

**Paper for the G.A.R.S. “Aviation Student Research Workshop” in
Amsterdam, 3rd and 4th of July**

Privatization and innovation- evidence from the airport industry

Antje Fiedler

**University of Auckland, Department of Management and International Business
a.fiedler@auckland.ac.nz**

Abstract:

Like in many other industries, the privatization in the airport industry was driven by the belief that the change from public to private ownership would enhance both the productive and allocative efficiency. As a result of privatisation and deregulation activities, the airport industry has experienced considerable transformation with airports transforming from government-owned entities to commercially oriented enterprises.

One necessary precondition to achieve this transformation and to enhance performance is the development of cost and/or quality innovation on the firm level. The current discussion in the literature implies that both industry competition and the applied corporate governance system influence how companies carry out innovation. However, up until now, very little is known about the relative contribution of those influencing factors. Aim of my research is to explore, how different institutional environments and different degrees of industry competition have influenced airports to carry out innovation during privatization.

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I. Introduction

The privatization of public-sector enterprises has occurred in many countries across the globe. Privatization was driven by the belief that the change from public to private ownership would enhance both the productive and allocative efficiency (Hartley and Parker, 1991; Cuervo & Villalonga 2000, Sheshinski & Lopez-Calva, 2003). In 1998, privatization activities in OECD countries peaked with governments making approximately 100 billion USD in the selling of public assets (OECD, 2002).

Privatization of public-sector enterprises has attracted researchers from various disciplines. They have investigated different types of privatization (for e.g. Kay, Mayer & Thompson, 1986; Savas, 1989-90; Vickers & Yarrow, 1988, 1991), assessed the impact on performance, productivity and economic efficiency (for e.g. Hutchinson, 1991; Martin & Parker 1995; Parker, 1999; Tatahi, 2006; Villalonga, 2000), analysed the consequences on employment and wage rates (for e.g. Bishop & Kay, 1988; Haskel & Szymanski, 1993), and, more recently investigated organizational changes during privatization (for e.g. Eraković & Powell, 2006; Newman & Nollen, 1998; Tyrrall & Parker, 2005).

Privatization can include both, the opening of monopolistic markets to competition and the transfer of state-owned assets to the private sector (Vickers & Yarrow, 1988). Hence, privatization changes both, the institutional environment of organizations (Johnson, Smith & Codling, 2000) and the internal governance structure. Agency theorists suggest that the shift from public to private ownership gives incentives to improve companies' performance due to clearer defined property rights as well as more effective mechanisms to monitor and motivate managers. Researchers such as Boycko, Shleifer, & Vishny (1995) argued that performance improvements are triggered by considerable organizational transformation elements (see also Sappington & Stiglitz, 1987).

Specifically, according to Shleifer (1998) privatization motivates companies to undergo companies' restructuring in order to carry out both quality and cost innovations. The importance for innovation during privatization has most notably expressed by Richard Nelson (1991, p. 72) who argues that "[m]onopoly, or tight oligopoly with strong barriers to entry, can be seen as serious economic problem, not so much because such

structures permit a large gap between price and cost, but because they are unlikely to generate the variety of new routines, and the attendant shifts in resource allocation on which economic progress depends". Hence, the development of cost and/or quality innovation on the firm level is a necessary precondition not only to enhance efficiency during privatization but also to generate wealth for the economy in the longer term. "Innovation is the process through which productive resources are developed and utilised to generate higher quality and/or lower cost products than had previously been available" (O'Sullivan, 2000, p. 393). Following this argument, it becomes necessary to allocate and utilize resources within the enterprise in order to accomplish innovation.

Institutional theorists have argued that the ownership change in itself may not be the main condition for companies' restructuring during privatization (Eraković & Wilson, 2005; Ramamurti, 2000). From their point of view, the organizational behaviour is influenced to a large extent by the condition of its institutional environment (for e.g. Newman, 2000), and a change in the institutional environment of an organization is accompanied by radical changes within the organization (Greenwood & Hinings, 1988, 1993). Generally, the liberalization and deregulation of markets during privatization can be considered as a form of institutional entrepreneurship driven by the belief that free markets are more appropriate than the former market arrangements. Empirically, Meyer, Brooks and Goes (1990) have demonstrated that the deregulation of an industry which redefines the competitive rules triggers radical changes within the embedded companies. Further, Eraković & Wilson (2005), using the example of New Zealand's public sector reform between 1985 and 1995, found evidence that not only privatized companies have experienced radical organizational transformations but also publicly-owned companies which were embedded in the changing institutional environment.

Despite institutional theorists claim that organizations are influenced by their institutional environment (Zucker, 1977) and despite numerous publications, there is still a lack of knowledge on how the organizational outcome of privatization in developed countries has been affected by its wider institutional environment, namely the political environment on the level of society.

The aim of this paper is to develop a framework to investigate how different institutional environments have influenced the development of innovation of companies

during privatization. First, the paper will outline the interplay between the institutional environment and actors with particular emphasis on organisations as institutional actors. Following, the paper will highlight the importance of institutions and competition for innovation. Based on this analysis, the paper will argue that the airport industry embodies an ideal empirical example to investigate the relative importance institutions and market completion for organisational change and innovation. Finally, it will be argued that a cross-country comparison between New Zealand and Germany can produce deeper insights about the influence of private ownership on innovativeness.

II. Theoretical framework

II.1. Institutional environment of the society: Definition and its nature

Various authors from different disciplines have investigated how institutions have evolved (Thelen, 2004), how they have changed over time (Campbell, 2004, Thelen & Streeck, 2005) and how they have influenced the innovativeness of embedded organizations (Hall & Soskice, 2001). Generally, institutions can be understood as formal and informal rules that influence, enable or constrain human behaviour (Nooteboom, 2000; Hodgson, 2003). Established institutions are the incentive structure of society that guides human behaviour (North & Davis, 1971, North & Thomas, 1973, North, 2005), and are a critical determinant of the performance of economies (Campbell and Pederson 2001).

In order to achieve economic growth, institutions on the macro level such as a formal corporate governance system are necessary to give incentives for economic actors to carry out innovation, or rather enable them to be innovative. The incentives set out by the institutional framework guide organizational action (Ocasio, 1999). In this vein, Baumol (1990) argues that the main challenge for policy makers is to adjust the rules of the game in a way that the allocation of resources is directed in a way which is beneficial for the society. The reward structure, or the 'rules of the game' (North, 1990) that policy makers impose on economic actors governs the payoff of different economic activities. In order to ensure economic growth and prosperity, the reward structure must favour productive, innovative activities over unproductive ones (Baumol, 1990). One prominent example that demonstrates the importance of effective institutions for the performance of a society is the Enron-Scandal (North, 2005). Not only did the Enron-

Scandal challenge existing institutions in United States, but also those of other economies.

