

The ‘Societas Europaea’: a network economics approach.

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Abstract

This article applies network economics to a particular aspect of the statute of the Societas Europaea (SE). The statute allows companies that decide to use the SE form to choose between a two-tier organisational structure (supervisory organ and management organ) and a one-tier organisational structure (administrative organ). By applying the theory of network economics to company law, the article firstly shows that path dependency may arise in the choice of the adopted structure on the basis of the past national regulation. Secondly, the article shows that to overcome this path dependency the incorporation theory would be superior to the real seat theory as provided for by the statute of the SE.

Keywords: European Company statute, Company Law, board structure, path dependency, renvoi technique, company's freedom of establishment, real seat theory, incorporation theory, agency costs, contract law, network economics

JEL Classifications: G3, K22

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The *Societas Europaea*: a network economics approach

Stefano Lombardo and Piero Pasotti*

This article applies network economics to a particular aspect of the statute of the Societas Europaea (SE). The statute allows companies that decide to use the SE form to choose between a two-tier organisational structure (supervisory organ and management organ) and a one-tier organisational structure (administrative organ). By applying the theory of network economics to company law, the article firstly shows that path dependency may arise in the choice of the adopted structure on the basis of the past national regulation. Secondly, the article shows that to overcome this path dependency the incorporation theory would be superior to the real seat theory as provided for by the statute of the SE.

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1. Introduction

After more than forty years of discussion and discontinuous legislative activity, the statute of a *Societas Europaea* (SE, or European Company) was finally adopted by the Council of the European Union on 8 October 2001 by way of a regulation dealing with company law issues supplemented by a directive regulating the involvement of workers.¹

The legislative outcome of the SE statute creates a new European company type regulated by a mix of European and national legislation. The statute is furthermore the product of a top-down legislative intervention. This means that its regulatory content was not spontaneously born in the sense that it did not develop at the bottom line of the legal system as a contractual solution among business parties to be later structured and refined by way of legislative intervention. Instead the European Company has been created directly, by way of imperative European law, supplemented by national legislation where provided for.

The SE statute is an ideal construction for the application of network economics². The network economics approach to the study of company law has only recently been developed. Indeed, because of its methodological difficulties and weak policy implications, it has only partially been recognised as mainstream economic company law theory. Nevertheless, this paradigm offers an appealing approach (at least theoretically) to deal with some issues of company law. For this reason, this article is a first attempt to approach the SE statute from a network economics perspective. Potentially, there are several subject matters to which such a paradigm may be fruitfully applied. We decided to choose one that is simple but of extreme relevance. We concentrate on the choice provided by the SE statute between a two-tier organisational structure (supervisory organ and management organ - the dualistic structure) and a one-tier organisational structure (administrative organ - the monistic structure). As a first step we show that path

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This paper was presented at the Law and Economics Workshop organised by the Graduate College of Law and Economics, Institute of Law and Economics, School of Law, at the University of Hamburg on June 27-28, 2003. At that time Stefano Lombardo was Postdoctoral Researcher at the same Institute and Visiting Fellow at the Max-Planck-Institut für ausländisches und internationales Privatrecht, Hamburg while Piero Pasotti was Marie Curie Visiting Fellow at the Institute of Law and Economics, School of Law, University of Hamburg. We wish to thank Francesco Parisi for his stimulating comments.

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Usual disclaimers do, of course, apply.

Although the article was elaborated by the authors together, for the purpose of academic evaluation it has to be stressed that sections 2 to 4 were drafted by Stefano Lombardo, while sections 4.1 to 4.4 and the mathematical model in appendix were drafted by Piero Pasotti.

¹ Respectively, Council Regulation (EC) 2157/2001, O.J. 10.11.2001, L 294/1 and Council Directive 2001/86/EC, O.J. 10.11.2001, L 294/22. Political agreement was already reached by the European Council of the Heads of States and Governments on December 2000 on the EU Summit of Nice.

² With this term we refer to that branch of economics dealing with network effects and network externalities. See section 3.1.

dependency may arise in the choice of the adopted structure particularly on the basis of past national regulation. As a second step the article shows that to overcome this path dependency, the incorporation theory would be superior to the real seat theory as provided for by the statute of the SE.

We would like to stress that our article has to be considered as a first attempt to study the SE from a network economics perspective. There is, without doubt, need for further research. For this reason we do not assert any concrete policy implication. The article is organised as follows. Section 2 deals with a historical review of the legislative debate on the SE statute, as well as its legislative outcome. Section 3 presents the economic theory of the company and of company law both from the traditional perspective and from the network economics perspective. Section 4 sketches a model where we show first path dependency and then the Pareto superiority of the incorporation theory over the real seat theory in overcoming this path dependency problem. Conclusions are presented in section 5.

