>0.016</b>	<b>0.001</b>	<b>0.002</b>	<b>0.001</b>	<b>0.000</b>	0.113	<b>0.000</b>	<b>0.002</b>	<b>0.005</b>	0.608
<b>3.1.0</b>	F-test	43.200	46.090	45.990	51.990	57.040	61.360	78.360	78.760	51.930	57.310	36.490	36.540	31.040	35.980
	Employment Level	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>3.2.0</b>	F-test	2.361	3.474	3.854	4.061	2.834	4.979	1.625	1.526	1.998	0.400	6.376	6.689	6.204	1.947
	Average Wage	0.128	0.065	0.052	<b>0.047</b>	0.096	<b>0.028</b>	0.205	0.220	0.161	0.529	<b>0.013</b>	<b>0.011</b>	<b>0.015</b>	0.167

**ANOVA Results: Within-Group (United Kingdom, Financial Companies)**

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>TotalAssets</b>	F-test	12.550	7.257	7.257	13.900	8.179	9.500	9.758	6.779	5.825	9.419	10.440	9.904	10.540	15.650
	Prob>F	<b>0.005</b>	<b>0.021</b>	<b>0.021</b>	<b>0.003</b>	<b>0.011</b>	<b>0.006</b>	<b>0.006</b>	<b>0.018</b>	<b>0.027</b>	<b>0.007</b>	<b>0.005</b>	<b>0.006</b>	<b>0.005</b>	<b>0.007</b>
<b>ShareholdersFunds</b>	F-test	9.223	7.070	6.578	10.030	4.963	6.689	8.680	5.722	5.421	6.381	7.839	7.686	7.161	6.841
	Prob>F	<b>0.011</b>	<b>0.022</b>	<b>0.026</b>	<b>0.008</b>	<b>0.040</b>	<b>0.018</b>	<b>0.008</b>	<b>0.028</b>	<b>0.032</b>	<b>0.022</b>	<b>0.012</b>	<b>0.013</b>	<b>0.016</b>	<b>0.040</b>
<b>NetIncome</b>	F-test	9.205	7.312	7.135	12.460	5.032	7.723	12.450	4.360	0.530	2.183	3.738	3.248	0.389	0.049
	Prob>F	<b>0.011</b>	<b>0.021</b>	<b>0.022</b>	<b>0.004</b>	<b>0.039</b>	<b>0.012</b>	<b>0.002</b>	0.051	0.476	0.158	0.070	0.089	0.541	0.832
<b>ROE</b>	F-test	5.049	9.133	5.227	0.912	0.057	2.457	0.070	0.117	0.269	0.081	1.210	0.285	0.262	2.534
	Prob>F	<b>0.046</b>	<b>0.012</b>	<b>0.043</b>	0.358	0.815	0.133	0.795	0.736	0.611	0.779	0.287	0.601	0.615	0.163
<b>ROA</b>	F-test	5.051	0.238	0.749	1.436	12.100	2.927	5.954	2.862	0.719	1.355	5.542	0.293	1.852	6.695
	Prob>F	<b>0.046</b>	0.635	0.405	0.254	<b>0.003</b>	0.103	<b>0.025</b>	0.108	0.407	0.261	<b>0.031</b>	0.595	0.191	<b>0.041</b>
<b>OperatingRevenue</b>	F-test	11.390	7.136	7.420	13.480	10.800	11.780	12.040	12.060	8.480	14.050	15.960	15.650	15.660	10.330
	Prob>F	<b>0.006</b>	<b>0.022</b>	<b>0.020</b>	<b>0.003</b>	<b>0.004</b>	<b>0.003</b>	<b>0.003</b>	<b>0.003</b>	<b>0.009</b>	<b>0.002</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.018</b>
<b>Mcap_Ln</b>	F-test	47.790	48.840	35.820	29.890	30.540	32.960	36.890	42.120	30.670	28.230	29.070	33.070	38.270	41.700
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>1.1.1</b> Tier 1 Capital Ratio	F-test	NA	NA	NA	NA	NA	NA	NA	431.100	290.700	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	NA	NA	NA	<b>0.000</b>	<b>0.000</b>	NA	NA	NA	NA	NA
<b>1.1.2</b> Total Capital Ratio	F-test	NA	NA	NA	NA	NA	NA	NA	218.900	144.100	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	NA	NA	NA	<b>0.001</b>	<b>0.001</b>	NA	NA	NA	NA	NA
<b>1.2.0</b> Tier 1 Leverage Ratio	F-test	NA	NA	NA	NA	NA	NA	NA	132.300	160.700	216.300	88.900	104.400	1.877	244.800
	Prob>F	NA	NA	NA	NA	NA	NA	NA	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.003</b>	<b>0.002</b>	0.243	<b>0.001</b>
<b>1.2.0.1</b> Shareholder Equity Ratio	F-test	6.412	1.755	4.730	8.657	9.307	9.483	8.399	6.419	3.793	14.300	6.808	6.382	5.925	20.020
	Prob>F	<b>0.020</b>	0.201	<b>0.043</b>	<b>0.008</b>	<b>0.007</b>	<b>0.006</b>	<b>0.009</b>	<b>0.021</b>	0.067	<b>0.001</b>	<b>0.018</b>	<b>0.022</b>	<b>0.026</b>	<b>0.000</b>
<b>1.2.1</b> Financial Debt-Equity Ratio	F-test	13.910	5.210	6.476	9.921	6.981	13.470	14.480	13.240	2.611	20.710	14.590	13.790	14.470	4.378
	Prob>F	<b>0.003</b>	<b>0.043</b>	<b>0.027</b>	<b>0.008</b>	<b>0.017</b>	<b>0.002</b>	<b>0.001</b>	<b>0.002</b>	0.124	<b>0.000</b>	<b>0.001</b>	<b>0.002</b>	<b>0.001</b>	0.081
<b>1.2.2</b> Balance Sheet Leverage	F-test	12.040	4.834	5.895	8.373	6.257	8.198	7.881	6.505	4.704	16.130	6.618	6.278	7.207	4.316
	Prob>F	<b>0.005</b>	0.050	<b>0.034</b>	<b>0.014</b>	<b>0.023</b>	<b>0.010</b>	<b>0.011</b>	<b>0.020</b>	<b>0.044</b>	<b>0.001</b>	<b>0.020</b>	<b>0.023</b>	<b>0.016</b>	0.083
<b>1.4.0</b> Auditor Change	F-test	1.486	NA	NA	NA	NA	NA	0.583	0.135	NA	0.061	1.486	0.650	1.560	NA
	Prob>F	0.245	NA	NA	NA	NA	NA	0.458	0.719	NA	0.810	0.245	0.435	0.234	NA
<b>2.3.0</b> Shareholder Rights (1S1V)	F-test	3.049	0.380	4.235	4.235	4.886	4.886	4.886	4.235	0.900	17.890	3.060	3.060	3.060	11.180
	Prob>F	0.103	0.547	0.054	0.054	<b>0.040</b>	<b>0.040</b>	<b>0.040</b>	0.054	0.355	<b>0.001</b>	0.098	0.098	0.098	<b>0.004</b>
<b>2.4.1</b> Net Value Added	F-test	10.140	6.966	7.506	12.900	4.195	5.378	5.270	4.403	3.376	5.672	5.963	5.717	5.476	6.095
	Prob>F	<b>0.009</b>	<b>0.023</b>	<b>0.019</b>	<b>0.004</b>	0.056	<b>0.032</b>	<b>0.034</b>	0.050	0.083	<b>0.029</b>	<b>0.026</b>	<b>0.029</b>	<b>0.032</b>	<b>0.049</b>
<b>2.4.2</b> NVA to Shareholders	F-test	10.980	3.330	3.371	5.286	1.864	1.382	0.069	0.956	4.955	3.635	0.882	1.438	0.166	0.673
	Prob>F	<b>0.007</b>	0.098	0.096	<b>0.040</b>	0.190	0.255	0.796	0.345	0.068	0.076	0.361	0.252	0.690	0.443
<b>2.4.3</b> NVA to Employees	F-test	0.647	0.000	0.050	0.070	3.899	0.769	0.936	1.139	0.538	0.417	1.931	0.641	0.156	9.244
	Prob>F	0.438	0.990	0.828	0.796	0.065	0.392	0.346	0.305	0.496	0.531	0.184	0.439	0.699	<b>0.023</b>
<b>2.4.5</b> NVA to the State	F-test	1.006	0.067	0.061	0.538	1.348	0.876	0.404	0.048	2.913	0.073	0.361	2.849	0.228	0.416
	Prob>F	0.338	0.802	0.810	0.477	0.263	0.362	0.537	0.830	0.114	0.792	0.558	0.122	0.642	0.547
<b>2.4.6</b> NVA to Creditors	F-test	1.044	1.619	2.231	0.010	0.276	10.210	17.410	8.025	3.578	6.666	1.341	0.198	0.444	0.816
	Prob>F	0.329	0.235	0.169	0.921	0.610	<b>0.007</b>	<b>0.001</b>	<b>0.022</b>	0.117	<b>0.030</b>	0.269	0.666	0.519	0.417
<b>2.4.7</b> NVA to the Company	F-test	0.014	0.122	0.416	0.020	7.108	5.357	5.264	0.360	6.267	0.134	1.549	0.402	0.005	1.338
	Prob>F	0.910	0.733	0.532	0.891	<b>0.016</b>	<b>0.033</b>	<b>0.034</b>	0.556	<b>0.022</b>	0.719	0.230	0.534	0.947	0.291
<b>2.5.0</b> Board Size	F-test	8.556	3.950	4.331	4.579	4.890	7.736	8.212	6.366	5.584	7.112	11.080	7.616	8.589	8.068
	Prob>F	<b>0.009</b>	0.062	0.052	<b>0.046</b>	<b>0.040</b>	<b>0.012</b>	<b>0.010</b>	<b>0.021</b>	<b>0.030</b>	<b>0.016</b>	<b>0.004</b>	<b>0.013</b>	<b>0.009</b>	<b>0.014</b>
<b>2.5.1</b> CEO on Board	F-test	0.000	0.360	0.360	0.000	0.472	1.106	1.106	1.000	0.000	0.490	1.512	1.512	1.512	NA
	Prob>F	1.000	0.556	0.556	1.000	0.500	0.306	0.306	0.331	1.000	0.493	0.236	0.236	0.236	NA
<b>2.5.2</b> CEO-Chairman Combined Role	F-test	2.250	1.000	1.000	1.000	0.905	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Prob>F	0.151	0.331	0.331	0.331	0.353	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>2.5.3</b> Non-Executive Directors	F-test	4.166	0.125	0.629	0.416	0.020	0.523	0.270	2.264	0.617	0.803	2.699	1.706	0.779	1.656
	Prob>F	0.056	0.728	0.438	0.527	0.890	0.478	0.609	0.150	0.442	0.383	0.119	0.209	0.390	0.221
<b>2.5.4</b> Independent NEDs	F-test	2.290	3.697	7.486	3.060	2.159	3.309	1.878	5.440	6.634	1.847	8.599	7.539	16.070	2.059
	Prob>F	0.148	0.071	<b>0.014</b>	0.097	0.158	0.085	0.187	<b>0.032</b>	<b>0.019</b>	0.192	<b>0.009</b>	<b>0.014</b>	<b>0.001</b>	0.177
<b>2.5.5</b> Female Directors	F-test	5.282	0.373	0.972	5.974	2.929	0.753	0.154	0.060	0.171	0.558	0.011	0.141	0.056	0.243
	Prob>F	<b>0.035</b>	0.553	0.342	<b>0.027</b>	0.109	0.399	0.700	0.811	0.685	0.468	0.920	0.714	0.817	0.631
<b>2.6.0</b> Total Executive Pay	F-test	13.960	28.110	3.836	5.146	6.033	7.118	9.533	2.661	5.036	37.370	8.905	8.951	10.320	17.870
	Prob>F	<b>0.002</b>	<b>0.000</b>	0.066	<b>0.036</b>	<b>0.024</b>	<b>0.015</b>	<b>0.006</b>	0.120	<b>0.038</b>	<b>0.000</b>	<b>0.008</b>	<b>0.008</b>	<b>0.005</b>	<b>0.001</b>
<b>2.6.1</b> Single Highest Executive Pay	F-test	8.518	14.700	1.291	5.458	2.504	1.977	5.640	3.870	9.439	10.910	8.047	5.708	1.782	1.872
	Prob>F	<b>0.009</b>	<b>0.001</b>	0.271	<b>0.031</b>	0.131	0.177	<b>0.028</b>	0.065	<b>0.007</b>	<b>0.004</b>	<b>0.011</b>	<b>0.029</b>	0.199	0.201
<b>2.6.2</b> CEO Pay Ratio	F-test	15.060	4.651	0.780	0.739	0.229	11.780	15.020	11.330	10.820	6.879	9.789	10.040	4.211	3.024
	Prob>F	<b>0.001</b>	<b>0.045</b>	0.389	0.401	0.638	<b>0.003</b>	<b>0.001</b>	<b>0.003</b>	<b>0.004</b>	<b>0.018</b>	<b>0.006</b>	<b>0.006</b>	0.056	0.116
<b>3.1.0</b> Employment Level	F-test	31.290	13.750	21.140	34.610	19.980	21.300	22.890	25.000	12.760	52.110	22.600	31.210	30.430	44.090
	Prob>F	<b>0.000</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.002</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>3.2.0</b> Average Wage	F-test	1.063	0.102	0.051	0.110	0.054	6.746	6.777	9.628	1.628	5.165	3.288	6.261	5.296	5.411
	Prob>F	0.315	0.753	0.825	0.743	0.819	<b>0.018</b>								

