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European Corporate Laws, Regulatory Competition and Path Dependence*

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Abstract

Beyond the well-known discussion in regard to the Cassis de Dijon of the European Court of Justice, implying the mutual recognition of national product regulations, the topic of mutual recognition and regulatory competition has emerged again in the realm of European corporate laws ("Centros" of the ECJ in 1999). Can effective competition among European corporate laws be expected? In the US a broad discussion has developed whether the existing competition process among US corporate laws leads to permanent legal improvements by legal innovations or to a race to the bottom. Beyond this discussion a new point has been raised recently: the possibility and importance of path dependence as a potential problem for the efficacy of competition among corporate laws (lock-ins). For the analysis of this problem we apply the concept of technological paradigms and trajectories to legal rules in corporate law and introduce "legal paradigms," which direct the search for better legal solutions in certain directions and might be stabilized by certain factors (esp. complementarities to other legal rules) leading to considerable path dependence effects. Our results show that path dependence might play a crucial role for competition among European corporate laws, even if the principle of mutual recognition would be introduced to corporate laws in the EU, implying that competition among European corporate laws might be difficult and sluggish. Consequently the question arises whether additional meta-rules should be established that might mitigate the problem of path dependence and lock-ins in regulatory competition in corporate law.

Keywords: European corporate law, regulatory competition, path dependence, choice of law

JEL Classification: F02, G3, K22

Within the European Union the prospect of breaking up the traditional system of national corporate laws in order to realise the "freedom of establishment" has been revived by the already famous "Centros"-decision of the European Court of Justice (ECJ) of March 1999 (C-212/97 ECJ), which might be interpreted as the introduction of mutual recognition to the area of international corporate law in the EU. Earlier attempts to introduce a

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European type of corporation or to realise a system of mutual recognition of corporate laws between the Member States failed due to a lack of consensus (Wouters, 2000). So, if corporations from one EU Member State want to establish themselves in another Member State, they have had to reincorporate according to the national corporate laws of their new locations up to now.

Although highly disputed among legal scholars, the "Centros"-decision of the ECJ might help to enforce the freedom of establishment to a larger extent by introducing the principle of "mutual recognition" for national corporate laws within the EU. The consequences of the introduction of the principle of "mutual recognition" of national regulations are well known from the Cassis de Dijon of the ECJ and the Internal Market Program of the Commission. Through the introduction of the principle of "mutual recognition" by the landmark decision "Cassis de Dijon" the "rule of origin" was introduced into the European product markets, although exceptions are possible (e.g., in respect to health protection etc.). Therefore, the mutual recognition of regulations has been seen as an alternative means to the (often non-feasible) harmonisation for removing barriers to trade within the Internal Market. Crucial for our problem is that the introduction of the "rule of origin" triggered off a discussion, whether the free choice of the consumers between products with different national regulations does lead to a regulatory competition. This may enhance the welfare of the consumers by selecting those regulations that are superior to the preferences of the consumers or end up in a loss of welfare due to market failures, e.g., by a regulatory "race to the bottom" (e.g., Sun and Pelkmans, 1995; Streit and Mussler 1995; Sinn, 1997; Kerber, 2000b).

The recent "Centros"-decision extends this discussion to the field of corporate law regulation. Should corporations be allowed to choose freely between the corporate laws of the Member States? In that case, the EU would apply a similar model of the organisation of corporate laws as in the United States, where the mutual recognition of the different corporate laws of the federal states has always been in force. The federal states have the competence to offer different corporate laws and the firms have the right to choose freely in which federal state they want to (re-)incorporate. As a consequence, a market for corporate laws has emerged in the US, which is characterized by considerable competition among federal states for the incorporation of firms. In the literature on US corporate law a broad debate—based upon the long experiences in the US—developed about the advantages and problems of this competition among corporate laws, and therefore about the workability of the market for corporate charters (Bebchuk, 1992; Romano, 1985, 1993, 1998, 1999). Whereas some authors believe in being able to show a problematic "race to the bottom" in US corporate law regulation, the thesis of the positive innovative effects of this kind of regulatory competition on corporate laws has increasingly been supported in recent years (Easterbrook and Fischel, 1996). Important for our discussion is that the introduction of the principle of "mutual recognition" in the EU could trigger off a similar process of regulatory competition among the corporate laws of the Member States (Van den Bergh, 2000).

But can effective competition among the corporate laws of the EU Member States be expected, if the principle of "mutual recognition" is introduced? In this paper we want to analyse a particular aspect of this question: Can path dependence as one form of potential market failure become a severe problem for the workability of competition among corporate laws in the EU? Both, path dependence and its potential consequence

of getting stuck to inefficient legal rules or institutions (lock-in) have been discussed in recent corporate law literature (e.g., Klausner, 1995) and on a general level in institutional economics (e.g., North, 1990; Gillette, 1998). If severe path dependence effects can emerge in regulatory competition among corporate laws, the effectiveness of these competition processes can be limited considerably.

For the analysis of this problem, we want to take the following steps: After a presentation of the central arguments of the "Centros"-decision (section 1) a short overview is given about the theory of regulatory competition (section 2) and the concept of path dependence (section 3). In section 4 we will first give an introduction into the competition of corporate laws by the example of US chartermongering, then we will introduce the concept of technological paradigms to legal issues. We will show that this evolutionary concept can be fruitfully applied to the realm of corporate law. Afterwards we will show that severe path dependence effects can be expected in a regulatory competition among corporate laws within the EU (section 5). This will lead to the conclusion that the introduction of the principle of "mutual recognition" is not sufficient to ensure a workable system of corporate laws in the EU.

1. The "Centros" judgement of the European Court of Justice

The "Centros"-decision of the ECJ was about the following case:

> In 1992 the Danish couple Bryde set up a private limited company in the U.K. (Centros Ltd.). This business form has had no minimum capital requirements. The Brydes only signed a share capital of £100 that was neither paid up nor made available to the company by Mr and Mrs Bryde. Mrs Bryde became the director of the company and the registered office address was that of a friend of Mr Bryde. After the set-up Mr and Mrs Bryde went back to Denmark, without doing business through "Centros." A few months later Mrs Bryde requested the Danish Registry Office to register a branch of "Centros," but the Danish Registry Office refused. The Registry Office argued that "Centros" was "in fact seeking to establish in Denmark, not a branch, but a principal establishment by circumventing the national rules concerning, in particular, the paying-up of minimum capital fixed at DKK 200,000 (C-212/97 ECJ, March 9, 1999).

"Centros" claimed that it was in accordance with the EC Treaty and the freedom of establishment granted in articles 43 and 48. Mr and Mrs Bryde did not deny that the incorporation of "Centros" in the U.K. was motivated by the circumvention of the Danish minimum capital requirements. Yet, this was not a fraudulent action but the choice of the most favoured law system. While the Danish Registry Office claimed that the Brydes abused the formulas of the EC Treaty, the ECJ was convinced by the Brydes' arguments, and the Court decided that it was "immaterial that the company was formed in the first Member State only for the purpose of establishing itself in the second, where its main, or indeed entire business is to be conducted" (C-212/97 ECJ).