In this setting, institutions are embedded on the level of society, and emphasis is given to the interaction between human actors and institutions. According to North (2005), the institutional framework embodies two types of incentives, namely formal incentives, such as property rights, and informal incentives, such as reputation or legitimacy, represented in the social structure of the economy.

Researchers often have different understandings as to how to distinguish between formal and informal incentives, or institutions respectively (Helmke & Levitsky, 2004). Formal incentives, such as property rights, are typically associated with some sort of legal rights and provide for that reason leverage for enforcement (Knight, 1992). These incentives are communicated by rules and procedures which are formulated and communicated by the official channels of a society that are widely accepted including state institutions, state-enforced laws, rules and regulations as well as organizational rules that govern the relationship between different interest groups (Helmke and Levitsky, 2004). In contrast, informal rules are according to Helmke and Levitsky (2004, p. 727) *“socially shared rules, usually unwritten, that are created, communicated, and enforced outside of officially sanctioned channels.”* Simply because formal institutions possess legal authority does not mean that they are necessarily more powerful than informal institutions. Helmke and Levitsky (2004) point out that in practice formal institutions may be ineffective and incomplete, and informal institutions can have a greater credibility to govern the relationship between different actors.

It is now widely accepted that the institutional environment has a great significance as to how resources are allocated within a company (O’Sullivan, 2000) as well as how resources are allocated within society (Baumol, 1990). Further, according to Baumol (1990) the set of rules is important as to whether organizational actors are encouraged to carry out productive activities such as innovation or unproductive activities such as rent seeking (Baumol, 1990). As discussed earlier, depending on the set of rules, organizational actors tend to engage more in unproductive activities that damage the economy or in productive activities that are necessary for economic growth. Taken as a whole, organizations are certainly influenced by their institutional environment.

II.2. Actors in society

II.2.1. Institutional actors

While the institutional environment influences the actors within a society, the actual development of innovation ultimately depends on the behaviour of the actors. The institutional environment may provide incentives for actors to behave in a certain way, for example to invest into skill and knowledge (North, 2005), but the final decision whether to follow those incentives is made by the actors of the society. The actors who are the creator of innovation will be discussed in the following.

Relevant for this study are two different kinds of actors, namely actors who are performing on the meso level of a society, such as organizations as well as actors on the micro level, namely individuals.

Subject of this chapter are actors who are operating on the meso level. To start with, actors such as organizations and other associations¹, for instance unions and citizens' groups, which are operating on the meso level are regarded as institutional actors. Depending on the level of analysis, they can be understood as both institutions and actors. Institutional actors, such as firms and other associations often possess legal rights in order to compete and act on the market. They are entitled to carry out transactions on the market like any other single individual actor, and hence by law they are treated in some respect as a person (Hodgson, 2003).

Most important for this study are organizations. Generally, it is argued that organizations aim to increase their organizational wealth in order to serve the common interest of their different stakeholders (Davis, Schoorman and Donaldson, 1997), but also they may pursue some additional goals that are influenced by their vision and ideals of a particular firm (Nonaka & Toyam, 2005; Lundvall & Vining, 2004). From the perspective of evolutionary economists (Nelson, 1991) firms are seen as the actors that are responding to their institutional environment (Child, 1997) and, the differences between firms within the same context are highlighted (Nelson, 1991). From this perspective, the unit of analysis is the firm that exercises choice (Child, 1997; Oliver,

¹ Perrucci and Potter (1989) used the term collective actors for associations such as countervailing organizations.

1991). The success of an organization depends to a great degree on its ability to adapt to its environment (Child, 1997).

In order to achieve its goals, firms adopt a certain strategy. It has been pointed out that firms within the same context will adopt different strategies (Nelson, 1991; Nonaka & Toyam, 2005). On the one hand Nelson argues that different strategies are the result of the complex reality. Due to the complexity it is not possible for a firm “to calculate an actual ‘best’ strategy” (Nelson 1991, p. 67), and as a consequence, firms respond to their institutional environments with different strategies in the future. On the other hand, Nonaka and Toyama (2005) make a case that firms “want and strive to differ” (p. 420). According to Nonaka and Toyam, there is more than one way to achieve a certain goal. Further, the authors argue that firms may have different meanings about the reality that influence their strategy. For example, while, all car manufactures may want to build “a good car”, their understandings about a ‘good car’ may differ (p. 420).

By and large, the perspective of evolutionary economists leaves a considerably degree of organizational freedom (Nelson, 1991). It is important to note that from this perspective the interaction between different actors is crucial for innovation, namely competition and organizational learning.

II.2.2. Individual actors

Secondly, from a strategic choice perspective, organizations are seen as institutions (Child, 1997). Organizations as institutional actors typically represent the interests of a group of individual actors. For instance, unions serve the interest of workers that are members of the organisation. Individual actors believe that they can achieve a stronger bargaining position for their interests through an association that collectively represent their interests (Perruci & Potter, 1989).

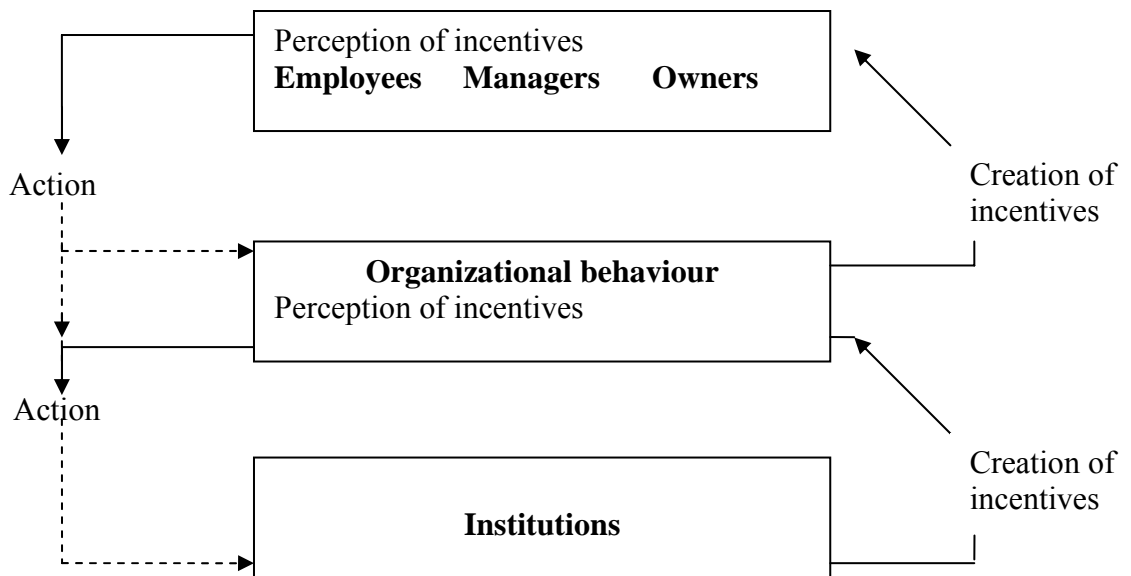
In an organization, different stakeholder groups are engaged within that organization, namely social actors such as employers, managers and owners. Often, different stakeholders pursue different interests that sometimes conflicting. The organizational decision-making is exercised by ‘the dominant coalition’ within the organizational context, namely by those stakeholders “who collectively happen to hold most power over a particular period of time” (Child, 1972, p. 14). The necessity to govern the