**ANOVA Results: Within-Group (United Kingdom, Industrial Companies)**

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>TotalAssets</b>	F-test	7.975	7.968	10.080	12.360	14.050	12.460	15.230	15.380	14.000	16.170	14.590	15.950	14.670	8.700
	Prob>F	<b>0.007</b>	<b>0.006</b>	<b>0.002</b>	<b>0.001</b>	<b>0.000</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>ShareholdersFunds</b>	F-test	4.905	4.973	6.264	8.663	8.612	10.070	12.370	11.160	8.522	10.490	11.790	11.640	9.984	5.118
	Prob>F	<b>0.031</b>	<b>0.029</b>	<b>0.014</b>	<b>0.004</b>	<b>0.004</b>	<b>0.002</b>	<b>0.001</b>	<b>0.001</b>	<b>0.005</b>	<b>0.002</b>	<b>0.001</b>	<b>0.001</b>	<b>0.002</b>	<b>0.002</b>
<b>NetIncome</b>	F-test	4.885	4.837	6.932	10.510	11.280	10.050	13.120	11.540	8.242	18.210	13.130	12.260	10.140	10.440
	Prob>F	<b>0.031</b>	<b>0.031</b>	<b>0.010</b>	<b>0.002</b>	<b>0.001</b>	<b>0.002</b>	<b>0.000</b>	<b>0.001</b>	<b>0.005</b>	<b>0.000</b>	<b>0.001</b>	<b>0.001</b>	<b>0.002</b>	<b>0.002</b>
<b>ROE</b>	F-test	0.018	0.578	3.522	1.812	3.138	3.322	0.849	0.011	2.638	0.003	0.382	0.398	1.516	3.960
	Prob>F	0.894	0.450	0.065	0.182	0.080	0.072	0.359	0.917	0.109	0.956	0.538	0.530	0.222	0.052
<b>ROA</b>	F-test	0.532	0.500	0.032	4.866	1.811	8.969	5.232	4.933	7.008	5.445	2.531	3.784	1.706	1.982
	Prob>F	0.469	0.482	0.858	<b>0.030</b>	0.182	<b>0.004</b>	<b>0.025</b>	<b>0.029</b>	<b>0.010</b>	<b>0.022</b>	0.116	0.056	0.195	0.165
<b>OperatingRevenue</b>	F-test	5.442	6.092	8.182	9.483	8.633	6.639	8.657	7.675	5.674	10.120	8.578	7.518	7.647	4.183
	Prob>F	<b>0.023</b>	<b>0.016</b>	<b>0.005</b>	<b>0.003</b>	<b>0.004</b>	<b>0.012</b>	<b>0.004</b>	<b>0.007</b>	<b>0.020</b>	<b>0.002</b>	<b>0.004</b>	<b>0.008</b>	<b>0.007</b>	<b>0.046</b>
<b>Mcap_Ln</b>	F-test	130.800	124.500	146.500	126.900	136.800	142.500	156.100	173.400	155.200	154.600	137.800	157.400	156.500	152.900
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>1.1.1</b>	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tier 1 Capital Ratio	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.1.2</b>	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Capital Ratio	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.2.0</b>	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tier 1 Leverage Ratio	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.2.0.1</b>	F-test	1.026	1.424	0.164	0.028	0.140	2.517	0.485	0.033	0.416	0.657	2.428	1.562	0.163	0.000
	Shareholder Equity Ratio	0.314	0.236	0.687	0.867	0.709	0.116	0.488	0.856	0.521	0.420	0.123	0.215	0.687	0.995
<b>1.2.1</b>	F-test	0.142	0.169	2.260	0.819	0.891	1.168	0.171	0.114	0.632	0.051	0.169	0.018	0.217	1.313
	Financial Debt-Equity Ratio	0.708	0.683	0.137	0.368	0.348	0.283	0.680	0.736	0.429	0.822	0.683	0.895	0.643	0.257
<b>1.2.2</b>	F-test	1.727	0.381	2.477	0.358	0.020	2.450	0.350	0.000	0.125	1.036	1.359	0.622	0.052	1.275
	Balance Sheet Leverage	0.194	0.539	0.120	0.551	0.888	0.121	0.556	0.998	0.724	0.312	0.247	0.433	0.820	0.264
<b>1.4.0</b>	F-test	0.973	NA	2.114	0.241	1.897	0.924	0.974	0.988	1.097	0.183	0.001	1.236	2.056	1.027
	Auditor Change	0.327	NA	0.150	0.625	0.173	0.339	0.327	0.323	0.298	0.670	0.970	0.270	0.156	0.314
<b>2.3.0</b>	F-test	0.843	0.554	1.068	0.000	0.042	0.000	0.000	0.000	0.103	0.133	0.076	0.002	0.002	0.188
	Shareholder Rights (1S1V)	0.363	0.460	0.305	1.000	0.839	1.000	1.000	1.000	0.750	0.717	0.783	0.965	0.965	0.666
<b>2.4.1</b>	F-test	9.396	9.595	14.960	15.540	16.050	13.490	17.260	15.610	12.770	23.130	22.830	16.970	17.830	13.640
	Net Value Added	<b>0.003</b>	<b>0.003</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>
<b>2.4.2</b>	F-test	0.049	1.337	3.295	1.801	7.411	5.084	4.413	0.105	13.660	12.290	17.700	14.980	12.740	8.707
	NVA to Shareholders	0.825	0.252	0.074	0.183	<b>0.008</b>	<b>0.027</b>	<b>0.039</b>	0.747	<b>0.000</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	<b>0.005</b>
<b>2.4.3</b>	F-test	0.045	1.007	0.509	1.676	5.361	18.690	13.060	10.600	29.230	23.640	17.320	27.770	6.339	9.527
	NVA to Employees	0.834	0.319	0.478	0.199	<b>0.023</b>	<b>0.000</b>	<b>0.001</b>	<b>0.002</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.014</b>	<b>0.003</b>
<b>2.4.5</b>	F-test	1.342	1.372	0.852	0.255	0.599	9.344	9.881	6.382	9.538	11.840	6.770	11.320	8.378	1.692
	NVA to the State	0.252	0.246	0.359	0.615	0.441	<b>0.003</b>	<b>0.002</b>	<b>0.014</b>	<b>0.003</b>	<b>0.001</b>	<b>0.011</b>	<b>0.001</b>	<b>0.005</b>	0.200
<b>2.4.6</b>	F-test	0.808	0.684	0.006	0.969	0.264	0.167	0.039	0.764	3.637	1.458	0.328	0.830	0.392	0.900
	NVA to Creditors	0.373	0.411	0.939	0.328	0.609	0.684	0.845	0.385	0.060	0.231	0.568	0.365	0.533	0.347
<b>2.4.7</b>	F-test	0.210	1.225	0.574	0.826	1.599	2.379	1.584	3.464	0.214	1.532	2.797	3.064	0.008	0.164
	NVA to the Company	0.648	0.272	0.451	0.366	0.209	0.127	0.212	0.066	0.645	0.220	0.099	0.084	0.931	0.687
<b>2.5.0</b>	F-test	21.270	10.450	13.290	22.540	29.370	33.120	50.020	45.690	43.250	31.540	32.020	34.810	25.080	22.440
	Board Size	<b>0.000</b>	<b>0.002</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.5.1</b>	F-test	0.319	0.331	0.710	0.332	0.355	0.054	0.064	0.153	0.383	0.133	0.446	0.076	0.153	NA
	CEO on Board	0.574	0.566	0.402	0.566	0.553	0.816	0.800	0.697	0.538	0.717	0.506	0.784	0.697	NA
<b>2.5.2</b>	F-test	0.413	1.023	4.293	2.047	2.095	0.001	0.362	2.153	2.051	1.092	3.249	2.110	1.097	0.001
	CEO-Chairman Combined Role	0.522	0.315	<b>0.041</b>	0.156	0.151	0.982	0.549	0.146	0.156	0.299	0.075	0.150	0.298	0.982
<b>2.5.3</b>	F-test	2.787	1.624	1.051	0.544	2.827	0.330	0.373	3.684	1.869	2.692	4.369	7.683	1.080	0.035
	Non-Executive Directors	0.099	0.206	0.308	0.463	0.096	0.567	0.543	0.058	0.175	0.105	<b>0.040</b>	<b>0.007</b>	0.302	0.852
<b>2.5.4</b>	F-test	0.056	0.056	0.000	0.002	2.436	0.634	2.394	8.496	1.206	2.560	2.576	2.388	1.090	0.398
	Independent NEDs	0.814	0.813	0.991	0.963	0.122	0.428	0.125	<b>0.005</b>	0.275	0.114	0.113	0.127	0.300	0.531
<b>2.5.5</b>	F-test	0.719	1.262	5.282	2.151	5.872	1.518	1.041	7.847	5.598	8.484	7.661	13.740	11.640	16.550
	Female Directors	0.399	0.265	<b>0.024</b>	0.147	<b>0.018</b>	0.222	0.311	<b>0.007</b>	<b>0.021</b>	<b>0.005</b>	<b>0.007</b>	<b>0.000</b>	<b>0.001</b>	<b>0.000</b>
<b>2.6.0</b>	F-test	44.500	22.860	18.230	20.790	22.130	15.560	16.060	23.510	28.830	27.920	21.250	28.570	33.530	27.220
	Total Executive Pay	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.6.1</b>	F-test	44.490	26.420	18.040	17.920	22.880	18.660	11.630	26.650	44.170	32.760	30.660	39.290	12.420	16.990
	Single Highest Executive Pay	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	<b>0.000</b>
<b>2.6.2</b>	F-test	18.710	6.611	15.010	9.783	7.641	3.720	0.359	5.724	5.578	5.667	6.944	10.140	0.046	5.191
	CEO Pay Ratio	<b>0.000</b>	<b>0.012</b>	<b>0.000</b>	<b>0.002</b>	<b>0.007</b>	0.057	0.550	<b>0.019</b>	<b>0.021</b>	<b>0.020</b>	<b>0.010</b>	<b>0.002</b>	0.832	<b>0.027</b>
<b>3.1.0</b>	F-test	19.400	27.920	50.210	34.430	41.280	18.210	26.240	33.670	22.210	28.680	24.810	23.240	32.860	38.740
	Employment Level	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>3.2.0</b>	F-test	1.047	2.176	3.363	0.724	0.615	1.174	0.029	1.082	1.636	0.364	0.000	0.171	0.376	0.388
	Average Wage	0.309	0.144	0.070	0.397	0.435	0.282	0.865	0.301	0.205	0.548	0.992	0.680	0.542	0.535