What might be the consequences of the "Centros"-decision? The decision has several dimensions and up to now its probable consequences are discussed rather controversially among legal scholars.[1] In the following we want to present one interpretation, which is

held by the majority of legal scholars in Europe (see, e.g., Wymeersch, 1999) though heavily disputed by a strong minority (Kindler, 1999).

A decisive aspect of the decision might be that the Court has taken a new position towards the interpretation of the articles concerning the freedom of establishment in the EC Treaty. In the former "Daily Mail"-decision in 1988 (C-81/87 ECJ) the Court held the opinion that the EC Treaty remained silent in questions of freedom of establishment as long as the national corporate laws are so diverse in Europe. But in "Centros" the Court claimed that freedom of establishment was directly protected through the EC Treaty. In other words, in "Daily Mail" every Member State had unrestricted jurisdiction over its entire corporate law, and questions about European corporate law were resolved through the national laws of "conflict of law." In "Centros" the national "conflict of law" doctrines seem to be constrained by the EC Treaty that requires a guarantee for the freedom of establishment (Wymeersch, 1999, p. 4). Taking these arguments into account the Member States have to solve the questions concerning the freedom of establishment of corporations in the European Union on EU-level. The Member States are free in the choice of measures they take to fulfil the requirements of the Internal Market. Therefore, it might be feasible to create harmonized European business forms. However, it is not likely that the Member States are able to agree on a European corporate law. Yet, if the option of harmonizing European corporate laws is not chosen the principle of mutual recognition, as the only alternative to harmonization, has to be applied in order to guarantee the freedom of establishment and to complete the Internal Market.

Similar to the consequences of the Cassis de Dijon-judgment of the ECJ, which implied the transition to the "rule of origin" through introducing the principle of "mutual recognition," the "Centros"-decision might raise the question, whether in the long run the nowadays dominant "real seat theory" will be substituted by the "incorporation theory" as the relevant "conflict of law" rule in regard to the corporate laws of the Member States. If the Member States apply the "real seat theory,"[2] foreign corporate laws are rejected in the national jurisdictions implying that the legal forms of corporations have to conform to the national corporate law. Consequently, under the regime of "real seat theory" it is not easy for corporations to shift their central administration or principal place of business from one Member State into another. Contrary, the "incorporation theory" implies the mutual recognition of foreign corporate laws within the European Union.[3] Mutual recognition and therefore the transition to the "incorporation theory" would imply that corporations from other Member States are able to retain the corporate legal form of their home country, where they were incorporated first, despite moving their central administration or principal place of business to another Member State.

Consequently, one probable interpretation of "Centros" is that it is the break-through of the "incorporation theory" in the EU and therefore the mutual recognition of corporate laws. In this paper we want to adhere to this interpretation, but we acknowledge the possibility of interpretations that are directed in the opposite direction. Some commentators on "Centros" may be right in pointing out that the ECJ in "Centros" did not explicitly consider the question of mutual recognition, "yet the reality is that the decision brings this debate to the forefront" (Carruthers and Villiers, 2000, p. 92).

2. Theory of regulatory competition

The theoretical discussion on regulatory competition is part of a broader and strongly disputed topic, which is associated with the terms "systems competition," "institutional competition," "locational competition," or "competitive federalism."[4] Its increasing relevance is seen as the result of the so-called globalisation phenomenon. Due to increasing mobility of individuals, firms and production factors, it seems to be useful to apply the market paradigm to the realm of the services of the states as well (public goods, legal rules). For analytical clarity it is necessary to differentiate carefully between competition among states or (more generally: territorially defined) jurisdictions on the one hand (interjurisdictional competition), and competition among (sets of) legal rules on the other one (regulatory competition).

In *interjurisdictional competition* different jurisdictions (states) as suppliers of bundles of public goods, legal rules and taxes compete for mobile individuals, firms and production factors as customers, who decide on their locations according to the relative benefits of different jurisdictions. This means that the provision of a legal order with an appropriate set of legal rules (regulations) is a very important part of this bundle. Therefore, the regulations are an important determinant for locational decisions, and the provision of superior legal rules and regulations can help to gain competitive advantages compared to other jurisdictions. If jurisdictions attempt to improve their regulations in order to foster their competitiveness in locational competition, we can speak of *type A-regulatory competition*. In that case, too, there is a certain kind of competition for better legal rules, but only in a rather indirect and hampered way, because legal rules—and especially specific legal rules as e.g., corporate laws—are only a small part of the advantages and benefits of a certain jurisdiction and changing them implies complete entry/exit-decisions. This is due to the fact that in this case firms can only use the corporate law of that jurisdiction, where they have established their business. This corresponds to the already mentioned "real seat theory," which has up to now been dominant within the EU.

In contrast to that the "incorporation theory" refers to the situation that firms have the right to migrate to other jurisdictions without having to adopt the corporation laws of their new locations, as within the US. In this case, firms can directly choose between the corporation laws without having to accept the entire bundle of the respective jurisdictions. If the choice between legal rules of different jurisdictions is allowed without having to change the jurisdiction ("opt out") a much more direct form of competition among these legal rules is possible, because these rules can be chosen individually. For that case we want to use the term *type B-regulatory competition*.[5] The debate on the future perspectives of European corporate law, which is triggered off by the "Centros"-decision, is on whether a transition should be made from an already existing type A-regulatory competition among corporate laws, which is only possible by changing the locations of the firms and accepting the whole tax-public goods/legal rules-bundles of the Member States, to this type B-regulatory competition. Whereas in type A-regulatory competition inferior sets of legal rules (as e.g., corporate law) can be easily compensated by the superiority of other parts of the whole bundle, which might lead to a low pressure to sift out inefficient legal rules, in type B-regulatory competition such a compensation is not possible. Consequently, competition among sets of legal rules as corporate laws, which can be chosen individually by the firms, is much more intense than in the first

case. Although many authors would argue that only through the introduction of the "incorporation theory" competition among corporation laws becomes possible at all, indirect competitive effects among corporate laws exist already in the case of "real seat theory." Our following analyses will only refer to type B-regulatory competition.[6]

Since we have to accept the existence of Hayek's knowledge problem, i.e. the governments have no perfect knowledge, which public goods and legal rules are the best ones to solve the problems of their constituents, it is not possible to use a neoclassical concept of competition, in which perfect knowledge about the optimal legal rules is assumed. Therefore regulatory competition should be seen as a "discovery procedure," which can be understood as a process of parallel experimentation, in which new rules are generated and tested and in which we hope that the superior legal rules will be found out and spread by imitation. From this perspective legal rules should be seen as hypotheses, how problems of interaction and coordination in society can be solved best. Consequently, in the concepts of interjurisdictional and regulatory competition an evolutionary concept of competition should be used, which is based upon central ideas of Hayek (competition as a discovery procedure) and Schumpeter (competition as a process of innovation and imitation). Such an evolutionary concept of knowledge-generating competition makes it possible to use the rich theoretical and empirical insights of innovation economics also for the analysis of regulatory competition.[7]