relationships between these stakeholders inside the firm has been recognized by the law. In this respect, organizations and individuals are not treated identically, and hence, legislation is released to govern the relationships between a firm and its stakeholders, for example employment relationships (Hodgson, 2002).

In this vein, the configuration of the national capitalist system matters because it defines the legal framework as to how different stakeholders (human actors) can influence on companies' decision (Aguilera and Jackson, 2003). The relationship between various stakeholders is influenced by the corporate governance system on the macro level. To what extent a particular group is able to pursue its interests depends to some extent on existing rules on the macro level that determine the bargaining power of different stakeholders. Nevertheless, as pointed out by Appel (2000) the bargaining power of each group is insufficient to draw conclusions from concerning the actual behaviour. One can expect that the actual behaviour will depend to a great extent on the legitimized (Appel, 2000), or cultural (Blyth, 2003b) context.

Moreover, the decisions of the agents of organizational change depend on the perception of the players as to what choices will benefit them in the future. This perception is influenced by the incentives that the institutional framework provides as well as by the knowledge of the actors, which contain existing mental models derived from past experience (North, 2005). However, it is likely that in some situations, there is no a clear dominating stakeholder group that exists but rather different groups hold power. In this situation, different groups hamper or challenge each other (Child, 1972). Child (1997) has argued that due to changes in the organizational environment or changes in organizational governance, a radical change in the composition of the 'dominant coalition' becomes likely which in turn has consequences for organizational decision-making. From this perspective, a change of the dominating stakeholder group can be expected due to privatization and market deregulation.

Figure 2: A Model of Actors and Institutions



From the learning perspective, the concept of organizations as institutions enables collective learning, and hence innovation. This becomes clear in the statement of Hodgson’s (1998), who argues that “the firm has a capacity to mould and integrate the individual perceptions, preferences, abilities and actions of its personnel” (p. 189). From this perspective, the organization is the platform on which different individual actors can share their knowledge (Lawson & Lorenz, 1999). The outcome of this process is organizational learning, or in other words organizational learning as the source for innovation (Lundvall & Vinding, 2004) is the outcome of individual learning (Kim, 1993).

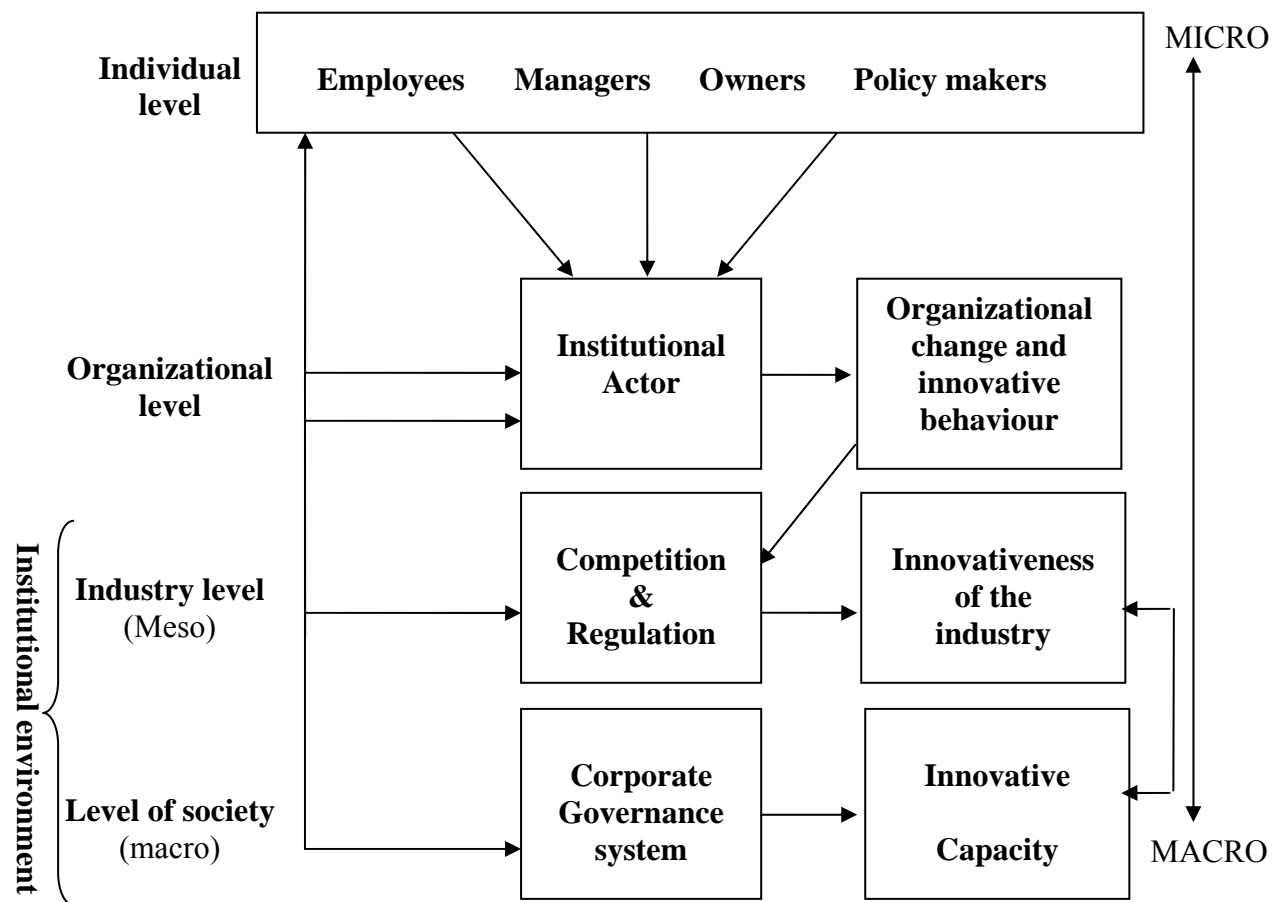
Finally, it has been argued that also the interaction with, and the feedback from, users of the innovation is crucial for the process of organizational learning (Lundvall & Vinding, 2004). Lundvall (2006) points out that the interaction with customers is also crucial for the process of organizational learning since customers’ choice are the feedback for those learning organizations (Lundvall, 2006).