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**ANOVA Results: Within-Group (United States, Financial Companies)**

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>TotalAssets</b>	F-test	10.640	10.900	10.920	10.100	11.180	15.620	14.430	13.860	5.021	9.204	10.650	9.819	12.740	13.040
	Prob>F	<b>0.005</b>	<b>0.004</b>	<b>0.004</b>	<b>0.005</b>	<b>0.003</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.037</b>	<b>0.007</b>	<b>0.004</b>	<b>0.005</b>	<b>0.002</b>
<b>ShareholdersFunds</b>	F-test	11.030	10.970	10.850	8.477	10.710	11.740	11.510	11.010	5.313	8.465	9.360	11.890	14.950	15.040
	Prob>F	<b>0.004</b>	<b>0.004</b>	<b>0.004</b>	<b>0.009</b>	<b>0.004</b>	<b>0.003</b>	<b>0.003</b>	<b>0.004</b>	<b>0.033</b>	<b>0.009</b>	<b>0.006</b>	<b>0.003</b>	<b>0.001</b>	<b>0.001</b>
<b>NetIncome</b>	F-test	10.610	5.458	7.028	9.658	11.560	11.920	17.270	15.210	<b>0.940</b>	6.201	5.264	11.350	8.127	17.930
	Prob>F	<b>0.005</b>	<b>0.032</b>	<b>0.016</b>	<b>0.006</b>	<b>0.003</b>	<b>0.003</b>	<b>0.001</b>	<b>0.001</b>	0.345	<b>0.022</b>	<b>0.033</b>	<b>0.003</b>	<b>0.010</b>	<b>0.000</b>
<b>ROE</b>	F-test	0.698	0.962	0.006	0.086	1.119	0.013	0.042	0.320	1.757	0.009	0.457	0.066	1.224	0.977
	Prob>F	0.416	0.340	0.938	0.773	0.303	0.910	0.840	0.578	0.201	0.927	0.507	0.800	0.282	0.335
<b>ROA</b>	F-test	1.321	1.783	1.080	0.537	0.024	0.002	0.011	0.011	1.628	0.343	0.657	0.333	0.168	0.684
	Prob>F	0.267	0.199	0.312	0.473	0.878	0.967	0.919	0.919	0.217	0.565	0.427	0.570	0.686	0.418
<b>OperatingRevenue</b>	F-test	7.911	7.561	4.956	6.132	11.160	18.550	23.870	27.250	3.878	12.160	14.630	19.300	19.370	19.440
	Prob>F	<b>0.013</b>	<b>0.014</b>	<b>0.039</b>	<b>0.023</b>	<b>0.003</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	0.064	<b>0.002</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>Mcap_Ln</b>	F-test	36.950	42.850	42.040	47.020	53.430	53.270	60.070	63.180	26.110	33.110	42.470	44.750	38.070	49.220
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>1.1.1</b> Tier 1 Capital Ratio	F-test	0.275	2.683	4.549	5.343	4.632	3.342	3.071	1.420	3.959	2.700	3.197	2.728	0.998	1.185
	Prob>F	0.614	0.140	0.066	<b>0.050</b>	0.064	0.101	0.114	0.264	0.072	0.126	0.097	0.123	0.338	0.298
<b>1.1.2</b> Total Capital Ratio	F-test	0.198	3.282	7.271	5.640	4.298	3.778	4.607	1.109	5.943	2.868	3.813	2.664	1.033	1.302
	Prob>F	0.668	0.108	<b>0.027</b>	<b>0.045</b>	0.072	0.084	0.060	0.320	<b>0.033</b>	0.116	0.073	0.127	0.330	0.276
<b>1.2.0</b> Tier 1 Leverage Ratio	F-test	0.205	0.373	0.556	0.624	1.481	2.543	3.797	2.025	9.715	2.609	2.998	1.746	1.566	1.526
	Prob>F	0.663	0.558	0.475	0.450	0.255	0.145	0.083	0.188	<b>0.010</b>	0.132	0.107	0.209	0.235	0.240
<b>1.2.0.1</b> Shareholder Equity Ratio	F-test	2.039	1.806	1.792	0.809	0.362	0.842	1.025	1.447	0.736	1.239	0.679	0.396	0.723	0.841
	Prob>F	0.169	0.194	0.196	0.379	0.554	0.370	0.323	0.243	0.401	0.280	0.420	0.536	0.405	0.370
<b>1.2.1</b> Financial Debt-Equity Ratio	F-test	2.245	1.970	0.460	0.345	0.431	1.034	0.811	0.658	1.591	0.008	0.002	0.003	0.260	0.287
	Prob>F	0.153	0.178	0.506	0.564	0.519	0.322	0.379	0.427	0.222	0.931	0.962	0.959	0.616	0.598
<b>1.2.2</b> Balance Sheet Leverage	F-test	1.072	1.088	0.505	0.274	0.123	0.044	0.007	0.013	0.345	0.256	0.164	0.248	0.317	0.345
	Prob>F	0.316	0.311	0.486	0.607	0.729	0.837	0.934	0.910	0.564	0.619	0.690	0.624	0.580	0.564
<b>1.4.0</b> Auditor Change	F-test	2.222	NA	NA	1.000	NA	NA	1.000	NA	NA	NA	NA	NA	NA	NA
	Prob>F	0.152	NA	NA	0.329	NA	NA	0.329	NA	NA	NA	NA	NA	NA	NA
<b>2.3.0</b> Shareholder Rights (1S1V)	F-test	NA	NA	0.000	1.526	0.238	0.238	0.000	0.000	2.222	0.000	0.000	0.000	0.000	0.005
	Prob>F	NA	NA	1.000	0.236	0.631	0.631	1.000	1.000	0.152	1.000	1.000	1.000	1.000	0.947
<b>2.4.1</b> Net Value Added	F-test	7.804	8.253	5.854	7.151	6.803	14.240	14.590	13.740	7.154	13.530	14.640	11.300	12.710	13.850
	Prob>F	<b>0.013</b>	<b>0.011</b>	<b>0.026</b>	<b>0.015</b>	<b>0.017</b>	<b>0.001</b>	<b>0.001</b>	<b>0.002</b>	<b>0.015</b>	<b>0.001</b>	<b>0.001</b>	<b>0.003</b>	<b>0.002</b>	<b>0.001</b>
<b>2.4.2</b> NVA to Shareholders	F-test	1.495	0.309	1.036	3.276	0.016	1.561	1.486	0.158	0.211	2.020	2.896	2.092	3.388	2.549
	Prob>F	0.239	0.586	0.324	0.086	0.901	0.227	0.238	0.696	0.652	0.171	0.104	0.164	0.081	0.127
<b>2.4.3</b> NVA to Employees	F-test	0.688	2.087	3.040	1.193	0.421	0.062	0.013	0.012	0.763	0.096	0.938	1.110	1.162	1.425
	Prob>F	0.426	0.176	0.107	0.295	0.528	0.808	0.910	0.914	0.398	0.762	0.349	0.310	0.301	0.254
<b>2.4.5</b> NVA to the State	F-test	2.184	3.954	3.353	0.392	0.031	0.672	1.992	1.633	0.569	0.701	2.760	0.870	0.664	2.897
	Prob>F	0.159	0.064	0.085	0.539	0.862	0.422	0.174	0.218	0.462	0.415	0.112	0.363	0.427	0.105
<b>2.4.6</b> NVA to Creditors	F-test	1.238	2.014	1.640	0.763	0.901	0.513	0.250	0.232	0.083	0.065	0.001	0.009	0.096	0.000
	Prob>F	0.292	0.184	0.227	0.400	0.361	0.487	0.626	0.639	0.779	0.802	0.981	0.924	0.762	0.986
<b>2.4.7</b> NVA to the Company	F-test	1.517	2.884	1.730	0.362	0.044	1.223	0.666	0.888	1.949	0.158	4.033	0.216	0.319	0.475
	Prob>F	0.236	0.108	0.205	0.554	0.836	0.283	0.425	0.358	0.179	0.695	0.058	0.647	0.579	0.499
<b>2.5.0</b> Board Size	F-test	0.075	1.206	1.305	0.165	0.075	0.244	0.000	0.286	0.738	0.083	0.029	0.278	0.000	0.000
	Prob>F	0.787	0.285	0.267	0.689	0.787	0.627	1.000	0.599	0.401	0.777	0.866	0.604	1.000	1.000
<b>2.5.1</b> CEO on Board	F-test	NA	NA	NA	NA	1.000	1.000	2.222	NA	NA	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	0.329	0.329	0.152	NA	NA	NA	NA	NA	NA	NA
<b>2.5.2</b> CEO-Chairman Combined Role	F-test	0.017	0.357	0.357	0.357	0.238	0.000	0.000	0.192	0.238	0.172	0.690	0.172	0.000	1.429
	Prob>F	0.897	0.557	0.557	0.557	0.631	1.000	1.000	0.666	0.631	0.682	0.416	0.682	1.000	0.260
<b>2.5.3</b> Non-Executive Directors	F-test	0.005	0.096	0.500	0.585	0.550	0.367	0.025	0.402	0.224	1.194	0.269	2.189	0.327	0.868
	Prob>F	0.947	0.760	0.488	0.453	0.467	0.551	0.876	0.533	0.641	0.287	0.610	0.155	0.574	0.374
<b>2.5.4</b> Independent NEDs	F-test	0.869	0.224	0.030	0.033	0.050	0.262	0.160	0.220	0.396	1.826	0.647	1.801	0.260	0.378
	Prob>F	0.363	0.641	0.865	0.858	0.826	0.615	0.693	0.644	0.536	0.192	0.431	0.195	0.616	0.552
<b>2.5.5</b> Female Directors	F-test	2.619	2.102	3.075	1.009	0.039	0.204	0.171	0.087	0.039	1.004	0.897	1.688	3.485	1.201
	Prob>F	0.128	0.164	0.100	0.330	0.846	0.657	0.684	0.772	0.846	0.328	0.355	0.209	0.077	0.299
<b>2.6.0</b> Total Executive Pay	F-test	0.922	0.889	5.021	5.381	20.380	5.562	24.920	6.312	3.245	1.832	6.441	11.910	11.960	6.178
	Prob>F	0.350	0.357	<b>0.037</b>	<b>0.031</b>	<b>0.000</b>	<b>0.029</b>	<b>0.000</b>	<b>0.021</b>	0.087	0.191	<b>0.020</b>	<b>0.003</b>	<b>0.003</b>	<b>0.032</b>
<b>2.6.1</b> Single Highest Executive Pay	F-test	0.590	0.803	3.619	4.232	7.163	1.561	7.167	1.572	1.251	0.544	5.485	6.301	1.658	0.872
	Prob>F	0.452	0.381	0.072	0.053	<b>0.015</b>	0.226	<b>0.015</b>	0.224	0.277	0.469	<b>0.030</b>	<b>0.021</b>	0.213	0.372
<b>2.6.2</b> CEO Pay Ratio	F-test	0.000	1.982	0.089	0.489	6.481	0.107	0.574	0.287	3.916	2.757	2.944	3.354	2.860	0.201
	Prob>F	0.994	0.183	0.770	0.496	<b>0.023</b>	0.749	0.461	0.601	0.068	0.119	0.108	0.088	0.113	0.666
<b>3.1.0</b> Employment Level	F-test	15.310	17.660	16.830	15.750	25.720	35.220	30.890	31.450	8.711	21.270	26.040	24.390	24.340	25.040
	Prob>F	<b>0.001</b>	<b>0.000</b>	<b>0.001</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.008</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>3.2.0</b> Average Wage	F-test	7.075	3.982	0.409	0.100	0.050	2.980	3.609	3.183	0.034	0.732	0.201	0.085	0.103	0.803
	Prob>F	<b>0.021</b>	0.067	0.533	0.757	0.827	0.106	0.078	0.096	0.857	0.407	0.661	0.775	0.753	0.387