What can be the potential advantages and problems of a workable type B-regulatory competition? (see generally Streit and Mussler, 1995; Sinn, 1997; Gatsios and Holmes, 1998; Kerber, 2000a; Van den Bergh, 2000). Since we cannot assume that the optimal rules have already been found, regulatory competition as a parallel process of experimentation with different legal rules could lead to a much greater capability of finding superior rules and could therefore imply a faster rate of legal innovations and a greater adaptability to all kinds of exogenous shocks than in centralized legal systems, in which only sequential experimentation and learning is possible. Beyond that, regulatory as interjurisdictional competition can help to control the power of governments and limit rent seeking-behavior. Furthermore, regulatory competition allows for a differentiated (decentralized) set of regulations (or legal rules), which is able to better fulfil the preferences of a heterogeneous population with different problems. Yet, in the literature on regulatory competition good arguments can also be found, why regulatory competition can suffer from deficiencies (e.g., Sinn, 1997). One of the most prominent examples refers to the possibility that competition among legal rules leads to a "race to the bottom," i.e. that the jurisdictions try to outdo one another by reducing the standards of regulation to an inefficient low level. Although the empirical support for this contention is still lacking (Sun and Pelkmans, 1995), the question, whether regulatory competition might jeopardize the aims of the regulation, has to be taken very seriously. Another group of potential problems origin in incentive problems, because in many applications it is not easy to see, what incentives politicians have to improve regulations in processes of regulatory competition (Wegner, 1998). The problem, which will be the focal point of this paper, is whether path dependences can impede regulatory competition.

From a policy point of view we can ask whether regulatory competition will lead to desirable results for the constituents of jurisdictions or end up with more problems than advantages. But the consequence of potential market failures does not mean the

elimination of competition by harmonization/centralization of regulations or by abrogating the free choice of legal rules. Instead, the question should be, whether appropriate sets of meta-rules can be found, which help to mitigate the deficiencies of regulatory competition. This set of meta-rules can be interpreted as an institutional framework (competitive order) that has the task of ensuring the workability of those competition processes (Kerber, 1998; Van den Bergh, 2000).

3. Path dependence and the concept of technological paradigms and trajectories

Path dependence is a rather new concept in economics that has been applied to different topics since the eighties. In his already famous article "Clio and the Economics of QWERTY" David (1985) attempted to explain how the still existing standard typewriter keyboard ("QWERTY") emerged by an accidental set of happenings and how it persisted up to now, although more efficient alternatives have been developed. The basic idea is that certain historical conditions can imply the emergence of a certain track which channels the development in a certain direction. Arthur (1994) showed that in the case of competing technologies, inefficient technologies can succeed and persist despite the emergence of more efficient ones, if self-reinforcing mechanisms as e.g., increasing returns exist. In that case small historical events as the fact which of these technologies is applied first can lead to the winning out of one technology over another, implying the possibility that an inefficient technology is "locked in."

Or, in other words: History matters. But the concept of path dependence has been also increasingly applied to various topics in institutional economics.[8] For example, North (1990) has shown in his studies of institutional change in economic history that path dependence can be a fruitful concept for explaining the long-term persistence of institutions, particularly inefficient institutions. For our analysis of the impact of path dependence effects on regulatory competition we want to apply Dosi's concept of technological paradigms, which is a well-established concept for analysing path dependence effects in innovation economics, to the development of legal rules.

In his concept of technological paradigms, Dosi applied Kuhn's concept of scientific progress as a sequence of scientific revolutions to technological evolution (Dosi, 1982, 1988a, b). Kuhn (1970) distinguished between phases of normal science, in which a certain scientific paradigm dominates and directs scientific research, and revolutionary phases, in which such a scientific paradigm is superseded by a new one. Since similar patterns can also be observed in technological development, Dosi introduced the notion of a "technological paradigm" which directs the search of technological improvement and therefore leads to a trajectory in technological evolution: "Both scientific and technological paradigms embody an *outlook*, a definition of the relevant problems, a pattern of enquiry. ... In other words, a technological paradigm can be defined as a 'pattern' of solution of selected technoeconomic problems."[9] The paradigm defines the basic problem, which has to be solved, the relevant trade-offs, in regard to which solutions have to be found, and the heuristics, which are applied for the innovative process of problem-solving. The technological paradigm can therefore be interpreted as a hypothesis about what the most promising definition of the problem is and in what direction and with what

methods solutions should be sought. As a consequence, the paradigm directs technological progress along a certain path (or corridor) of technological research and development.

Since the usefulness of technological paradigms will get exhausted after a certain period of time, the path of technological development will change to a new trajectory, which will be determined by a new paradigm. This redefines the basic problem, determines different relevant trade-offs and uses other methods and heuristics for further development. In that respect we can speak of competition among different technological paradigms as competing basic hypotheses about the future solving of technological problems in a certain realm. If firms compete on markets by developing different technologies, this can be (1) technological competition *within* the same technological paradigm, e.g., if the whole industry uses the same paradigm, or (2) competition *among* two or more different technological paradigms. In either case these processes of technological competition can be seen as evolutionary processes of experimentation, in which the firms generate new hypotheses, make experiences by testing them and can learn from each other mutually (innovation-imitation-processes).

It is empirically astonishing that technological paradigms are often stable during long periods of time (e.g., the internal combustion engine). Therefore, in the concept of technological paradigms several groups of factors have been elaborated, which can stabilize those paradigms and are therefore largely responsible for the path dependence effects, which show up in those technological trajectories. The switching to a new technological paradigm can be impeded by (1) uncertainty, which favours the use of the well-established search routines of the old paradigm, (2) sunk costs in form of technology-specific investments along the old paradigm, (3) dynamic economies of scale (as e.g., learning effects and network externalities), and (4) complementarities to other technologies, which implies that the transition to a new technological paradigm in a certain technological realm could require the development of other complementary technologies (Elsser, 1993, p. 118; Schilling, 1999). Now the crucial problem is that these path dependence effects can lead to severe failures of technological competition to select the efficient technologies, because due to these stabilizing factors the replacement of inefficient technological paradigms by superior ones could be blocked (David, 1985; Arthur, 1994). These lock-in effects can lead to the long-term persistence of inefficient technologies despite the existence of more efficient ones and can therefore cause market failure.

4. Path dependence in the evolution of corporate law

4.1. Competition among US corporate laws: An introduction

In the United States corporations have to select a charter for running business, yet, the corporations are free to choose between all corporate charters provided by the fifty federal states. Consequently, the incorporation theory is being applied, leading to a type B-regulatory competition among corporate laws within the US Since the seventies a broad discussion has developed in the United States on the workability of this system of corporate chartering.[10] Historically this system had never been designed deliberately, but emerged in the context of the fight against trusts and monopolies at the end of the

nineteenth century (Sherman Act, 1890), when the government of New Jersey attempted to give monopolies and trusts a new home—in exchange for the payment of a tax for using the corporate law (Sandrock, 1978, p. 235; Shughart and Tollison, 1985; Grandy, 1989). So, the incentive of the states to engage in charter competition is the raising of the "franchise tax."[11] Whether this competition leads to a "race to the bottom" or to a "race to the top," is vehemently disputed. Legal scholars following the "race to the bottom" hypothesis (e.g., Cary, 1974; Eisenberg, 1983) argue that competition among corporate laws would lead systematically to a degradation of corporate law. The cause for this would be that the states make only legal offers to the managers, who decide on the incorporation decision and who look primarily for protection from the checks of the investors. As a result, corporate laws aggravate managerial problems (manageralism), e.g., by instruments that prevent hostile takeovers (poison pills). Since the market for corporate control would be less able to sanction mismanagement, competition in the market for corporate law would increase inefficiencies.