II.3. Relationship between actors, institutional actors and institutions

This section combines the multiple levels of analysis that have been reviewed so far into a theoretical framework that builds the foundation of this paper. As figure 1 illustrates, the institutional environment consists of two related levels. First, the corporate governance structure sets incentive, or disincentives, for actors in a society to carry out innovation. In addition, industry specific institutions and completion influence the behaviour of the individual firm that operates in this environment. However from the perspective of a particular stakeholder group, a company can be understood as an institution rather than an actor. Further, the corporate governance system of the society influences the perception of the actor on the micro level.

Up until now, it remains inconclusive how competition at the industry level and competition from the governance systems influence each other (Ahn, 2002). The discussion as to how the different institutional levels impact on the innovative behaviour of the actor is subject to the next chapter.

Figure 1: Theoretical Framework



III. Market environment and innovation

III.1. Corporate Governance & innovation

Recently, several prominent researchers have stressed that economic institutions at the level of the nation-state, namely the corporate governance system, influence to a great extent the innovative behaviour of the embedded companies (Tycole, 2007; Tylecote and Conesa 1999; Phelps, 2007; Hall and Soskice, 2001). In the broadest sense, a national system of corporate governance includes all formal and informal, as well as private and public rules, that are introduced to resolve conflicts of interests amongst stakeholder groups (Wieland 2002; Cornelius and Kogut 2003). Generally, the corporate governance system is considered to be one of the most important economic institutions at the national level (Hall & Soskice; 2001; Phelps, 2007; Soskice, 1999) and it is expected that different corporate governance system of countries may either constrain or facilitate innovativeness of the embedded actors (Hall and Soskice, 2001; Hollingsworth, 2000).

Recent studies have stressed that different national systems of corporate governance affect both strategic behaviour of firms and the innovativeness of industries (Aguilera and Cuervo-Cazurra, 2004; Aguilera and Jackson, 2003; Crouch and Streek, 1997, Hall and Soskice, 2001). The significance of corporate governance for economic prosperity was made clear by Wolfensohn (1998), the former World Bank President. He stated that “(t)he governance of the corporation is now as important in the world economy as the governance of countries” (Wolfensohn, 1998, p. 38). According to Pavitt and Patel (1999) both the level of competition and the corporate governance system significantly affect a country’s national innovation system. Some authors have stressed that the corporate governance system plays a crucial role for the successful privatization of a company (for e.g. Dyck, 2001; Shleifer & Vishny, 1997). Therefore, for research in the context of privatization, the institutional arrangement of interest at the societal level is the corporate governance system.

Owing to different cultural, economical and historical backgrounds, corporate governance systems vary across countries. Whereas some economies, such as New Zealand and the UK, have established institutions on the macro level that promote competition in capital markets, labour markets and markets for managers, other economies, such as Germany and Japan, rely on different mechanisms to coordinate

those markets (for e.g. Hall & Soskice, 2001). Further, it is argued that the national corporate governance system has an effect on the innovative profile of countries (Baumol, Litan & Schramm, 2007; Boyer, 2000; Crouch & Streek, 1997; Hall & Soskice, 2001; Hollingworth & Boyer, 1997). Researchers suggest that most Northern European economies, and in particular Germany, patent frequently in well-established, traditional industries, such as in car manufacturing and engineering, whereas Anglo-Saxon countries typically carry out innovations within new, radical, dynamic industries, such as biotechnology or information technology (Caper and van Waarden, 2005, Hall and Soskice, 2001). Thus, researchers claim that the corporate governance setting of Anglo-Saxon countries sets incentives to bring out radical innovations owing to a highly competitive environment, whereas the institutional setting of most Northern European countries is believed to motivate companies to bring out incremental innovations (Hall & Soskice, 2001; Phelps, 2007). In the literature, researchers often refer to the Anglo-Saxon corporate governance system as liberal market system (LME), and to the corporate governance system of Germany and Japan as coordinated market system (Hall & Soskice, 2001).

Nonetheless, the recent literature on the ‘diversity of capitalism’ has been critiqued by several authors. One major drawback is that most of the evidence is conducted on an aggregate level. The comparison of this statistical evidence is not without pitfalls. For example, Crouch (2005) has argued that statistical data does not reveal the true picture of the economy. Crouch (2005) argues that the conclusion made by Estevez-Abe, Iversen and Soskice (2001), who claim that Anglophone countries carry out more radical innovations because more academic patent citations are made by firms, is not persuasive for several reasons. Firstly, this might be attributed to the extensive Anglophone literature in science. Secondly, the law system of Anglo-Saxon countries differs significantly from the European legal traditions. Whilst European countries have applied a legal system determined by civil law traditions, the legal system applied in Anglo-Saxon countries is based on a common law tradition. Generally, the patenting of innovations is encouraged to a greater extent by a common law system (Crouch, 2005). In the information technology sector in particular, which is often used as a classic example to demonstrate the radical innovation capacity of Anglo-Saxon countries (for e.g. Phelps, 2007), patents for programs for computers are excluded from patentability

in European countries (The European Patent Convention [EPC], Article 52, Paragraph 2), which makes the comparison problematic. In contrast to the United States, the European Patent convention takes the view that certain things like scientific theories and mathematical methods should not be regarded as innovation that are patentable. As a result, innovation may be brought out in European countries that are beneficial for the whole economy, but they are not necessarily captured in the statistics owing to their public good character.

Another pitfall of the statistical classification is the assumption that innovation within new industries automatically represents radical innovation, whereas innovation in old industries is only of an incremental character. As a consequence, the invention of the hydrogen-fuelled motor engine would count as an incremental innovation, whereas the launch of another Windows Version from Microsoft represents a radical innovation (Crouch, 2005). Further, the problem arises what industries can be considered to be new. According to Baumol, Litan, Schramm (2007) radical innovation has been noticeable absent in continental European. In contrast, Crouch (2005) points out that the literature on different types of capitalism cannot acknowledge that Germany has carried out radical innovation in the past. Further, for example Germany is clearly a pioneer in many environmental technologies and has a leading position in nanotechnologies (The Boston Consulting Group, 2006). The existing theory on capitalism cannot explain why the German economy has innovative capacity in new industries. Additionally, the question comes up as to which economies will carry out radical innovation in future key industries.