**ANOVA Results: Within-Group (United States, Industrial Companies)**

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>TotalAssets</b>	F-test	15.610	17.200	16.530	14.710	14.900	10.670	13.100	12.280	12.200	16.590	21.130	26.380	25.640	24.720
	Prob>F	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000
<b>ShareholdersFunds</b>	F-test	43.300	25.950	44.690	41.380	43.370	38.170	37.150	33.620	29.680	33.370	33.950	36.240	30.890	28.410
	Prob>F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>NetIncome</b>	F-test	40.290	19.000	0.001	34.260	22.280	30.140	32.190	31.410	13.900	43.270	40.240	31.560	26.840	42.500
	Prob>F	0.000	0.000	0.977	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>ROE</b>	F-test	0.012	0.033	0.667	1.439	0.063	0.762	2.346	0.718	3.731	3.540	2.424	0.054	2.708	1.904
	Prob>F	0.912	0.856	0.416	0.233	0.803	0.385	0.129	0.399	0.056	0.063	0.123	0.817	0.103	0.170
<b>ROA</b>	F-test	14.960	3.457	1.099	4.010	1.226	4.402	3.519	2.347	2.320	5.425	1.228	0.006	0.665	4.053
	Prob>F	0.000	0.066	0.297	0.048	0.271	0.038	0.063	0.128	0.131	0.022	0.270	0.938	0.417	0.047
<b>OperatingRevenue</b>	F-test	21.090	24.190	24.610	21.170	21.650	13.600	16.950	16.470	14.430	20.150	21.170	20.000	21.150	20.900
	Prob>F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Mcap_Ln</b>	F-test	208.800	193.900	192.300	201.900	204.200	212.100	194.000	161.200	159.400	141.700	162.700	157.800	159.900	169.500
	Prob>F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>1.1.1</b> Tier 1 Capital Ratio	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.1.2</b> Total Capital Ratio	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.2.0</b> Tier 1 Leverage Ratio	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.2.0.1</b> Shareholder Equity Ratio	F-test	0.059	0.024	0.476	0.164	0.189	0.326	0.243	0.292	0.879	0.047	0.487	0.457	0.099	0.042
	Prob>F	0.808	0.878	0.492	0.687	0.664	0.569	0.623	0.590	0.350	0.829	0.487	0.501	0.753	0.837
<b>1.2.1</b> Financial Debt-Equity Ratio	F-test	0.318	0.504	0.003	0.168	0.130	0.443	0.024	0.028	1.030	0.015	0.300	0.051	0.081	0.006
	Prob>F	0.574	0.479	0.954	0.683	0.719	0.507	0.876	0.868	0.312	0.902	0.585	0.821	0.777	0.940
<b>1.2.2</b> Balance Sheet Leverage	F-test	0.019	0.018	0.297	0.257	0.109	0.270	0.153	0.194	1.068	0.001	0.378	0.679	0.289	0.000
	Prob>F	0.890	0.894	0.587	0.613	0.741	0.605	0.697	0.660	0.304	0.972	0.540	0.412	0.592	0.992
<b>1.4.0</b> Auditor Change	F-test	0.000	0.659	2.762	NA	1.000	0.000	NA	1.000	NA	NA	NA	NA	NA	2.037
	Prob>F	1.000	0.419	0.099	NA	0.320	1.000	NA	0.320	NA	NA	NA	NA	NA	0.156
<b>2.3.0</b> Shareholder Rights (1S1V)	F-test	0.087	NA	1.054	3.096	0.501	0.364	0.322	0.898	0.000	1.078	1.078	1.078	0.433	1.385
	Prob>F	0.769	NA	0.307	0.082	0.480	0.548	0.572	0.345	1.000	0.301	0.301	0.301	0.512	0.242
<b>2.4.1</b> Net Value Added	F-test	26.920	26.500	23.790	28.140	28.660	24.330	27.530	24.240	25.800	23.790	29.700	32.630	30.430	26.900
	Prob>F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>2.4.2</b> NVA to Shareholders	F-test	5.326	6.194	6.145	9.021	0.684	3.925	5.202	5.511	6.598	1.746	1.817	0.127	0.073	1.095
	Prob>F	0.023	0.014	0.015	0.003	0.410	0.050	0.025	0.021	0.012	0.189	0.180	0.722	0.787	0.298
<b>2.4.3</b> NVA to Employees	F-test	0.023	1.049	0.054	0.557	0.029	1.316	0.884	4.783	0.605	0.000	0.052	0.064	0.187	1.525
	Prob>F	0.879	0.308	0.816	0.457	0.864	0.254	0.349	0.031	0.439	0.989	0.820	0.800	0.667	0.220
<b>2.4.5</b> NVA to the State	F-test	0.991	2.162	0.037	0.020	0.027	0.047	0.819	4.123	1.127	3.297	0.138	0.094	0.071	0.033
	Prob>F	0.322	0.145	0.849	0.888	0.871	0.829	0.367	0.045	0.291	0.072	0.711	0.759	0.790	0.856
<b>2.4.6</b> NVA to Creditors	F-test	2.592	2.517	2.042	7.149	5.621	1.609	0.509	0.268	0.621	0.751	0.241	4.430	4.771	8.668
	Prob>F	0.111	0.116	0.157	0.009	0.020	0.208	0.477	0.606	0.433	0.388	0.625	0.038	0.031	0.004
<b>2.4.7</b> NVA to the Company	F-test	2.241	0.000	0.257	0.891	0.000	1.476	0.335	0.011	4.119	0.249	1.559	0.645	0.197	2.377
	Prob>F	0.137	0.992	0.614	0.347	0.986	0.227	0.564	0.916	0.045	0.619	0.215	0.424	0.658	0.126
<b>2.5.0</b> Board Size	F-test	16.780	18.270	21.480	18.950	20.690	17.850	23.800	16.470	8.073	7.859	9.318	17.760	7.739	1.059
	Prob>F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.006	0.003	0.000	0.006	0.307
<b>2.5.1</b> CEO on Board	F-test	NA	NA	NA	1.000	0.982	3.173	1.000	NA	NA	1.000	1.000	1.000	1.000	NA
	Prob>F	NA	NA	NA	0.320	0.324	0.078	0.320	NA	NA	0.320	0.320	0.320	0.320	NA
<b>2.5.2</b> CEO-Chairman Combined Role	F-test	0.008	0.000	0.012	1.162	0.988	2.751	3.957	2.500	3.873	6.942	2.562	0.602	5.359	1.020
	Prob>F	0.930	0.982	0.912	0.283	0.322	0.100	0.049	0.117	0.052	0.010	0.112	0.440	0.023	0.316
<b>2.5.3</b> Non-Executive Directors	F-test	0.664	1.204	0.117	0.063	0.000	0.128	0.846	6.226	4.082	5.132	5.751	0.127	3.661	2.913
	Prob>F	0.417	0.275	0.733	0.802	0.990	0.721	0.360	0.014	0.046	0.025	0.018	0.722	0.058	0.093
<b>2.5.4</b> Independent NEDs	F-test	0.057	0.173	0.157	0.449	1.328	0.450	1.971	4.890	7.772	2.843	0.968	0.225	0.004	1.469
	Prob>F	0.812	0.678	0.692	0.504	0.252	0.504	0.163	0.029	0.006	0.095	0.327	0.637	0.947	0.230
<b>2.5.5</b> Female Directors	F-test	14.810	20.730	18.460	15.990	14.410	5.192	5.323	5.191	4.626	5.225	3.566	0.586	1.164	2.913
	Prob>F	0.000	0.000	0.000	0.000	0.000	0.025	0.024	0.025	0.034	0.025	0.062	0.446	0.283	0.093
<b>2.6.0</b> Total Executive Pay	F-test	8.670	9.355	3.606	6.433	18.810	4.557	16.300	19.840	17.910	16.120	32.400	20.840	14.140	3.919
	Prob>F	0.004	0.003	0.060	0.013	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.052
<b>2.6.1</b> Single Highest Executive Pay	F-test	5.715	5.680	0.998	2.849	9.086	5.317	23.700	20.800	16.330	16.190	23.190	13.540	13.170	2.313
	Prob>F	0.019	0.019	0.320	0.094	0.003	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.133
<b>2.6.2</b> CEO Pay Ratio	F-test	0.487	0.882	0.216	0.189	1.605	1.803	2.757	2.071	0.050	0.002	3.083	0.418	0.478	0.002
	Prob>F	0.487	0.350	0.643	0.664	0.208	0.182	0.100	0.153	0.824	0.965	0.082	0.519	0.491	0.961
<b>3.1.0</b> Employment Level	F-test	52.170	61.770	60.600	52.590	50.820	38.830	42.030	28.640	21.160	20.410	31.610	27.730	31.280	20.350
	Prob>F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>3.2.0</b> Average Wage	F-test	0.358	0.007	0.005	0.006	0.010	0.084	0.241	0.296	3.297	2.961	0.001	1.103	0.508	1.417
	Prob>F	0.551	0.935	0.942	0.938	0.920	0.773	0.624	0.588	0.072	0.088	0.971	0.296	0.478	0.237