The followers of the "race to the top" hypothesis (e.g., Winter, 1977; Easterbrook and Fischel, 1996) do not deny that competition in corporate law has forced a liberalization of corporate laws. They deny, however, that this development runs against the interests of the investors. On the contrary, for those authors competition among corporate laws is the means to fight the interests of the investors against the management (Bebchuk, 1992, p. 1445). This argument is supported by empirical investigations of the development of the firm value of corporations. It has been shown that corporations which are incorporated in Delaware have a higher firm value and higher net returns than firms incorporated in other states (Dodd and Leftwich, 1980; Daines, 1999). This has led to the conclusion that this kind of regulatory competition results in the selection of efficiency-increasing rules. Consequently, one lesson of competition among corporate laws would be that the best corporate practice and the best corporate law will survive in the long run.

On the whole, competition among corporate laws within the United States can be observed. According to the incorporation theory it can be characterized as a type B-regulatory competition. There has been much discussion on the workability of this kind of regulatory competition. But in recent years the adherents of the thesis have increased that competition among corporate laws within the United States has had more positive than negative effects (Romano, 1993; Easterbrook and Fischel, 1996). This does certainly not imply that this regulatory competition works without problems and is not improvable by appropriate meta-rules. Especially in the last years an additional topic in regard to the workability of those competition processes has emerged, namely the question, whether path dependence could impede the working of competition among corporate laws. In the following sections this problem will be discussed in detail.

4.2. Recent discussion on path dependence in corporate law

The starting-point of the discussion on path dependences in corporate law evolution is the considerable diversity of corporate laws throughout the world. Beyond all differences both the "race to the bottom" and the "race to the top" theories imply that the competitive race among corporate laws would lead to an *ex-post* harmonization or convergence of corporate laws in the end. It is therefore not easy to explain, why the corporate laws

have remained so different (Bebchuk and Roe, 1999, p. 136; Gerum, 1998; Hopt, 2000). This is especially true for the European corporate laws, because the European firms have been acting in an increasingly integrated market for decades. Another question is, why the regulations in the area of corporate law often do not adapt gradually and smoothly, but rather in large steps. Bebchuk and Roe (1999, p. 137) sum up: "In any event, it does not matter for our purposes whether the overall variance among countries in ownership structures has been recently narrowing somewhat, remaining the same, or increasing—a question which the data is insufficient to resolve. What is clear is that, notwithstanding the forces of globalization and efficiency, some key differences in corporate structures among countries have persisted. This observation raises important questions for researchers: Why have such differences persisted? And will they persist in the future?"

How can the worldwide differences in corporate law and corporate governance be explained despite the fact that globalisation and internationalisation lead to increasing interjurisdictional competition? From our perspective two different potential causes have to be discussed:

1. The first one is that on the international level as well as within the EU the incorporation theory is not in force. Therefore only the indirect and very weak form of type A-regulatory competition is possible, which is a consequence of interjurisdictional competition. The persisting variance of corporation laws could therefore be caused by the weakness of this kind of regulatory competition, which, however, could be remedied by introducing the principle of mutual recognition and the incorporation theory as meta-rule.
2. In recent literature about corporate law a second cause has increasingly been discussed: path dependence. If, after all, considerable path dependences in the evolution of corporate law exist, it is possible that national governance systems can persist for a long time despite the existence of more efficient governance systems in other countries. Therefore path dependence could be another explanation for the persisting variance of corporate laws.

4.3. Applying the concept of technological paradigms to legal evolution: Legal paradigms and legal trajectories

If we interpret (sets of) legal rules, as other kinds of institutions, as "socio-technological instruments" that attempt to solve problems of human interaction in societies, the analogy between technologies and legal rules does not seem so far-fetched as it might seem on first glance. From an institutional economics point of view corporate law rules have to be seen as instruments to solve incentive and transaction cost problems in regard to the complex organizational problems of large firms (Romano, 1985; Carney, 1998). Since we cannot assume that the best legal rules have already been found and that additionally new problems emerge, which require the adaptation of legal rules, permanent research for improving the legal solutions for problems of human interaction is necessary.

In the following we suggest that for the analysis of path dependences in legal evolution it is useful to develop a concept of "legal paradigm" in analogy to Dosi's concept

of technological paradigm,[12] despite important differences which will certainly remain. Therefore a legal paradigm can be seen as embodying an outlook, a definition of the relevant problems and trade-offs, and a certain pattern of enquiry and heuristics for solving new emerging problems: What kind of phenomena are problems at all? And if they are problems, in which way should they be solved? Which legal instruments should be used and which be avoided? The basic idea is that in many legal realms, as e.g., corporate law, such legal paradigms exist, which direct the way how problems are being solved and therefore determine a certain path of legal evolution.[13] From our perspective this concept can be applied both to legislation and jurisprudence as two different ways of legal change. Whether this concept of legal paradigm can be used fruitfully depends on the question, to what extent stabilizing factors do exist, which lead to considerable path dependence effects and therefore to legal trajectories. In the next section we will see that in corporate law, too, legal paradigms and legal trajectories can be identified and that many of the path dependence effects, which have been discussed in the corporate law literature, can be interpreted as stabilizing factors of these legal paradigms in corporate law. If our analysis of legal paradigms and legal trajectories reveals severe path dependence effects in the evolution of corporate law, then competition among corporate laws could suffer in the same way from lock-in effects as was shown for technological competition in innovation economics.

4.4. Legal paradigms and path dependences in corporate law

There can be no doubt that the clear identification and specification of legal paradigms is a difficult task, and legal scholars would be more competent to apply the concept of legal paradigm to a specific legal realm as corporate law than economists. Beyond that, an international comparison would show that different legal orders would not even agree on the definition of corporate law. This disagreement is itself a consequence of the use of different legal paradigms in corporate law in different countries. Therefore, it is useful to apply a broad definition of corporate law. Generally, corporate law regulates the formation, existence, and termination of corporations as legal vehicles. Its main function is to enable people to create a body with a distinct corporate personality and to regulate the conditions which have to be complied with to obtain incorporation and determine the rules that have to be observed to protect members, creditors and the public against the dangers inherent in such a body (Heiser, 2000, p. 60). A legal paradigm in corporate law would include the basic ideas about what are the fundamental features of corporations, what are the relevant problems and trade-offs to be solved, and what are the heuristics and main legal instruments, which should be used to improve the legal solutions of old problems and successfully tackle new-emerging problems. The following examples of important differences between the corporate law paradigms used in Germany and in the United States, should help to understand the paradigmatic character of central features of corporate law and their potential implications for path dependence effects in the evolution of corporate law.