To summarize, the main critique of researchers against the diversity of capitalism literature has been that the evidence given to illustrate the patterns of innovation in the two systems of corporate governance is mostly conducted on an aggregate level (Börsch, 2004), and empirical evidence on the firm level is still rare. For example, Miozzo and Dewick (2002) have stressed that the mechanism of innovation must be analyzed on the firm level. Similar, Börsch (2004) argues that most research on varieties of capitalism pays little attention to the investigation at the individual company level and instead, focuses on aggregates of companies, and suggests that the investigation on the firm level can help to gain better insights on how different types of capitalism influence the innovativeness of companies (see also Hollingsworth, 2000).

Despite the concerns raised by some researchers that the existing evidence is not suitable to prove that the LME system of corporate governance outperforms that of CME's, politicians and investors argue that LME system of corporate governance is superior to the CME system (Jensen, 1993). Policy makers and academics alike are concerned with the lack of success in the high-technology industries, such as biotechnology and software (Casper, Lehrer and Soskice, 1999). As a consequence, the German model of corporate governance in particular, which is often considered to be a prototype of the CME system, is presently under pressure to change (Dore, 2000).

Moreover, there is another aspect that has been neglected in the recent literature discussion on diversity of capitalism, and that is, whether the innovations that are carried out in different economies are beneficial for the society. While a lot of researchers have given their attention as to whether institutions promote radical or incremental change, little attention is given as to whether institutions promote innovation that is beneficial for the society. Baumol (1990) pointed out that different types of innovation exist. Whilst some innovation benefits society and hence is important for prosperity and growth, other innovation damages it; instead of fostering growth it rather redistributes resources in society. Instead of focussing whether innovation is radical or incremental, the more important question should be whether institutions promote innovation that is beneficial for a society. The identification, however, whether an innovation should be categorized as bad or good depends often on the value system of the society. In this vein, Khan, Munir and Willmott (2007) have demonstrated that changes in the institutional environment may bring clear benefits to some actors while the benefits for others are questionable. From this perspective, the question as to whether an innovation is good or bad for society should also involve the dimension who is benefiting from an innovation and who is not.

Lazonick & O'Sullivan (2002) argue that during the 1990s the United States may improved significantly their overall economic performance compared to other nations, however, they question whether the prosperity of its society will be sustainable. According to Atkinson et al. (1995; quoted in Lazonick & O'Sullivan, 2002), the income distribution in the United States is the worst amongst all developed countries. The authors give evidence that the richer households benefited from the growth, whereas the households with lower income received less from the aggregate income.

Further, they demonstrate that US households had to work more hours in order to maintain their income. As a result, Lazonick & O'Sullivan (2002) question that the free labour and capital markets of LME's are able to provide sustainable prosperity. Lazonick (2003) speculates that there is a link between sustainable innovation and the skills upon a economy relies on; the income inequality in the United States may be the result of the tendency of the society to invest into narrow skill bases.

Therefore, changes in the institutional environment, such as the liberalization of markets or the privatisation of former state owned companies need to be seen in the context of who changes the rules for whom, and who is ultimately benefiting from the new set of rules. Clearly it becomes necessary to analyse whose interests are supported by changes in the institutional environments such as more competitive markets, and whose not.

III.2. Innovation, competition and regulation

Some researchers are occupied with investigating how the market structure and more specifically the level of competition on product and service markets influence the innovative outcome of companies (for e.g. Armstrong & Sappington, 2006). In general, the interaction between different actors on the market, namely competition is assumed to provide incentives to carry out innovation. Nelson (1991) points out that the crucial function for competition is not to set incentives for companies to be cost efficient, but more important to encourage organizations to try new variations of resource allocations. Therefore, competition is the main driver for economic growth (Nelson, 1991).

According to evolutionary theorists (Nelson & Winter, 1982) the adoption of firms to an institutional environment can be illustrated by the dynamic interaction of variation, selection, retention and struggle (Aldrich & Ruef, 2006). The starting point is -often blind- variation which means that an organization introduces an innovation on the market (Nelson, 1995). The organization will either receive positive feedback for its action, such as receiving profits, or negative ones, such as losing market share. Consequently, firms learn over time which action and innovation are beneficial for them (Nelson, 1991).

Moreover, the introduction of a successful innovation forces other actors on the market to respond to this innovation. They can either adopt the innovation (DiMaggio and

Powell; 1983) and as a consequence, the innovation will become ‘accepted practice’ over time as more and more organizations adopt it (March, 2006, O’Neill, Poudier & Buchholtz, 1998; p. 99), or they can refuse to imitate the innovation (Oliver, 1991), and choose another strategy. In this case, the latter organization may challenge the initial innovation by doing something differently which could result into a new innovation. In this vein, competition motivates actors to carry out innovation in order to establish a sustainable position in the market, or in Porter’s words to obtain competitive advantages (Porter, 1998). Lundvall and Vinding (2004) argue that particular product innovation is important to achieve competitive advantage.

Schumpeter (1942) has argued that the organization can maintain a competitive advantage with innovation, because this allows them to operate in a protected market (Schumpeter, 1942; Geroski, 1990). This is the case, when the innovation is based on formalized R&D, such as patents (Dosi, 1988). However, to achieve competitive advantage, a firm does not only require formalized knowledge, that can easily be quantified, but also informal knowledge that is ‘in many ways complementary to it’ (Dosi, 1988, p. 1124). Also, because of the dynamic character of the market, an organization that sustains a monopoly position due to innovation must expect that the other players will challenge it very soon.

This reasoning anticipates the role of knowledge and organizational learning as the source for innovation. Organizational learning is the response to uncertainty and competition; it “is seen as a purposive quest to retain and improve competitiveness, productivity, and innovativeness in uncertain technological and market circumstances.” (Dodgson, 1993, p, 378).

From the level of the firm, its ability to develop innovation depends to a large extent on its knowledge base (Cohen & Levinthal, 1989; Dierkes, 2001). Nowadays, the common understanding of many researchers is that knowledge is the central ingredient for innovation (de la Mothe & Foray, 2001; Pfeffer, 2002, Lam, 2004), and with markets becoming increasingly competitive, the knowledge base of a firm is becoming more and more important for its future success of a firm (Dierkes, 2001).