**ANOVA Results: Between-Group (Switzerland)**

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>TotalAssets</b>	F-test	5.102	4.931	9.353	9.264	8.422	8.318	7.992	8.044	8.173	9.120	9.846	9.989	10.380	8.329
	Prob>F	<b>0.026</b>	<b>0.029</b>	<b>0.003</b>	<b>0.003</b>	<b>0.005</b>	<b>0.005</b>	<b>0.006</b>	<b>0.005</b>	<b>0.005</b>	<b>0.003</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.006</b>
<b>ShareholdersFunds</b>	F-test	1.319	1.250	4.013	4.036	3.780	3.345	3.329	2.296	2.401	2.703	2.262	2.639	2.421	2.514
	Prob>F	0.253	0.266	<b>0.048</b>	<b>0.047</b>	0.055	0.070	0.071	0.133	0.124	0.103	0.136	0.107	0.123	0.119
<b>NetIncome</b>	F-test	0.647	0.309	0.784	1.298	3.730	3.546	3.461	0.126	5.640	0.000	0.015	0.268	0.942	0.187
	Prob>F	0.423	0.580	0.378	0.257	0.056	0.062	0.066	0.723	<b>0.019</b>	0.983	0.903	0.606	0.334	0.667
<b>ROE</b>	F-test	1.219	0.050	0.012	0.234	2.086	0.021	0.494	0.575	0.175	0.725	6.420	1.711	4.240	4.827
	Prob>F	0.272	0.824	0.914	0.630	0.152	0.887	0.484	0.450	0.677	0.397	<b>0.013</b>	0.194	<b>0.042</b>	<b>0.032</b>
<b>ROA</b>	F-test	9.736	1.766	0.065	0.940	13.640	21.810	5.845	4.387	13.460	0.719	19.650	2.348	11.980	15.830
	Prob>F	<b>0.002</b>	0.187	0.799	0.335	<b>0.000</b>	<b>0.000</b>	<b>0.017</b>	<b>0.039</b>	<b>0.000</b>	0.398	<b>0.000</b>	0.129	<b>0.001</b>	<b>0.000</b>
<b>OperatingRevenue</b>	F-test	0.215	0.166	0.004	0.013	0.045	0.031	0.091	0.020	1.120	0.009	0.018	0.082	0.070	0.001
	Prob>F	0.644	0.685	0.951	0.909	0.833	0.861	0.764	0.887	0.292	0.926	0.893	0.775	0.792	0.972
<b>Mcap_Ln</b>	F-test	0.048	0.677	1.896	1.294	0.935	2.142	1.604	1.088	2.628	2.602	1.409	1.388	0.739	1.031
	Prob>F	0.827	0.412	0.172	0.258	0.336	0.146	0.208	0.299	0.108	0.110	0.238	0.242	0.392	0.312
<b>1.1.1</b>	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tier 1 Capital Ratio	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.1.2</b>	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Capital Ratio	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.2.0</b>	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tier 1 Leverage Ratio	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.2.0.1</b>	F-test	78.520	67.880	46.520	56.820	87.890	113.200	116.300	113.700	93.210	99.210	125.200	128.100	126.600	124.100
Shareholder Equity Ratio	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>1.2.1</b>	F-test	128.000	101.100	74.820	128.700	167.400	228.300	186.500	182.800	186.700	177.300	251.600	235.200	203.100	147.600
Financial Debt-Equity Ratio	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>1.2.2</b>	F-test	57.410	52.650	57.230	66.710	80.180	100.500	106.100	110.000	90.800	94.800	129.600	127.900	110.100	63.510
Balance Sheet Leverage	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>1.4.0</b>	F-test	0.850	1.649	1.909	3.753	0.823	1.909	0.180	0.180	1.694	0.145	0.917	0.321	0.162	0.259
Auditor Change	Prob>F	0.359	0.202	0.170	0.056	0.366	0.170	0.672	0.672	0.196	0.704	0.341	0.572	0.688	0.612
<b>2.3.0</b>	F-test	0.976	0.508	0.668	0.293	0.226	0.037	0.113	0.113	0.113	0.138	0.230	0.404	0.701	0.858
Shareholder Rights (1S1V)	Prob>F	0.326	0.478	0.416	0.589	0.636	0.848	0.738	0.738	0.738	0.711	0.632	0.527	0.404	0.357
<b>2.4.1</b>	F-test	0.583	0.842	1.758	3.470	3.846	0.709	3.295	2.119	0.525	1.577	0.602	0.867	0.604	1.791
Net Value Added	Prob>F	0.447	0.361	0.188	0.065	0.053	0.402	0.072	0.148	0.471	0.212	0.440	0.354	0.439	0.187
<b>2.4.2</b>	F-test	2.473	3.591	18.980	1.105	3.756	30.830	20.030	6.680	7.464	10.470	8.653	11.170	12.520	1.660
NVA to Shareholders	Prob>F	0.119	0.061	<b>0.000</b>	0.296	0.055	<b>0.000</b>	<b>0.000</b>	<b>0.011</b>	<b>0.007</b>	<b>0.002</b>	<b>0.004</b>	<b>0.001</b>	<b>0.001</b>	0.204
<b>2.4.3</b>	F-test	47.220	33.380	53.640	33.280	34.210	44.030	54.900	41.320	30.790	26.570	41.900	28.890	18.520	29.540
NVA to Employees	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.4.5</b>	F-test	0.708	0.415	0.732	0.920	0.311	3.185	2.433	0.554	1.280	6.090	5.029	7.693	1.227	1.407
NVA to the State	Prob>F	0.402	0.521	0.395	0.340	0.578	0.078	0.122	0.459	0.261	<b>0.016</b>	<b>0.027</b>	<b>0.007</b>	0.271	0.241
<b>2.4.6</b>	F-test	143.600	278.300	214.800	187.000	110.700	243.500	333.100	329.600	289.600	160.600	116.100	182.600	138.900	155.300
NVA to Creditors	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.4.7</b>	F-test	2.971	12.060	1.292	3.615	1.201	0.994	1.105	3.478	0.004	5.736	0.160	1.358	4.406	0.045
NVA to the Company	Prob>F	0.088	<b>0.001</b>	0.258	0.060	0.276	0.321	0.296	0.065	0.948	<b>0.018</b>	0.690	0.247	<b>0.038</b>	0.832
<b>2.5.0</b>	F-test	5.652	3.043	1.315	2.704	5.593	7.907	5.725	4.568	3.800	4.480	3.132	0.768	1.860	2.453
Board Size	Prob>F	<b>0.021</b>	0.087	0.257	0.106	<b>0.021</b>	<b>0.007</b>	<b>0.020</b>	<b>0.037</b>	0.056	<b>0.038</b>	0.082	0.385	0.179	0.131
<b>2.5.1</b>	F-test	0.546	0.193	0.091	0.101	0.202	1.932	0.968	0.081	0.032	0.965	0.897	7.198	6.769	3.500
CEO on Board	Prob>F	0.463	0.662	0.765	0.752	0.655	0.170	0.329	0.777	0.859	0.330	0.347	<b>0.010</b>	<b>0.012</b>	0.075
<b>2.5.2</b>	F-test	0.626	0.316	2.700	1.012	0.669	1.267	0.632	1.062	0.939	2.747	2.494	2.117	2.564	1.971
CEO-Chairman Combined Role	Prob>F	0.432	0.576	0.106	0.319	0.417	0.265	0.430	0.307	0.336	0.102	0.119	0.152	0.116	0.174
<b>2.5.3</b>	F-test	4.443	3.078	3.008	1.832	0.493	0.551	0.509	1.571	2.957	6.583	5.900	6.820	6.737	0.466
Non-Executive Directors	Prob>F	<b>0.044</b>	0.090	0.093	0.186	0.487	0.462	0.479	0.216	0.092	<b>0.013</b>	<b>0.019</b>	<b>0.012</b>	<b>0.012</b>	0.502
<b>2.5.4</b>	F-test	1.831	1.304	0.592	0.388	0.018	0.011	0.007	0.280	0.276	0.193	0.156	0.127	0.002	0.000
Independent NEDs	Prob>F	0.187	0.263	0.448	0.538	0.896	0.917	0.932	0.599	0.602	0.662	0.695	0.723	0.968	0.997
<b>2.5.5</b>	F-test	0.014	0.826	0.061	0.027	1.909	1.529	1.330	2.654	6.108	6.055	5.657	7.262	6.536	0.727
Female Directors	Prob>F	0.908	0.372	0.807	0.870	0.176	0.224	0.256	0.111	<b>0.018</b>	<b>0.018</b>	<b>0.022</b>	<b>0.010</b>	<b>0.014</b>	0.403
<b>2.6.0</b>	F-test	NA	NA	0.000	0.207	0.286	1.334	1.371	1.945	1.190	2.896	1.865	0.223	0.266	1.229
Total Executive Pay	Prob>F	NA	NA	0.986	0.655	0.601	0.262	0.256	0.172	0.283	0.097	0.181	0.640	0.609	0.280
<b>2.6.1</b>	F-test	NA	NA	1.081	0.000	1.813	5.025	4.297	0.054	0.086	0.020	0.507	2.606	0.299	0.000
Single Highest Executive Pay	Prob>F	NA	NA	0.326	0.997	0.205	<b>0.043</b>	0.054	0.818	0.771	0.889	0.481	0.116	0.589	0.984
<b>2.6.2</b>	F-test	NA	0.353	0.149	0.017	0.020	0.355	0.027	1.074	0.791	1.263	1.484	1.394	0.659	1.945
CEO Pay Ratio	Prob>F	NA	0.557	0.703	0.897	0.888	0.554	0.871	0.306	0.379	0.267	0.229	0.244	0.421	0.187
<b>3.1.0</b>	F-test	5.891	6.540	5.318	5.087	6.037	6.500	7.002	6.551	6.405	5.050	5.003	4.936	4.622	5.272
Employment Level	Prob>F	<b>0.017</b>	<b>0.012</b>	<b>0.023</b>	<b>0.026</b>	<b>0.016</b>	<b>0.012</b>	<b>0.009</b>	<b>0.012</b>	<b>0.013</b>	<b>0.027</b>	<b>0.028</b>	<b>0.029</b>	<b>0.034</b>	<b>0.024</b>
<b>3.2.0</b>	F-test	20.280	38.290	51.520	35.400	61.410	64.090	73.710	68.450	87.620	58.890	46.810	49.580	56.510	48.220
Average Wage	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