Central features in a corporate law paradigm are the organs of a company. In the German legal family the strict separation of the executive board and its control through the supervisory board dominates. This constellation is called the two-tier system. On

the other hand, in the legal family of the Common Law (as in the United States or in the United Kingdom) the one-tier system is adopted widely, where there is only one board directing and controlling the business simultaneously (see, e.g., Roe, 1993, 1994; Weimer and Pape 1999; Hopt, 2000). These different systems comprise the existence of different basic hypotheses about the nature of the corporation and the relevant legal trade-offs, which have to be solved. Both cannot be seen without consideration of the entire institutional setting. The German system of specialized supervisory boards interacts with the so-called "Universalbankensystem," in which a bank is allowed to take the position of an investor and creditor simultaneously (Charkham, 1994, p. 35). This interaction leads to an effective corporate financing by "house banks" organizing all financial services for a corporation for a long period of time. In the tight relation to the companies a house bank gets specific knowledge, which can reduce agency-costs enormously. As a consequence, supervisory boards are frequently house bank-dominated. Such a tying up of the banks with the firms by investment and credits can, however, entail specific clashes of interests, which can undermine the basic logic of the German supervisory board system. It might be possible to interpret the German co-determination and participation of unions in the supervisory board of large stock corporations as an instrument for overcoming the trade-off between interests in financing and control through the inclusion of outside experts into supervision, who might reduce possible problems of manageralism. Therefore, one basic idea of German corporate law is to strengthen the voice mechanism for solving conflicts of interests between different stakeholders within a firm (Roe, 1999; Gerum, 1998).

In the US the one-tier board system in interaction with the separation of investment banks and commercial banks implies another solution of the trade-off between the interests of finance and control (Charkham, 1994, p. 174). Since corporate finance via credits and simultaneous holding of securities in the same corporation was forbidden by the Glass–Steagall Act, corporate finance is essentially made by the stock market. The consequence is that most corporations are publicly held and the executive directors (CEO) hold a strong position. The position of the CEO is hardly monitored directly by the shareholders, because there is scarcely ever a dominant shareholder (blockholder), who has the capacity to control the management permanently. Rather, the control is achieved by the mobility of the shareholders on the capital market (Wouters, 2000, p. 287). Since shares of poorly performing corporations are sold, which leads to declining share prices, the possibilities to corporate finance diminish and the management gets under pressure. In case of a hostile takeover the management faces the sanction of dismissal and of being marked as a poor performing manager. In the US corporate law paradigm it is therefore the exit mechanism, which dominates the design of corporate law. This fits quite well with the political frame of "Checks and Balances" applied in the US (Roe, 1999; Gerum, 1998).

Both, the German and the US governance systems, have their pros and cons. Which of the systems might be the more efficient one cannot be answered easily (Schmidt and Spindler, 1999). Important is that in each system a path was taken in the evolution of corporate law, on which relevant legal trade-offs have been overcome. Since in the US the success of monitoring strongly depends on the efficiency of the capital markets, major legal improvements were made in the past that increased the mobility of shareholders by exit-decisions (Weimer and Pape, 1999). In Germany, however, the development of

governance was different, because here the focal point of interests has always lain in the improvement of voice, e.g., via the supervisory board (Jürgens, Naumann and Rupp, 2000).

These examples were to show that the legal evolution of corporate laws as well can be seen as formed by specific legal paradigms, which imply a specific outlook on the problem of corporate governance and therefore influence the way, in which the corporate laws are developed in response to old and new problems. There are, of course, forces, which are leading to a greater convergence of corporate laws. Also, external shocks like the Great Depression are possible that can redirect entire legal paradigms and upset new techniques of regulation, as e.g., the US securities regulation. But usually the evolution of the national corporate laws is based upon legal paradigms, which imply path dependence effects by framing the design of future legal developments in corporate law. Beyond this general observation—in analogy to technological paradigms—legal paradigms in corporate law are stabilised by an additional set of factors, which can strengthen the path dependence in corporate law evolution severely.

Uncertainty. Advising and adopting a new feature of corporate law is, to a large extent, bound to uncertainty, because often it is not clear, whether the new corporate rules will really fit to the needs of the users of the corporate law. Thus, managers and shareholders will often opt for the standard terms of corporate law, which they already know. One specific phenomenon is that in many cases lawyers advise standard corporate law ("plain vanilla"), although they, as experts, could also recommend specific and new solutions in corporate law (Klausner, 1995; Zwiebel, 1995; Kahan and Klausner, 1996; Kobayashi and Ribstein, 1999).

Sunk costs and switching costs. Particularly lawyers and judges invest to a large extent in specific human capital for becoming specialists in corporate law. The decisive point is that their human capital is complementary to the existing body of corporate law, and a fundamental modification of the corporate law would devalue their legal knowledge (Klausner, 1995). Therefore, the lobby of lawyers and judges is much interested in preserving the legal paradigm of corporate law in a jurisdiction, with which they are acquainted (Kobayashi and Ribstein, 1996). Lawyers can apply such a strategy, if they have access to the legislation via the function as political advisors: An example of such a lobby is the American Bar Association, that makes legal conceptions for the legislation on the state and federal level (in detail Carney, 1998). Other kinds of switching costs are the costs of information and additional advice, which is necessary, if an unknown corporate law is considered (Klausner, 1995).

Dynamic economies of scale. In the realm of corporate law dynamic economies of scale occur, if the advantages of the law increase with the number of adopters (network externalities). For example, corporate law is improved by the experience of lawyers and judges that give legal advice or have to resolve disputes. Adopters benefit from these legal improvements that are made to a specific corporate law. It is thus rational for firms to choose a corporate law (paradigm) which has already been chosen by many other firms, because within this corporate law paradigm a large amount of knowledge has been accumulated (Klausner, 1995; Kahan and Klausner, 1997; Kobayashi and Ribstein,

1999). Therefore, dynamic economies of scale favour those corporate law (paradigms), which in the outset already had accumulated a certain amount of experience and were adopted by a considerable number of firms.

Complementarities. Complementarity of legal rules means that the effect of one legal rule also depends on other legal rules, i.e. that a body of law, in which legal rules are complementary, has to be consistent (for a formal definition of complementarity see Milgrom and Roberts, 1995). Complementarity in corporate law implies that the value of the corporate law depends not only on single corporate law rules, but also on the specific mixture of the rules, their smoothly working together, and the fitness of the corporate law into the whole body of business law (Roe, 1998, p. 345; Bebchuk and Roe, 1999, p. 140; Schmidt and Spindler, 1999; Hackethal and Schmidt, 2000). So, it is possible to distinguish between two sorts of complementarity: (1) The legal rules within corporate law, i.e. single rules can only be replaced by others, if they fit to the other elements of corporate law. (2) The entire corporate law can be complementary to other sets of legal rules, i.e. the whole corporate law of one country has to fit into its legal environment. In both cases legal complementarity leads to path dependence, because it is not possible to freely exchange legal elements in a legal system without the danger of a severe reduction of legal performance. When looking at the complex governance structures in Germany and the US it becomes clear that elements of one system cannot easily be replaced by elements of the other system.