According to Cohen and Levinthal (1989; 1990), the ability to develop innovation as well as to adopt innovation of others depends on the absorptive capacity of a firm. The

absorptive capacity of a firm is the capability of a firm to exploit new, external knowledge. It is influenced by the prior knowledge that has been accumulated by the firm over time (Cohen & Levinthal, 1990). As a consequence, innovation is facilitated by organizational - or cumulative/collective learning (Lazonick, 2002; Lundvall & Vinding, 2004).

In this vein, Cohen and Levinthal (1989) argue that firms may invest in knowledge, such as R&D, with the intention of obtaining the ability to exploit outside knowledge that is situated external of the firm, such as industry knowledge or the wider societal context. One can expect that an organization will encounter considerable costs due to organizational learning, and consequently, the amount of resources that are dedicated to learning activities inevitably depends on the perceived benefits of this investment. Cohen and Levinthal argue that a broader knowledge base in the environment may give incentives for firms to invest into organizational learning. A broader external knowledge base means that the exploitation of knowledge becomes more feasible, and hence it provides opportunities for them. From this perspective, Cohen and Levinthal challenge Schumpeters' argument, which claimed that the protection of knowledge through patents is beneficial for innovation; from their perspective a broad external knowledge base is the main incentive for organizational learning. Further, (Dodgson, 1993) argues that organizational learning becomes more important with an increasingly uncertain environment.

Moreover, to understand organizational learning, it is crucial to understand that organizational learning is rooted in individual learning (Kim, 1993). Kim (1993) points out that organizational learning occurs by individual learning. Therefore, it becomes important to understand how different organizations facilitate individual learning as well as govern the exchange of knowledge between those individual learners.

In this vein, it is important to understand that the behaviour as well as the knowledge of a firm as collective actor may be visible on the meso level, but nevertheless it is the outcome of the collective action of several individuals on the micro level. As pointed out at the beginning of this chapter, firms are institutional actors, and hence they are created by different individual actors who believe that they can achieve a certain interest easier by collective action of the firm than by individual action. Hence, individual actors

are committing to an organization because they believe that this benefits them in some way. However, on the micro level, the different individual actors have to agree collectively as to which action the firm takes. The individual actors that are shaping and changing the firm as an institution are the subject of the next chapter.

Moreover, Lundvall and Vinding (2004) argue that in a stable context with little change, the efficient allocation of resource is of uppermost importance; and firms therefore typically engage into cost savings activities. With the environment becoming more uncertain and human actors are engaging in innovation and changing their needs and desires, innovation is becoming most important for firms in order to sustain competitive advantage. Similar, Dierkes (2001) claims that innovative activity of firms depend to a great extent on surrounding conditions. Firms that are operating in a comparatively predictable and stable environment are more likely to carry out incremental innovation. The firm may constantly improve its existing products and processes, but is not under pressure for radical changes. In cases where the environment is in upheaval, the company is under pressure to change in order to survive. Consequently, firms may introduce products and products and processes that are radical new (de la Mothe & Foray, 2001).

Neither pure competitive markets nor monopolistic markets are suitable to facilitate innovation (Lundvall & Vinding, 2004). In pure competitive markets, companies have no incentives to invest into innovation because they cannot exploit it quasi-rents, and consequently they are unable to recover their investments (Arrow, 1964; Dosi, Marengo, & Pasquali, 2006). Firms may innovate to sustain a temporary monopoly position in relation to their competitors for a certain period (Schumpeter, 1942), however competition had been the incentive in the first place to sustain such position. While a certain degree of patent and copyright protection may desirable to ensure that firms receive benefits from innovation Dosi, Marengo and Pasquali (2006) point out that there are more factors influencing the rate of innovation. The authors find evidence that innovation were developed in markets with weak IP protection, such as the telecommunication sector, and they argue that strong patent protection may result rather in less incentives to invest into knowledge, and may produces less economic growth over time. Drawing on the paper by David Teece (1986) they argue that the incentives for innovation which firms encounter depend to a great extent on the opportunities that

are given within the industry. Taken the existing opportunities of the market as the main source for innovation means that also organizational learning is becoming more important for firms because it enables them to identify and exploit those market opportunities (Dosi et al. 2006).

The characteristic of innovation also implies that markets are not in a stable condition. The actual condition of a market depends to a great extent on the innovativeness of the players. A market that is stable today might be in tumult tomorrow due to new innovation carried out by an actor who challenges the existing rules of the game. In order to compete other players have to react to this market, hence due to innovation, the conditions of markets change over time. Consequently, markets must be investigated from a dynamic perspective.

Overall, a competitive environment is seen to be very important to promote the creation of innovation within companies, and it has been claimed that the realisation of better efficiency during privatization will only be achieved when competition on the industry level has been introduced successfully (for e.g. Van Slyke, 2003, Kay & Thompson, 1986). For example, Ahn (2002, p.5) pointed out that “competition has pervasive and long-lasting effects on economic performance by affecting economic actors’ incentive structure, by encouraging their innovative activities, and by selecting more efficient ones from less efficient ones over time.” According to Ahn (2002), the long term gains from more competition may outweigh the static gains from privatization. Nevertheless, the main literature on privatization has focussed on static gains. Similar, Van Slyke (2003) believes that efficiency enhancements depend on at least two conditions; namely the introduction of competition and the ability of governments to take advantage of its benefits. In this vein, various authors have argued that competition on the product and service market is very important to encourage actors to be innovate and efficient and they stress that emphasizing privatization over the role of competition is misguided. Hence, it seems to be important that privatisation is accompanied by a liberalisation of the markets for competition, because the ownership by itself does not necessarily ensure a strategic shift (Fernandez, Martinez, Inchausti, 2004; Shleifer, 1998). Nowadays, there is a consensus that privatization in combination with competition on the product and service market is most beneficial (Dunsire et al., 1991; Hartley & Parker, 1991; Vickers & Yarrow, 1991; Bishop & Thompson, 1992; Kay & Thompson, 1986). Indeed, as

Newbery and Pollitt (1997) stressed, governments have often carried out both privatisation and liberalisation at the same time. Policy makers who open formerly protected markets for competition aim to encourage new players to compete with former monopolies (Johnson, Smith and Codling, 2000). In this case, privatization not only changes the corporate governance within a company but also the competitive environment at the industry level. Hence both the firm level (or micro-level) and the industry level (or meso level) are subject to change.