**ANOVA Results: Between-Group (Germany)**

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>TotalAssets</b>	F-test	25.410	24.840	25.920	25.350	21.680	20.270	16.000	13.870	12.320	15.520	13.700	11.860	12.640	0.388
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	<b>0.001</b>	0.537
<b>ShareholdersFunds</b>	F-test	3.452	1.794	0.597	0.865	0.264	0.230	0.289	0.411	0.365	0.742	0.608	0.323	0.514	0.404
	Prob>F	0.066	0.183	0.441	0.354	0.609	0.632	0.592	0.523	0.547	0.391	0.437	0.571	0.475	0.528
<b>NetIncome</b>	F-test	<b>1.108</b>	<b>0.344</b>	0.000	4.798	<b>0.647</b>	<b>0.000</b>	<b>0.927</b>	<b>0.803</b>	4.464	0.039	0.171	0.342	0.339	0.244
	Prob>F	0.295	0.559	0.985	<b>0.031</b>	0.423	0.984	0.338	0.372	<b>0.037</b>	0.843	0.680	0.560	0.562	0.624
<b>ROE</b>	F-test	16.030	10.230	7.623	<b>1.112</b>	<b>1.215</b>	<b>1.089</b>	<b>0.908</b>	3.804	10.780	0.448	2.469	8.874	0.138	0.012
	Prob>F	<b>0.000</b>	<b>0.002</b>	<b>0.007</b>	0.294	0.273	0.299	0.342	0.054	<b>0.001</b>	0.505	0.119	<b>0.004</b>	0.711	0.912
<b>ROA</b>	F-test	12.950	6.394	3.740	5.030	10.040	8.752	6.068	10.780	7.452	<b>1.416</b>	8.580	14.220	4.059	2.343
	Prob>F	<b>0.000</b>	<b>0.013</b>	0.056	<b>0.027</b>	<b>0.002</b>	<b>0.004</b>	<b>0.015</b>	<b>0.001</b>	<b>0.007</b>	0.237	<b>0.004</b>	<b>0.000</b>	<b>0.047</b>	0.133
<b>OperatingRevenue</b>	F-test	0.646	0.775	0.759	0.819	1.014	1.279	1.485	1.802	2.768	1.639	1.504	1.689	1.477	0.476
	Prob>F	0.423	0.380	0.385	0.367	0.316	0.260	0.225	0.182	0.099	0.203	0.223	0.196	0.227	0.494
<b>Mcap_Ln</b>	F-test	<b>1.268</b>	<b>0.834</b>	0.235	0.027	0.000	0.066	0.081	0.087	0.222	<b>0.807</b>	<b>1.454</b>	<b>1.612</b>	<b>1.826</b>	4.287
	Prob>F	0.262	0.363	0.629	0.869	0.997	0.798	0.777	0.768	0.639	0.371	0.231	0.207	0.180	<b>0.041</b>
<b>1.1.1</b> Tier 1 Capital Ratio	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.237	0.278	0.016	0.051
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.639	0.612	0.901	0.827
<b>1.1.2</b> Total Capital Ratio	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000	0.001	0.105	0.000
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.985	0.973	0.754	0.998
<b>1.2.0</b> Tier 1 Leverage Ratio	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	101.800	122.900	70.680	34.000
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>1.2.0.1</b> Shareholder Equity Ratio	F-test	28.120	26.920	27.350	28.500	32.290	26.640	27.790	33.590	25.120	22.370	27.100	30.090	28.550	21.040
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>1.2.1</b> Financial Debt-Equity Ratio	F-test	56.070	53.390	47.900	53.090	84.150	99.900	99.390	113.100	77.170	73.860	99.330	106.600	88.030	2.586
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	0.115
<b>1.2.2</b> Balance Sheet Leverage	F-test	15.660	15.350	13.720	14.680	28.320	30.140	28.590	42.370	31.800	32.540	40.220	42.570	32.990	10.500
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.002</b>
<b>1.4.0</b> Auditor Change	F-test	0.000	0.065	0.774	1.609	0.737	0.006	0.485	0.194	0.078	0.217	1.710	1.477	0.046	5.793
	Prob>F	0.991	0.799	0.381	0.208	0.393	0.938	0.488	0.661	0.780	0.643	0.194	0.227	0.831	<b>0.018</b>
<b>2.3.0</b> Shareholder Rights (1S1V)	F-test	0.506	0.377	0.078	0.033	0.005	0.060	0.059	0.059	0.314	0.314	0.338	0.091	0.091	0.057
	Prob>F	0.479	0.541	0.781	0.856	0.946	0.807	0.809	0.809	0.577	0.577	0.562	0.764	0.764	0.812
<b>2.4.1</b> Net Value Added	F-test	1.943	2.722	1.537	0.210	0.060	0.264	0.515	<b>0.838</b>	0.099	0.009	0.169	0.342	0.475	0.502
	Prob>F	0.166	0.102	0.218	0.647	0.806	0.609	0.474	0.362	0.754	0.924	0.682	0.560	0.492	0.482
<b>2.4.2</b> NVA to Shareholders	F-test	21.670	6.367	11.580	2.823	29.000	7.670	7.233	12.050	5.917	<b>1.475</b>	13.370	4.364	6.350	NA
	Prob>F	<b>0.000</b>	<b>0.013</b>	<b>0.001</b>	0.096	<b>0.000</b>	<b>0.007</b>	<b>0.008</b>	<b>0.001</b>	<b>0.017</b>	0.227	<b>0.000</b>	<b>0.039</b>	<b>0.013</b>	NA
<b>2.4.3</b> NVA to Employees	F-test	83.940	105.700	68.860	77.010	68.250	50.670	53.230	50.390	49.540	47.700	41.480	38.920	31.480	7.756
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.008</b>
<b>2.4.5</b> NVA to the State	F-test	0.607	0.613	0.330	13.230	16.240	9.215	1.988	1.899	9.555	7.233	12.810	<b>1.168</b>	8.874	0.902
	Prob>F	0.438	0.436	0.567	<b>0.000</b>	<b>0.000</b>	<b>0.003</b>	0.161	0.171	<b>0.003</b>	<b>0.009</b>	<b>0.001</b>	0.282	<b>0.004</b>	0.348
<b>2.4.6</b> NVA to Creditors	F-test	225.800	232.600	200.800	164.100	224.800	177.400	175.600	184.500	157.300	147.700	144.800	86.780	106.600	0.443
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	0.509
<b>2.4.7</b> NVA to the Company	F-test	3.386	0.413	0.007	<b>0.873</b>	5.136	0.562	0.619	0.164	1.479	1.836	0.044	14.190	0.712	13.070
	Prob>F	0.068	0.522	0.935	0.352	<b>0.025</b>	0.455	0.433	0.687	0.227	0.178	0.835	<b>0.000</b>	0.401	<b>0.001</b>
<b>2.5.0</b> Board Size	F-test	0.628	1.202	0.932	0.538	0.647	1.351	1.256	1.566	0.187	0.168	0.074	0.244	0.227	0.741
	Prob>F	0.431	0.276	0.337	0.465	0.423	0.248	0.265	0.214	0.666	0.683	0.786	0.622	0.635	0.396
<b>2.5.1</b> CEO on Board	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>2.5.2</b> CEO-Chairman Combined Role	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>2.5.3</b> Non-Executive Directors	F-test	<b>1.032</b>	6.095	<b>1.481</b>	0.270	0.265	0.617	<b>0.873</b>	<b>0.987</b>	0.410	1.611	<b>1.032</b>	1.979	1.675	0.029
	Prob>F	0.313	<b>0.016</b>	0.227	0.605	0.608	0.434	0.352	0.323	0.523	0.208	0.312	0.163	0.199	0.865
<b>2.5.4</b> Independent NEDs	F-test	<b>1.129</b>	<b>1.096</b>	<b>0.849</b>	<b>1.255</b>	<b>0.695</b>	<b>0.983</b>	<b>0.761</b>	<b>1.280</b>	<b>0.652</b>	<b>0.784</b>	<b>0.684</b>	<b>0.706</b>	<b>1.037</b>	NA
	Prob>F	0.291	0.298	0.359	0.266	0.407	0.324	0.385	0.261	0.422	0.378	0.411	0.403	0.311	NA
<b>2.5.5</b> Female Directors	F-test	0.291	0.023	0.428	0.543	<b>1.149</b>	<b>1.436</b>	<b>1.033</b>	0.021	0.079	0.061	0.559	0.439	<b>0.830</b>	4.943
	Prob>F	0.592	0.881	0.515	0.464	0.288	0.235	0.313	0.884	0.779	0.805	0.457	0.510	0.365	<b>0.034</b>
<b>2.6.0</b> Total Executive Pay	F-test	NA	NA	0.570	4.156	0.306	0.017	0.586	1.877	<b>0.861</b>	<b>1.511</b>	0.383	2.154	1.953	1.614
	Prob>F	NA	NA	0.459	0.052	0.583	0.896	0.446	0.175	0.356	0.223	0.538	0.148	0.168	0.214
<b>2.6.1</b> Single Highest Executive Pay	F-test	NA	NA	0.167	0.182	0.005	2.018	0.630	3.504	6.579	8.757	2.626	3.472	1.822	1.470
	Prob>F	NA	NA	0.686	0.672	0.946	0.160	0.430	0.065	<b>0.012</b>	<b>0.004</b>	0.111	0.068	0.183	0.237
<b>2.6.2</b> CEO Pay Ratio	F-test	0.495	0.622	0.459	0.273	0.058	0.006	1.880	3.002	4.368	<b>1.027</b>	6.693	5.677	2.988	0.031
	Prob>F	0.484	0.432	0.500	0.602	0.811	0.940	0.174	0.086	<b>0.039</b>	0.314	<b>0.011</b>	<b>0.019</b>	0.087	0.862
<b>3.1.0</b> Employment Level	F-test	11.770	12.710	14.060	16.320	11.330	12.550	13.850	15.600	19.080	19.500	13.620	13.570	10.370	4.495
	Prob>F	<b>0.001</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.002</b>	<b>0.037</b>
<b>3.2.0</b> Average Wage	F-test	16.890	21.720	26.720	27.530	22.980	33.960	13.750	13.770	16.250	15.840	9.431	9.464	8.395	0.166
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.003</b>	<b>0.003</b>	<b>0.005</b>	0.684