5. Can path dependence be a major problem for competition among national corporate laws within the European Union?

5.1. Competition among corporate laws in Europe?

It has been shown that one possible interpretation of the "Centros"-decision of the ECJ is that the principle of mutual recognition could be introduced for the corporate laws of the Member States in order to enforce the freedom of establishment within the EU. This transition from the so far dominant "real seat theory" to the "incorporation theory" as a meta-rule for the scope of national corporate laws would simultaneously imply the transition from a rather ineffective type A-regulatory competition (through the migration of firms between EU Member States) to a much more direct type B-regulatory competition in regard to corporate laws, because in the latter case the firms are allowed to choose freely between the corporate laws of different Member States without having to change their locations. This would largely correspond to the US system of corporate laws. The questions arise (1) whether the introduction of the incorporation theory in the EU will indeed lead to a similar process of regulatory competition as in the US, and (2) whether such a competition process would lead to an improvement of corporate laws in the EU.

The current European corporate laws are characterised by a high degree of legal diversity. Since it is not possible to describe all the different features of European corporate laws, we can only summarize some aspects of this diversity in regard to legal paradigms (in detail Charkham, 1994; LaPorta et al., 1998). Within Europe, there are different legal traditions: Common Law, Code Civil, German Civil Code and Scandinavian law.

Below this highly aggregated level, it is possible to cluster groups of countries that have more or less similar features of corporate law, e.g. (1) France, Belgium, Italy and Spain, (2) Germany and Austria, or (3) U.K. and Ireland.

What would a workable competition among corporate laws look like, if it would start from this basis? The basic idea of regulatory competition is that, in the long run, competition among corporate laws can be seen as a process of experimentation that leads to the emergence and selection of superior corporate laws. The workability of competition would imply that on the demand side the firms are able to choose those forms of corporate governance that are most appropriate for their needs. On the supply side a workable regulatory competition would imply that at least some of the Member States attempt to improve their corporate laws in order to induce the firms to incorporate and therefore to increase their market share on the market for corporate governance. Competition among corporate laws would therefore imply the emergence of some form of rivalrous dynamic competition among Member States for the creation of legal innovations in corporate law, their appropriate selection by the firms and their spreading by imitation through other Member States. In the following we will investigate on, whether the problem of path dependence might impede or distort this kind of regulatory competition process.

5.2. Legal paradigms and stabilizing factors in European corporate laws

A comparison between the corporate laws in the US and in the EU shows that the diversity between European corporate laws is much larger than between the corporate laws of the federal states in the US. Whereas it was shown that in Europe the national corporate laws belong to several different legal paradigms, the corporate laws in the US have, despite important differences, so many central features in common that it is reasonable to characterise the US corporate laws as being based upon the same legal paradigm. From this perspective the observed competition processes among corporate laws in the US have to be seen as a regulatory competition *within* the same legal paradigm. Contrary to that, the potential future regulatory competition in the EU would primarily consist of competition *among* different legal paradigms, as e.g., between the British, the French and the German corporate law. It is suggested that competition among corporate laws from different legal paradigms (including different outlooks and trajectories) will work considerably different from competition among corporate laws within the same legal paradigm. As in competition among different technological paradigms the severity of the failures in competition among different legal paradigms will depend on the extent of the stabilizing factors, which are present in the evolution of European corporate laws. In the following these factors will be analyzed and compared with those in US corporate laws.

Uncertainty. Uncertainty can prevent the switch between different corporate laws. Managers and lawyers will favour the corporate law they are familiar with. Since the European corporate laws belong to different corporate law paradigms, the uncertainty which is associated with the switch to an unfamiliar corporate law is much higher in Europe than in the US. Therefore European firms will presumably be more reluctant to apply foreign corporate laws than US firms.

Sunk costs and switching costs, Lawyers and managers, who are familiar with a certain corporate law, have invested in specific human capital, which would be devalued, if firms would switch to a foreign corporate law. Therefore, lawyers and managers, who are not sufficiently under pressure of competent shareholders, will attempt to retain the corporate law to which their human capital is bound. A similar argument can be made in respect to the decisions of the national legislators in regard to decisions about the national corporate law. From a "public choice"-perspective lawyers and ministry officials, who are also experts on the domestic corporate law, can form a rent-seeking-coalition in order to preserve their quasi-rents related to their human capital.[14] Thus, a national legislator might have difficulties to change corporate law profoundly.

The more diverse the corporate laws are, the higher are all kinds of switching costs, which emerge by applying a foreign corporate law instead of the domestic one. Here again, it can be expected that the switching costs between the different European corporate laws are considerably higher than those in the US. In particular, there is one specific cause of high switching costs in Europe that does not exist in the US: language. In Europe changing to a foreign corporate law usually implies also the necessity of dealing with complex legal features in a foreign language, if the firms want to have access to the full potential of a corporate law. This language problem does not exist within the US (Charny, 1999, p. 439).

Dynamic economies of scale. Stabilising effects from dynamic economies of scale can emerge in competition among corporate laws in Europe as in the US. An old and widely used corporate law may have accumulated such a large amount of knowledge that these path dependence effects can make it very difficult to displace it by another corporate law. E.g., the dominant role of the corporate law of Delaware in the US case can be explained to a large extent by dynamic economies of scale (Kamar 1998). In Europe we observe the same scale effects in legal learning, but the starting point of the learning process is a different one, because due to the widely used "real seat theory" the national corporate laws have accumulated experience and improved their legal performance without strong pressures from regulatory competition (type A-regulatory competition). Another problem might be that the different sizes of European countries imply that the national corporate laws have a very different amount of adopters. This "mass effect" might have allowed big countries to gain a lot of legal improvements in the past, making their corporate law more attractive than that of smaller countries. Due to a lack of empirical evidence we do not claim that in Europe the corporate law of smaller countries is less attractive than that of larger countries, but the possibility of distortions of regulatory competition by this effect cannot be denied.

Beyond that the dynamic economies of scale argument leads to the problem that one corporate law paradigm might ultimately displace all other European corporate law paradigms[15] and becomes a hegemon (a formal proof of this displacement-effect is given by Klausner, 1995; Kahan and Klausner, 1997). Consequently, regulatory competition might lead to the problem that after the working of competition only one corporate law paradigm remains. This does not exclude that within this corporate law paradigm an intense competition among different corporate laws might still be possible. But the dominant corporate law paradigm is stabilized by dynamic economies of scale and therefore protected against competition from other corporate law paradigms to a large extent.

Complementarities. The complementarity of legal rules leads to path dependences in the evolution of law, because it is difficult to replace single (sets of) legal rules by others. We suggest that there is a crucial difference between Europe and the US in regard to legal complementarities, which might have severe consequences on the effectiveness of competition among corporate laws. The closer the interrelation between the national corporate law and the other components of the national legal system is, the more problematic it is to exchange the corporate law without changing the entire legal environment simultaneously. In Europe the complementarity between corporate laws and their national legal orders is much larger than in the United States. Two main factors are responsible for the higher degree of complementarity in Europe: The first refers to the different legal traditions in Europe (Zweigert and Koetz, 1996). The national corporate laws are embedded in the legal families of Common Law, Code Civil, German Civil Code or Scandinavian Law. The other factor refers to the fact that the broad application of the "real seat theory" has induced a national development of corporate laws without interference of fierce regulatory competition by other corporate laws. Therefore the national European corporate laws have developed jointly with the whole national governance systems, which implies strong complementarities with other sets of legal rules.