Secondly, with respects to market specific institutions, North (2005) has pointed out that it may be necessary to introduce specific rules for a specific market that influence and balance the power of actors on this market. One example for this could be the re-regulation of natural monopolies during privatization that is based on the assumption the market will fail without intervention. In monopolistic industries, such as the railway or airport industry, competition may be impractical and a form of regulation is required (Kay, Mayer & Thompson, 1986). Some researchers have doubted that privatization does lead to superior performance in industries of natural monopolies (Kay and Thompson 1986; Dunsier, Harley et al. 1991; Hartley and Parker 1991; Vickers and Yarrow 1991; Bishop and Thompson 1992). In industries of natural monopolies, such as the railway or airport industry, competition is impractical and a form of regulation is required (Kay, Mayer and Thompson, 1986). In this case, the performance is largely determined by the degree of monopoly power and the form of regulation (Forsyth, 1984).

Lundvall and Vining (2004) argue that some institutional settings may ensure the efficient allocation of resources, but are not suitable to promote innovation. Particular, regulation regimes are often designed to ensure the efficient allocation of resources. Taken the argument given by Lundvall and Vining, the focus on efficiency instead of innovation may not only be irrational, but in some industry even fatal. Innovation and learning are the main source for sustainable growth (Lazonick, 2002). The focus on the efficient allocation of resources may be not without pitfalls. For example, it seems to be that there is a contradiction between regulation and innovation. While the aim of regulation is the efficient allocation of resources, the outcome of innovation is uncertain, and the calculation of its benefits is at present not possible. Hence, it might

be questionable whether a regulated company is able to justify investments in innovation in the case of regulation, and therefore regulation may hamper innovation

III.3. Airport privatisation in different environments

III.3.1. Relative influence of Corporate Governance and Competition

In the literature, two streams have been identified that discuss the importance of different set of environmental conditions on the allocation of resources and their incentives for actors to carry out innovation, namely literature on the competitive environment on the market level (industry competition on the product and service market) as well as the institutional environment on the level of the society, such as the formal corporate governance system (arrangements of the political and economic institutions of corporate governance). Both, the institutional as well as the competitive environments affect the innovative behaviour of its actors; they determine the degree of competition for different factors.

Some authors pointed out that the interplay between the institutional environment, competition and individual and organizational learning impacts on the innovativeness of the society. To begin with, Baumol (2002) emphasised the relevance of the market mechanism to foster innovation. According to Baumol (2002), innovation is the key to economic welfare. However, institutions do not motivate human actors directly to carry out innovation, instead they foster “free-market pressures that force firms into a continuing process of innovation, because it becomes a matter of life and death for many of them” (Baumol, 2002, p. xiii). In other words, innovation is the response of human actors to competition. The pressure of the market competition, which is created to a great extent by institutions on the macro-level, is the main driver to carry out innovation.

North (2005), on the other hand, points out that the institutional environment gives incentives for human actors to acquire skills and knowledge. For example, if actors can expect high returns from productive activities, they have incentives to invest into skills and knowledge that is likely lead to improve of the productivity. As a consequence, the degree of investment in education and training of the players depends on the perception of humans as to how beneficial a better skilled workforce will be in the future (North, 2005). It has been highlighted by many prominent authors that a better skilled

workforce is necessary to develop innovation and hence, to achieve economic prosperity (for e.g. Foray, 2006).

It is important to note that institutions may create an innovative environment rather than they are a necessary condition for innovation. North (2005) points out that human actors have a natural drive to carry out innovation that does not exclusively depend on institutional incentives. In other words, actors may carry out innovations “in the absence of institutional incentives” (North, 2005, p. 17).

Nevertheless, as Blyth (2003, p. 698) pointed out “structures do not come with an instruction sheet” and in every society there will be plenty of room not to behave in a certain way. North (2005) has argued that different human actors will, depending on their individual cognition, perceive the incentive structure differently, and hence, their choices and actions differ (North, 2005).

Up until now, evidence on the firm level as to how different corporate governance systems have influenced the innovativeness of companies is still missing. The aim of this research is to fill this gap by collecting evidence on the firm level as to how the development of innovation has taken place within different national corporate governance systems and different degrees of competition in the context of privatization.

Due to privatization and liberalization, companies in different national environments were abruptly exposed to a more competitive environment. It is assumed that a change in the institutional environment of an organization is accompanied by radical changes within the organization (Greenwood and Hinings, 1988, 1993). Due to the increased market pressure, organizations had to undergo significant organizational changes and develop marketable capabilities in order to survive (Huber, 1994). Empirically, Meyer, Brooks and Goes (1990) have demonstrated that the deregulation of an industry which redefines the competitive rules triggers radical changes within the embedded companies. Similar, Joskow (2005) argued that deregulation has enabled both product and process innovation in the freight transportation sector.

However, changes such as the liberalization of markets do not occur independently of their context. The outcome of any institutional change is influenced by already existing or emerging institutions in the period of observation (Meyer and Rowan, 1977; Meyer and Scott; North 1990, Powell and DiMaggio, 1983). Thus, the innovative activities of a

privatised company were inevitably influenced by both, the competitive environment as well as the institutional environment of the society. For this reason, privatisation provides a very good opportunity to study how different national corporate governance systems have motivated privatized organizations in their goal of becoming more entrepreneurial and innovative, and how they tried to achieve this goal. Therefore, privatisation can be seen as a starting point for investigating of how companies have developed innovation within the same industries in different institutional settings. Surprisingly, despite the ubiquity of research on privatization, until now, the significance of the wider institutional environment on the outcome of privatization has not been discussed.

Generally, prominent researchers advocate research that focus on the behaviour of companies within its context. For example, Pettigrew (1987, p. 657) has encouraged research that analyze organizational change dynamically, holistic and in the context of “the social, economic, political, and competitive environment in which the firm operates”. Meyer, Goes and Brooks (1990) have postulated that research focusing on environmental changes which redefine the conditions of an entire industry, e.g. its boundaries or bases of competition, is still rare. Also, Casper and van Waarden (2005, p. 8) claim that researchers need to “look more into the black box in which innovation inputs are transferred into innovation outputs”.

III.3.2. Privatisation of Airports as ideal case

The selected industry for this study is the airport industry as it has encountered significant changes in the institutional environment due to privatization and deregulation. As a result, the airport industry has experienced considerable transformation with airports transforming from government-owned entities to commercially oriented enterprises (Graham, 2005). Similarly, Jarach (2001) argued that airports have evolved from conservative ‘air-side business’ to sophisticated companies that engage in various new commercial activities such as commercial and tourist services.