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**ANOVA Results: Between-Group (United States)**

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>TotalAssets</b>	F-test	63.550	55.800	60.530	56.490	57.860	63.720	61.780	61.650	62.830	56.480	58.520	57.960	54.810	54.410
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>ShareholdersFunds</b>	F-test	9.614	3.532	7.037	4.812	8.564	9.778	10.460	10.130	18.730	17.570	18.420	16.960	16.400	14.680
	Prob>F	<b>0.002</b>	0.062	<b>0.009</b>	<b>0.030</b>	<b>0.004</b>	<b>0.002</b>	<b>0.002</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>NetIncome</b>	F-test	3.858	2.987	1.416	5.341	4.174	4.386	5.912	0.897	7.898	0.790	0.176	0.469	0.183	0.881
	Prob>F	0.052	0.086	0.236	<b>0.022</b>	<b>0.043</b>	<b>0.038</b>	<b>0.016</b>	0.345	<b>0.006</b>	0.376	0.675	0.495	0.669	0.350
<b>ROE</b>	F-test	0.301	0.272	0.142	0.328	0.391	0.203	0.014	2.489	8.732	7.727	7.196	5.588	4.068	3.536
	Prob>F	0.584	0.603	0.707	0.568	0.533	0.653	0.906	0.117	<b>0.004</b>	<b>0.006</b>	<b>0.008</b>	<b>0.020</b>	<b>0.046</b>	0.062
<b>ROA</b>	F-test	11.370	7.562	4.673	14.230	21.340	29.950	23.640	30.530	11.560	14.260	31.950	31.250	20.090	23.420
	Prob>F	<b>0.001</b>	<b>0.007</b>	<b>0.033</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>OperatingRevenue</b>	F-test	0.034	0.124	0.044	0.137	0.117	0.117	0.025	0.161	0.542	0.003	0.009	0.214	0.323	0.324
	Prob>F	0.854	0.725	0.835	0.712	0.733	0.732	0.876	0.689	0.463	0.959	0.924	0.645	0.571	0.570
<b>Mcap_Ln</b>	F-test	1.115	0.706	0.850	0.631	1.111	1.961	1.706	0.013	1.220	0.883	0.587	1.381	0.220	0.044
	Prob>F	0.293	0.402	0.358	0.428	0.294	0.164	0.194	0.911	0.271	0.349	0.445	0.242	0.640	0.834
<b>1.1.1</b> Tier 1 Capital Ratio	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.1.2</b> Total Capital Ratio	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.2.0</b> Tier 1 Leverage Ratio	F-test	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Prob>F	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>1.2.0.1</b> Shareholder Equity Ratio	F-test	54.900	52.380	51.360	58.360	61.540	60.760	65.840	62.500	51.060	49.400	59.680	50.830	47.790	54.790
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>1.2.1</b> Financial Debt-Equity Ratio	F-test	146.000	126.900	106.800	131.400	186.800	198.100	222.700	196.900	168.400	136.400	145.100	109.600	104.100	123.600
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>1.2.2</b> Balance Sheet Leverage	F-test	71.600	66.650	67.850	81.460	93.830	95.950	108.600	106.300	82.640	70.060	78.700	65.460	58.040	68.520
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>1.4.0</b> Auditor Change	F-test	0.483	1.204	1.204	5.349	0.192	0.387	5.349	0.192	NA	NA	NA	NA	NA	0.586
	Prob>F	0.488	0.274	0.274	<b>0.022</b>	0.662	0.535	<b>0.022</b>	0.662	NA	NA	NA	NA	NA	0.445
<b>2.3.0</b> Shareholder Rights (1S1V)	F-test	2.791	NA	0.059	1.219	0.435	1.297	0.553	0.007	0.002	0.035	0.035	0.035	0.002	0.084
	Prob>F	0.097	NA	0.809	0.272	0.511	0.257	0.458	0.936	0.962	0.852	0.852	0.852	0.962	0.772
<b>2.4.1</b> Net Value Added	F-test	4.835	2.757	1.847	1.180	1.585	3.011	6.163	5.875	0.318	3.852	3.019	1.470	0.863	0.968
	Prob>F	<b>0.030</b>	0.099	0.176	0.279	0.210	0.085	<b>0.014</b>	<b>0.017</b>	0.574	0.052	0.085	0.227	0.355	0.327
<b>2.4.2</b> NVA to Shareholders	F-test	0.907	2.432	1.177	7.561	1.821	0.776	0.000	0.128	0.170	0.118	0.469	0.129	2.472	2.854
	Prob>F	0.343	0.121	0.280	<b>0.007</b>	0.180	0.380	0.994	0.722	0.681	0.732	0.495	0.720	0.118	0.094
<b>2.4.3</b> NVA to Employees	F-test	1.136	1.033	12.040	10.940	22.000	14.570	4.850	3.895	7.715	13.220	38.280	55.050	30.090	19.690
	Prob>F	0.289	0.312	<b>0.001</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.030</b>	0.051	<b>0.006</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.4.5</b> NVA to the State	F-test	0.649	0.466	3.825	7.711	7.650	4.095	8.130	3.839	2.328	2.152	1.762	1.074	2.541	2.823
	Prob>F	0.422	0.496	0.053	<b>0.006</b>	<b>0.007</b>	<b>0.045</b>	<b>0.005</b>	0.052	0.130	0.145	0.187	0.302	0.113	0.095
<b>2.4.6</b> NVA to Creditors	F-test	75.820	21.890	7.637	21.660	57.060	171.700	241.400	269.100	168.400	42.420	87.140	83.220	46.900	32.430
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.007</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.4.7</b> NVA to the Company	F-test	7.565	7.235	7.685	22.380	31.840	44.040	48.830	51.820	29.510	5.504	15.210	22.020	8.935	5.080
	Prob>F	<b>0.007</b>	<b>0.008</b>	<b>0.006</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.021</b>	<b>0.000</b>	<b>0.000</b>	<b>0.003</b>	<b>0.026</b>
<b>2.5.0</b> Board Size	F-test	12.810	22.020	17.880	19.040	19.220	18.680	22.980	24.750	10.150	13.760	5.280	8.369	4.592	4.208
	Prob>F	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.002</b>	<b>0.000</b>	<b>0.023</b>	<b>0.004</b>	<b>0.034</b>	<b>0.044</b>
<b>2.5.1</b> CEO on Board	F-test	NA	NA	NA	0.195	1.687	0.226	5.934	NA	NA	0.192	0.192	0.192	0.192	NA
	Prob>F	NA	NA	NA	0.659	0.196	0.635	<b>0.016</b>	NA	NA	0.662	0.662	0.662	0.662	NA
<b>2.5.2</b> CEO-Chairman Combined Role	F-test	1.841	0.845	1.514	1.514	0.206	0.535	0.610	0.086	1.812	0.268	1.004	0.078	0.521	0.313
	Prob>F	0.177	0.360	0.221	0.221	0.651	0.466	0.436	0.770	0.180	0.606	0.318	0.780	0.472	0.577
<b>2.5.3</b> Non-Executive Directors	F-test	0.091	0.820	0.157	0.634	1.683	2.410	1.749	1.821	0.721	1.741	0.752	1.341	1.087	0.225
	Prob>F	0.763	0.367	0.693	0.427	0.197	0.123	0.188	0.179	0.397	0.189	0.387	0.249	0.299	0.637
<b>2.5.4</b> Independent NEDs	F-test	0.135	0.188	0.570	0.272	1.167	0.179	0.100	0.180	1.113	0.986	0.071	0.471	0.015	1.359
	Prob>F	0.714	0.665	0.452	0.603	0.282	0.673	0.752	0.672	0.293	0.322	0.790	0.494	0.902	0.247
<b>2.5.5</b> Female Directors	F-test	0.091	0.863	0.562	0.190	1.765	3.356	1.746	0.119	0.255	0.125	0.001	0.720	0.017	1.061
	Prob>F	0.764	0.355	0.455	0.664	0.187	0.070	0.189	0.731	0.614	0.724	0.970	0.398	0.896	0.306
<b>2.6.0</b> Total Executive Pay	F-test	2.706	3.983	2.994	4.971	6.349	7.503	8.190	4.854	0.351	0.220	0.019	0.762	0.143	4.672
	Prob>F	0.103	<b>0.048</b>	0.086	<b>0.028</b>	<b>0.013</b>	<b>0.007</b>	<b>0.005</b>	<b>0.029</b>	0.555	0.640	0.891	0.384	0.706	<b>0.034</b>
<b>2.6.1</b> Single Highest Executive Pay	F-test	2.066	4.143	6.585	7.180	8.191	4.007	7.858	1.800	0.003	0.491	0.295	0.015	0.157	0.001
	Prob>F	0.153	<b>0.044</b>	<b>0.011</b>	<b>0.008</b>	<b>0.005</b>	<b>0.047</b>	<b>0.006</b>	0.182	0.956	0.485	0.588	0.902	0.692	0.977
<b>2.6.2</b> CEO Pay Ratio	F-test	0.203	1.668	0.033	1.969	1.964	1.816	2.603	4.281	3.238	4.491	5.168	5.085	4.825	3.226
	Prob>F	0.653	0.199	0.856	0.163	0.164	0.180	0.109	<b>0.041</b>	0.074	<b>0.036</b>	<b>0.025</b>	<b>0.026</b>	<b>0.030</b>	0.077
<b>3.1.0</b> Employment Level	F-test	0.078	0.007	0.013	0.061	0.016	0.001	0.047	0.039	0.000	0.001	0.003	0.013	0.015	0.022
	Prob>F	0.781	0.932	0.910	0.805	0.899	0.979	0.829	0.844	0.992	0.971	0.954	0.911	0.903	0.883
<b>3.2.0</b> Average Wage	F-test	7.899	8.118	10.910	12.330	10.990	9.323	9.985	9.831	6.998	12.050	13.440	11.540	8.203	9.914
	Prob>F	<b>0.006</b>	<b>0.005</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.003</b>	<b>0.002</b>	<b>0.002</b>	<b>0.009</b>	<b>0.001</b>	<b>0.000</b>	<b>0.001</b>	<b>0.005</b>	<b>0.002</b>