For example, the German two-tier system with its distinctive feature of codetermination fits in the German bank-centered capital market. Its function is to provide internal control of the managements. On the other hand, the British corporate law focuses on the dominant role of shareholders, that control the management by exit-decisions on the external capital market. If foreign corporate law would be applied in Germany, the problem of the German co-determination is not only that the property rights of shareholders are attenuated, but also that it is inconsistent with the control systems that are applied by the corporate law in other countries. The same holds for the French corporate law (Schmidt and Grohs, 2000; Groenewegen, 2000). Other problems of inconsistence might occur in the field of creditor rights.[16] The German corporate law and entire governance system give creditors a strong position, because corporate finance is bank-centered via credits that have to be protected (La Porta et al., 1998). This explains why there are rigorous minimum capital requirements in Germany to register a company with limited liability. Conversely, in the U.K. no minimum capital requirements are needed to register a company with limited liability, because it is the private regulation of the stock exchanges that forces a minimum capital for publicly held corporations. The conclusion may be drawn that the establishment of a British private Ltd.—like "Centros"—that incorporates in a country with a strong tradition of creditor rights, like Denmark, is felt as a severe inconsistency of the whole governance system.

The situation is entirely different in the US, because the corporate laws of the federal states basically use the same corporate law paradigm and face the same legal environment (Romano, 1993, p. 47; Charny, 1991, p. 455). All corporate laws refer to the legal tradition of Common Law and the regulatory focus is always centered on shareholder rights. Beyond that almost the entire body of securities regulation, like capital market regulation, bankruptcy or accounting, is regulated on the federal level. Since there is a widely uniform legal environment for corporate law in the US, all corporate laws of the federal states have to have the same "legal interfaces" with their legal environment. Therefore one corporate law can be replaced rather easily by another one. This is true both for the firms, that decide where to incorporate, and for the federal states, that perhaps want

to imitate the corporate law of other states in order to remain competitive in regulatory competition. Since there is only one corporate law paradigm and one uniform legal environment for corporate law in the US, complementarity problems are much smaller than in Europe. Therefore also the path dependence effects of those complementarities with the legal environment are much weaker, leading to an easier choice between corporate laws and therefore to less difficulties for competition among corporate laws.[17]

5.3. The impact of path dependence for competition among corporate laws in the European Union

The results of our analysis show that the conditions for a workable regulatory competition among corporate laws are different between the EU and the US. (see also Charny, 1991). In the US competition among corporate laws takes place within one corporate law paradigm and within a uniform legal environment. Within the EU competition among corporate laws would primarily mean competition among different corporate law paradigms, which are embedded in different legal environments. Additionally it has been shown that the path dependences, which are caused by stabilising factors for corporate laws, are considerably stronger in the EU than in the US.

Even if the principle of "mutual recognition" is introduced through the "incorporation theory," it will in fact be difficult for firms to switch to a foreign corporate law. Therefore, many firms would stick to their domestic corporate law, although there could be more appropriate legal forms of governance for them. As a consequence it cannot be expected that the best national corporate laws within the EU will be discovered and spread quickly through the incorporation decisions of the European firms. However, path dependence will have severe effects on regulatory competition not only on the demand side but also on the supply side of the market for corporate charters. Because of this it will be difficult for national legislators to change their corporate law. Especially the complementarities of corporate law to other legal realms can be a severe and perhaps insurmountable problem. Therefore the notion of a dynamic regulatory competition among the corporate laws of the EU Member States can be a rather too optimistic scenario for the future development of corporate law within the EU. Also the idea of a regulatory competition leading to a combination of the best elements of the existing corporate laws of the EU Member States does not take into account the strong complementarities of legal rules within corporate law, which prevents that the best elements of different corporate laws can be recombined in any order.[18]

Consequently, it cannot be expected that the introduction of the "incorporation theory" as conflict of law-rule within the EU will be sufficient to trigger off an effective, dynamic competition process among the corporate laws of the EU Member States. This does not mean that after the introduction of the "incorporation theory" no competition among corporate laws will emerge at all or that the competition processes will have more negative than positive effects. But due to the above-mentioned path dependences much time will be needed, before a dynamic competition process can develop, and it can be expected that this competition will have to tackle with a whole set of serious problems.

5.4. A potential perspective: Appropriate meta-rules and the modularization of law

It was not our intention to deliver an all-encompassing analysis, whether regulatory competition in corporate law within the EU could work satisfactorily, if the "incorporation theory" will be introduced. We have analysed only a part of the potential failures of regulatory competition, namely those due to path dependences. Beyond that, "race to the bottom"-effects and other kinds of failures of a market for corporate laws cannot be excluded. Important is that the diagnosis of potential market failures does not lead to the conclusion that competition is not feasible or that competition with certain failures does not yield better outcomes than no competition at all. The appropriate strategy for treating market failures is rather to ask whether a set of suitable meta-rules can be found, which as institutional framework for a market for corporate control is able to mitigate the potential failures as far as possible (comparative institutional approach). These meta-rules could be interpreted as the rules of the game or as the competitive order (Wettbewerbsordnung) that has the task to ensure the workability of the system of competing corporate laws within the EU.[19] From this perspective the EU would have the task to establish an appropriate institutional framework for a system of corporate laws within the EU. The introduction of the "incorporation theory" as a meta-rule for the application of national corporate laws by the ECJ would be a decisive step in that direction, because it would be the switch from a regime of a type A-regulatory competition to a type B-regulatory competition. But an important result of our analysis is that the introduction of this meta-rule might not be sufficient for both triggering off competition among corporate laws and ensuring positive outcomes of these competition process. It is suggested that beyond the introduction of the "incorporation theory" a whole set of institutional changes could be necessary, including perhaps certain harmonizations of other sets of legal rules, for ensuring the freedom of establishment within the EU and a workable system of competing corporate laws.

In this paper we have not investigated which meta-rules would be necessary for ensuring a workable competition process. But some hints can be given on how this particular problem of path dependence can be mitigated in order to improve the effectiveness of regulatory competition. In the US the problem of legal complementarity is largely avoided by the existence of a uniform legal environment, with which all corporate laws are compatible. Therefore the harmonization of complementary sets of legal rules could be one strategy for reducing the complementarity problem. After the adaptation of all national corporate laws to these newly harmonized complementary legal rules, competition among the corporate laws of the Member States might work much more smoothly. The national corporate laws would therefore become a kind of "legal modules," which can be exchanged without large complementarity problems. The costs of this strategy are that due to harmonization no regulatory competition is possible in the realms of complementary sets of legal rules (as e.g., in US securities regulation, which is regulated on the federal level).