The discussion of the literature has implied that both industry competition and the applied corporate governance system have influenced on the innovative behaviour of

privatized airports. However, empirical evidence on the relationship between those levels is still missing. Yet, it has not resolved whether competitive pressures from the product and service market and competitive pressures from the corporate governance systems are substitutes or complements for motivating economic actors to carry out innovation (Ahn, 2002).

Since airports are operation in different competitive environments, the study can contribute towards a better understanding, how different degrees of competition at the product market in combination with pressure from the corporate governance system have influenced the innovativeness of privatized airports.

Generally, airport companies in different economies are embedded in different competitive and institutional environments. The corporate governance system determines the degree of competition on the labour market, the market for managers and capital markets (input markets). As discussed earlier, some economies, such as New Zealand, have established a formal corporate governance system that fosters competitive labour markets, capital markets and markets for managers, whereas others, such as Germany have chosen a corporate governance system that fosters a lower degree of competition on those input markets. Moreover, not only does the corporate governance system vary in different economies, but also the degree of competition on the industry level of the airport sector.

III.3.3. Case selection and research question

In the airport industry, the degree of competition that an airport encounters depends to a great extent on the availability of other airports in the closer vicinity that can act as substitutes. Typically, the degree of competition that airports come across varies in different areas significantly due to geographically factors such as population density. In areas with a dense population it is more likely that more than one airport is operating and hence airports compete with each other (Starkie, 2002). Further, airports also compete with other modes of transport, such as trains and motorways.

For instance, the Fraport AG located in Germany encounters significant competition from both airport companies and other modes of transport. Firstly, approx. 53% of the passengers of the Fraport AG are transit passengers, and those passengers can typically

pick and choose between all big European Hubs, such as London Heathrow and Amsterdam Airport. Also, people who live in the Frankfurt area can, for example, travel via a high-speed train from Frankfurt to Köln airport in approx. 1hour 16minutes. Köln airport offers a wide range of flights to domestic and European destinations. Finally, due to a dense Autobahn and high speed train network (which reaches a of speed ca. 300km/h), the Fraport AG competes with their short-haul flights with other modes of transports. In contrast, the Auckland Airport in New Zealand is the only airport located in Auckland, with 1.3 Million inhabitants. Other international airports in New Zealand, namely Christchurch airport and Wellington airport, are too far away to be serious competitors. It does take by car from Auckland to Wellington approx. 10 hours, and 12 hours by train respectively. Further, the travel time from Auckland to Christchurch is over 14 hours, and requires a ferry crossing from Wellington to Picton. Finally, because New Zealand is geographically isolated and sparsely populated it has not established a fully developed Autobahn and railway network. Hence, the degree that Auckland airport encounters from other mode of transports is very limited. To summarize, due to geographically characteristics the degree of market competition for airport based in New Zealand is relatively low by comparison to European airports, such as the Fraport AG, that compete not only with their Hub function but also with international airports in their immediate vicinity and other modes of transport. Further, the examples illustrate that the degree of competition that an airport encounters can in the end only be determined on a 'case by case basis' (Starkie, 2002).

As a result, some airports may have a highly competitive environment on the product and service market (industry level), but, have a low degree of competition on markets for managers, capital and labour, while other airports may encounter a competitive environment for their labour, capital and managerial markets because they are located in a LME, but a relatively low degree of competition at the product and service level in the airport industry. Hence, the airport industry offers researchers the opportunity to study how different degrees of competition and different arrangements of the corporate governance system have influenced the innovativeness of companies. (Figure 2).

Figure 2: Institutional environments

		<u>Industry</u>	
		Monopolistic	Competitive
Corporate Governance System	CME		Competitive product market
	LME	Competition on input markets	Competitive product market & competition on input markets

Thus, in the context of privatization it will be analyzed how different systems of corporate governance and different degrees of competition have influenced the development of innovation, which groups of stakeholder contributed towards its creation, and which groups received its benefits. For this, the different spheres of corporate governance relevant for privatised companies will be taken into account. The discussion follows the analytical framework developed by Aguilera and Jackson (2003) which explicitly considers the interplay between the institutional environment and the actors on the company level. According to them, the emphasis on three spheres of national corporate governance is important to understand how interests of important stakeholders are taken into account by the national system. They are labour, capital and management.

This thesis is based on the assumption that the organizational behaviour depends on both, the institutional environment and the strategic choice of the institutional actors (Child, 1997; Crouch, 2005; Börsch, 2004). Individual actors have freedom of choice to some extent (Child, 1972), and they may change existing institutions (Scharpf, 1997). Indeed, institutions do influence, but not determine human action; they may enable behaviour rather than constrain it. Hence, it is necessary for the understanding of how the institutional environment influences the innovative capacity of their embedded companies to consider the possibility of learning and evolutionary development of both institutions and organizations (Crouch, 2005).

Further, innovation will be investigated from a dynamic perspective for two reasons. First, Ahn (2002) suggested that researchers who investigate how competition motivates

actors to enhance productive efficiency must not only observe static gains in the short term but also take a dynamic perspective on innovation and growth over time. The study of innovation is crucial to understand the dynamic efficiency gains because the long-run growth of a company depends to a great deal on its today's innovation strategy (Munari, 2002). Up until now, research on the effects of deregulation has according to Joskow (2005, p. 188) "placed too much emphasis on static efficiency gains or losses and not enough emphasis on the factors influencing the rate and direction of product and process innovation which are likely to have much larger consumer welfare effects". Hence, only a dynamic perspective will show the full potential of privatization on innovation.

Second, a dynamic perspective seems to be very important to fulfil the demands of the nature of innovation. Sustainable innovation is the result of organizational learning strategies that takes time to show its benefits.

For this, I propose the following research question:

"How do national systems of corporate governance and different competitive environments influence the innovativeness of companies in the context of privatization?"

While the main aim of this research is to collect firm level as to how different institutional environments have influenced innovation, the finding of this research will also contribute to the discussion whether the objectives of privatization have been achieved. The underlying rationale for privatization was to enhance both allocative and productive efficiency (Hartley and Parker, 1991). A necessary precondition to improved economic performance over time is innovation (O'Sullivan, 2000). Hence, in order to achieve the goal of privatization it becomes necessary to motivate privatized organizations to carry out quality or cost innovation. In this respect, Zahra, Ireland, Gutierrez, Hitt (2000) have pointed out that the strategic shift of a privatized company towards more entrepreneurial activities is crucial in fulfilling the initial objectives of privatisation. Further, they argue that up until now, surprisingly little has been said about how privatization has affected the innovative capacity of companies. A systematic analysis of innovation, however, can give important insights as to whether or not privatisation has been successful.

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