**ANOVA Results: International-Level**

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>TotalAssets</b>	F-test	4.294	4.788	4.004	3.160	2.799	2.897	2.281	1.891	1.880	2.782	2.835	2.785	2.927	1.830
	Prob>F	<b>0.005</b>	<b>0.003</b>	<b>0.008</b>	<b>0.025</b>	<b>0.040</b>	<b>0.035</b>	0.079	0.130	0.132	<b>0.041</b>	<b>0.038</b>	<b>0.040</b>	<b>0.034</b>	0.142
<b>ShareholdersFunds</b>	F-test	12.510	14.090	15.840	17.240	18.490	22.500	21.680	17.330	18.470	18.100	19.430	20.120	19.600	9.941
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>NetIncome</b>	F-test	17.390	11.260	0.629	22.620	19.210	16.070	19.750	18.540	1.067	20.960	22.140	25.070	20.100	17.910
	Prob>F	<b>0.000</b>	<b>0.000</b>	0.597	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	0.363	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>ROE</b>	F-test	4.465	4.853	9.532	1.574	6.164	11.650	9.104	8.781	2.943	11.120	10.410	11.290	11.150	5.937
	Prob>F	<b>0.004</b>	<b>0.002</b>	<b>0.000</b>	0.195	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.033</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>
<b>ROA</b>	F-test	3.177	5.137	5.454	6.047	6.867	9.347	7.058	5.839	4.058	9.661	9.366	12.130	8.659	5.934
	Prob>F	<b>0.024</b>	<b>0.002</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	<b>0.007</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>
<b>OperatingRevenue</b>	F-test	14.180	15.320	13.910	14.520	14.330	14.530	13.900	13.170	12.290	15.340	14.220	12.790	12.780	8.029
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>Mcap_Ln</b>	F-test	135.500	167.500	178.300	182.000	178.700	176.500	156.100	142.100	128.600	143.900	136.900	147.800	143.800	140.700
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>1.1.1</b>	F-test	7.944	0.537	0.454	0.644	0.685	1.134	1.532	3.105	0.681	0.144	0.190	0.292	0.409	0.351
	Prob>F	<b>0.001</b>	0.661	0.717	0.594	0.569	0.352	0.228	<b>0.040</b>	0.570	0.933	0.902	0.831	0.747	0.789
<b>1.1.2</b>	F-test	5.339	3.447	1.701	3.369	0.506	0.749	1.347	2.108	0.591	0.228	0.393	0.327	0.628	0.663
	Prob>F	<b>0.007</b>	<b>0.035</b>	0.193	<b>0.035</b>	0.682	0.533	0.280	0.119	0.625	0.876	0.759	0.806	0.601	0.579
<b>1.2.0</b>	F-test	2.954	2.348	3.236	3.399	1.071	2.020	5.005	1.828	3.285	1.527	0.985	1.179	0.986	1.049
	Prob>F	0.057	0.100	<b>0.038</b>	<b>0.033</b>	0.377	0.132	<b>0.006</b>	0.163	<b>0.031</b>	0.223	0.409	0.329	0.408	0.381
<b>1.2.0.1</b>	F-test	7.774	6.220	5.404	5.182	4.421	4.259	3.888	3.983	4.267	4.849	4.151	1.821	2.069	2.045
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	<b>0.002</b>	<b>0.004</b>	<b>0.006</b>	<b>0.009</b>	<b>0.008</b>	<b>0.006</b>	<b>0.002</b>	<b>0.006</b>	0.143	0.104	0.107
<b>1.2.1</b>	F-test	0.399	0.586	1.088	0.181	1.245	2.088	1.275	1.586	3.028	2.248	2.045	1.225	1.066	1.579
	Prob>F	0.754	0.624	0.354	0.910	0.293	0.101	0.282	0.192	<b>0.029</b>	0.082	0.107	0.300	0.363	0.195
<b>1.2.2</b>	F-test	5.502	5.053	5.385	3.890	3.972	4.614	3.829	4.450	6.316	5.547	5.135	3.393	2.401	1.240
	Prob>F	<b>0.001</b>	<b>0.002</b>	<b>0.001</b>	<b>0.009</b>	<b>0.008</b>	<b>0.003</b>	<b>0.010</b>	<b>0.004</b>	<b>0.000</b>	<b>0.001</b>	<b>0.002</b>	<b>0.018</b>	0.067	0.295
<b>1.4.0</b>	F-test	0.946	5.757	0.537	4.622	0.540	2.235	7.865	3.518	9.998	7.915	5.783	4.147	2.020	0.250
	Prob>F	0.418	<b>0.001</b>	0.657	<b>0.003</b>	0.655	0.084	<b>0.000</b>	<b>0.015</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	<b>0.006</b>	0.110	0.862
<b>2.3.0</b>	F-test	12.060	1.620	7.286	9.265	4.354	5.348	5.090	7.530	8.256	8.631	8.231	7.226	5.781	5.375
	Prob>F	<b>0.000</b>	0.200	<b>0.000</b>	<b>0.000</b>	<b>0.005</b>	<b>0.001</b>	<b>0.002</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	<b>0.001</b>
<b>2.4.1</b>	F-test	20.550	23.000	22.980	26.440	26.580	28.380	26.750	25.210	24.600	25.840	31.700	31.740	31.890	14.710
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.4.2</b>	F-test	12.680	13.070	10.380	15.940	6.963	5.199	7.292	9.730	2.338	2.261	1.351	3.584	3.411	3.770
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.002</b>	<b>0.000</b>	<b>0.000</b>	0.073	0.081	0.257	<b>0.014</b>	<b>0.018</b>	<b>0.011</b>
<b>2.4.3</b>	F-test	16.010	11.560	15.940	16.910	18.470	25.330	18.720	15.980	13.890	18.200	18.510	18.970	20.500	14.170
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.4.5</b>	F-test	13.690	11.090	16.430	7.673	4.425	9.807	6.721	6.004	6.227	7.711	8.996	12.830	11.200	10.320
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.004</b>	<b>0.000</b>	<b>0.000</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.4.6</b>	F-test	2.495	0.916	0.594	1.840	2.615	2.427	2.052	1.248	2.204	5.142	6.241	5.611	4.606	4.156
	Prob>F	0.060	0.433	0.619	0.139	0.051	0.065	0.106	0.292	0.087	<b>0.002</b>	<b>0.000</b>	<b>0.001</b>	<b>0.004</b>	<b>0.007</b>
<b>2.4.7</b>	F-test	21.950	21.950	22.500	27.940	37.230	33.310	22.950	21.390	17.910	22.200	29.760	23.950	30.600	14.460
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.5.0</b>	F-test	80.540	90.930	118.100	132.800	147.200	131.200	121.200	123.900	123.500	110.900	115.600	99.510	95.310	31.130
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.5.1</b>	F-test	243.200	297.600	335.500	307.500	239.900	241.400	269.400	304.700	292.900	274.200	256.600	320.600	357.500	389.200
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.5.2</b>	F-test	176.500	196.600	151.200	175.600	164.000	111.100	115.300	113.900	117.000	103.200	109.600	91.240	69.420	44.070
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.5.3</b>	F-test	94.330	101.800	95.440	97.230	114.100	109.400	103.700	116.000	120.200	140.100	137.800	129.400	128.800	142.300
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.5.4</b>	F-test	230.100	280.400	261.800	341.100	356.500	387.900	371.300	364.500	379.800	345.200	357.500	373.500	374.500	53.130
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.5.5</b>	F-test	22.580	29.460	28.360	18.760	18.410	21.550	24.770	24.600	24.390	20.960	23.040	19.200	18.570	2.036
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	0.110
<b>2.6.0</b>	F-test	55.500	40.330	25.820	27.220	25.910	37.540	52.170	40.750	42.980	46.890	39.190	35.870	51.170	16.740
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.6.1</b>	F-test	142.700	109.600	72.440	88.110	62.840	61.300	89.640	100.600	101.800	88.120	103.400	102.700	87.280	49.970
	Prob>F	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>2.6.2</b>	F-test	44.990	33.760	18.180	21.540	17.350	20.470								