But the idea of "legal modules" can be used to think about a more general concept of "modularization" of legal orders. If a legal order (on the EU level) would be designed as a "module system," which would primarily consist of "legal interfaces" that make national modules of legal rules compatible, then competition among regulatory modules

might be possible, which is not impeded severely by path dependence effects from complementarity problems.[20] Such a "modularization" of law would allow the partial solving of the trade-off between the consistency of a legal order and the decentralized innovative improvement of legal rules, which is the main advantage of regulatory competition. Although these ideas have to be elaborated more clearly, these considerations show that path dependences in legal evolution must not be seen as exogenously given, but can, to a large extent, be influenced by the design of the set of meta-rules. Consequently, it can be hoped that through an appropriate design of the institutional framework (on the EU-level), the problem of the negative effects of path dependences on competition among corporate laws might be mitigated.

6. Conclusions

The "Centros"-decision of the ECJ has triggered off a discussion on the introduction of the "incorporation theory" as relevant conflict of law rule in corporate law within the EU and the potential consequence of regulatory competition among the corporate laws of the EU Member States. Applying the concept of technological paradigms from innovation economics to the evolution of law, and using the experiences of competition among US corporate laws, it has been shown that path dependences can be a severe problem for competition among corporate laws within the EU. This is mainly due to the existing conditions within Europe, which are considerably different from those in the US. The policy implications of our analysis are: regulatory competition among corporate laws in Europe is possible and can be desirable, but it is not sufficient to introduce the "incorporation theory" for ensuring its workability. Additional changes in the institutional structure of business law within the EU will be necessary, both on the level of the EU and on the level of the Member States. However, the prospects that might be offered by the "Centros"-decision are promising.

Notes

1. For interpretations of "Centros" see for example: Buxbaum (2000), Carruthers and Villiers (2000), Zimmer (2000), Merkt (2000), Roth (2000), Wouters (2000), Wymeersch (1999), Kieninger (1999), Ebke (1999), Lange (1999), Kindler (1999), Steindorff (1999), Bungert (1999), Sedemund and Hausmann (1999), Freitag (1999), Werlauff (1999), Roth (1999), Sandrock (1999), and Behrens (1999).
2. The "real seat theory" is applied in Germany, Austria, France, Belgium, Greece and Spain, for example.
3. The "incorporation theory" is applied in the U.K., Ireland, Sweden, Finland and the Netherlands, for example.
4. For an overview see Oates and Schwab (1988), Siebert and Koop (1990), Kenyon and Kincaid (1991), Vanberg and Kerber (1994), Sinn (1997), Kerber (1998), Apolte (1999), Streit and Wohlgemuth (1999). See also Tiebout's (1956) classical paper on the competitive provision of public goods by jurisdictions.
5. It is clear that in the situation of a perfect locational competition in which the mobility of capital is not restrained, the corporate law would be perfectly selected via the investment decisions of the stockholders. In fact, locational competition is not unhampered because of the sunk costs which are associated to most investments. A more refined differentiation between various types of regulatory competition can be found in Kerber (2000a).

6. The employment of new technologies, such as the internet, raises the question of whether the selection of the appropriate corporate law is a problem corporations will not have to deal with any longer in the near future. Concepts as the "virtual corporation" or the "modular organization" might transform the "nexus of contracts" of a firm from a distinct business form (e.g., Private Limited Company, Societe Anonyme or Aktiengesellschaft) to a contractual network of elements, which gather for a special project (e.g., develop a new semi-conductor, software or drug) and then dissolve the relationship again. One feature of these more or less loose coupled networks is their reliance on extra-legal rules to coordinate the activities of the participating elements. Such "virtual corporations" are a challenging concept for legal researchers (Stilson 1997; Dickerson 1998). However, in our opinion "virtual corporations" are not a perfect substitute for the traditional business forms of corporate law. The first reason is the empirical fact that the building blocks of "virtual corporations" are in most cases traditional corporations. The second reason is that there are entrepreneurial tasks which need long and stable relations of the interacting agents. In these cases a high amount of central coordination in a traditional business form is in order.
7. See Hayek (1978) and Schumpeter (1934); for an integrated evolutionary concept of knowledge-generating competition see Kerber (1997, 1999). For an application of an evolutionary concept of competition to interjurisdictional competition and regulatory competition, in which legal innovations are emphasized, see Breton (1987), Vanberg and Kerber (1994), Kerber (2000a) and Streit and Wohlgemuth (1999).
8. See, e.g., David (1994). Margolis and Liebowitz (1998) present an overview of the theory of path dependence. Hathaway (2001) gives a survey of the application of the theory of path dependence to legal evolution. Gillette (1998) investigates legal lock-ins.
9. Dosi (1988a, p. 1127, emphasis in original) continues: "A technological paradigm is both an *exemplar*—an artifact that is to be developed and improved ... and a set of *heuristics* (e.g., Where do we go from here? Where should we search? What sort of knowledge should we draw on?)."
10. For example, Cary (1974), Winter (1977), Dodd and Leftwich (1980), Ramseyer (1998), Romano (1985, 1993, 1998, 1999), Kübler (1994), Easterbrook (1994), Easterbrook and Fischel (1996), Buxbaum and Hopt (1988), Bebchuk (1989, 1992), Macey and Miller (1987), Macey (1993), Buxbaum (1986). With a special reference to Europe see Charny (1991) and Carney (1997).
11. In 1970 and 1971 almost 25% of Delaware's budget were due to the franchise tax (Romano, 1985, p. 242). In 1998 the corporation revenues were approximately $400 million that were again almost a quarter of the state budget (Kenton, 1999).
12. The idea to apply Dosi's concept of technological paradigms to legal evolution with the implication of developing a concept of legal paradigms and legal trajectories was introduced by Eckardt (2001).
13. It is interesting that one of the most famous legal scholars, Holmes (1897), developed ideas which are very similar to that of the "legal paradigm." He called it "generalizing principles."
14. The "public choice"-perspective in the evolution of corporate law is developed especially by Macey and Miller (1987).
15. The dynamic economies of scale-effect can emerge both on the level of the national corporate laws and on the more general level of the corporate law paradigms.
16. Further problems of legal inconsistency might occur in the field of accounting or the Law of Affiliated Enterprises (Hopt, 2000).
17. It is beyond the scope of this article to analyse the complex complementarities which result from the different tax laws in Europe. But it is clear that there exist strong complementarities between corporate law and the national taxation of business. E.g., remember that the freedom of establishment in "Daily-Mail" was blocked by a British tax law (C-81/87, ECR 5483).
18. For the background of legal complementarities it is unlikely that in the context of globalisation a middle-of-the-road governance will emerge which is much better than the national governance structures (Schmidt and Spindler, 1999).
19. For the general view of interjurisdictional and regulatory competition as essential parts of a concept of European integration, see Kerber (2000b) and Van den Bergh (2000).
20. A conceptual outline to analyze the constitution of the firm with the help of "institutional interfaces" is given by Schanze (1986, 1996). The idea of institutional modularization has also been proposed by Langlois (1999) for the theory of the firm.

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