2. The SE statute: history and legislative outcome

The idea of creating a European Company goes back more than forty years.³ Already in 1957 some indications in this direction were given by the Council of Europe. Two years later the Congress of French notaries dealt with the project and in the same year Professor Sanders discussed this topic in his inaugural lecture at the Rotterdam School of Economics. At the initiative of the French Government, the European Commission established in 1965 a group of experts, chaired by the same Professor Sanders, to prepare a proposal for a European Company statute. In 1970 the European Commission proposed a first draft including more than 400 Articles regulating every aspect of the European Company. This first draft was then replaced by an amended proposal submitted to the Council in 1975.⁴ This new proposal again did not encounter the favour of the Member States because of its complexity and the problem of employee codetermination.⁵ After years of inactivity, in 1987 the Commission once again started preparatory work and presented in 1989 a new proposal to the Council, consequently amended and represented in 1991.⁶ This new proposal included a regulation proposal based on Article 100a EC Treaty (ECT, now Article 95) with 110 Articles regulating the company law aspects of the European Company and a directive proposal based on Article 54(3)(g) (now Article 44(2)(g) ECT) dealing with workers participation.⁷ This compromise again did not satisfy the political wills of all the Member States. A third

³ On the history of the European Company see Blanquet, "Das Statut der Europäischen Aktiengesellschaft (Societas Europaea „SE“)", 31 *ZGR* (2002) pp. 20; Lutter, "Europäische Aktiengesellschaft – Rechtsfigur mit Zukunft?", 57 *BB* (2002) pp. 1; Edwards, "The European Company – Essential Tool or Eviscerated Dream?", 40 *C.M.L.Rev.* (2003) pp. 443; Werlauff, "The SE Company – A New Common European Company from 8 October 2004", 14 *EBLR* (2003) pp. 85.

⁴ The first proposal for the European Company was in the form of a regulation based on Article 235 EC Treaty (now Article 308).

⁵ See Lutter, *supra* n. 3 p. 1.

⁶ See Lutter, *supra* n. 3 p. 2; Edwards, *supra* n. 3 pp. 446; Blanquet, *supra* n. 3 pp. 23.

⁷ Article 95 ECT requires qualified majority and the cooperation procedure with the European Parliament. Since this Article cannot be used to regulate the status of employees, their participation was based on Article 44(2)(g). But again literally this Article provides for coordination among national legislations and not the creation of a new company form, so weakening the legal basis.

phase,⁸ in the long history of the SE Statute, started in 1996 and reached its successful conclusion in December 2000, where political agreement was reached at the EU Summit of Nice.⁹

The adopted Regulation¹⁰ (hereinafter SE-Reg.) is based on Article 308 ECT and shall enter into force on 8 October 2004 (Article 70 SE-Reg.).¹¹ It contains no more than 70 Articles.¹² Broadly speaking *ratio legis* of the European Company is to provide companies active in the entire single market with a supra-national company body able to do business Europe-wide on the basis of a simplified and unified legal structure.¹³ In other words, the aim of the SE-Reg. is that it should be possible by way of a European Company do business Europe-wide only on the basis of the incorporation of a single company, so avoiding the parent-subsidiaries structure typical of European undertakings now doing business in several Member States.¹⁴ The extent to which the goal of an uniform legal corporate body will be realised and still coincide with the initial inspiration of 40 years ago is another matter. Indeed, the Regulation limits itself to a very narrow regulatory framework covering only some aspects¹⁵ and using as a general regulatory

⁸ Lutter, *supra* n. 3 pp. 1, identifies a first phase in the period 1960-1982 and a second phase covering the time 1985-1995.

⁹ See Lutter, *supra* n. 3 pp. 2; Edwards, *supra* n. 3 pp. 448; Blanquet, *supra* n. 3 pp. 28. For a critical assessment of the compromise ultimately reached in Nice, see Wiesner, "Der Nizza-Kompromiss zur Europa AG – Triumph oder Fehlschlag?", 22 *ZIP* (2001) pp. 397.

¹⁰ Since we will not deal with the rights of employees we completely omit the treatment of the Directive supplementing the Regulation. On the Directive and the involvement of employees, see Heinze, "Die Europäische Aktiengesellschaft", 31 *ZGR* (2002) pp. 66. Furthermore, for simplicity we also completely omit the treatment of international and national tax provisions related to the four forms of creation of an SE. This means that we do not take into consideration variables on tax provisions in the model. On topics related to tax provisions, see the introduction by Thömmes, "Besteuerung", in Theisen and Wenz (Hrsg.), *Die europäische Aktiengesellschaft* (2002), Stuttgart, pp. 465..

¹¹ By this date Member States have in fact to implement national legislation, according to the Directive supplementing the Regulation for employee rights (see Article 14 of the Directive).

¹² On the Regulation see Lutter, *supra* n. 3; Edwards, *supra* n. 3; Blanquet, *supra* n. 3; Werlauff, *supra* n. 3; Schulz and Geismar, "Die Europäische Aktiengesellschaft", 39 *DStR* (2001) pp. 1078; Schwarz, "Zum Statut der Europäischen Aktiengesellschaft", 22 *ZIP* (2001) pp. 1847; Hommelhoff, "Einige Bemerkungen zur Organisationsverfassung der Europäischen Aktiengesellschaft", 46 *AG* (2001) pp. 279; Torggler, "Zur Europäischen Gesellschaft (SE)", 12 *Ecolex* (2001) pp. 442; Jahn and Herfs-Röttgen, "Die Europäische Aktiengesellschaft – Societas Europaea", 54 *DB* (2001) pp. 631; Hirte, "Die Europäische Aktiengesellschaft", 5 *NZG* (2002) pp. 1; Teichmann, "Die Einführung der Europäischen Aktiengesellschaft", 31 *ZGR* (2002) pp. 383; Thoma and Leuring, "Die Europäische Aktiengesellschaft – Societas Europaea", 55 *NJW* (2002) pp. 1449; Hommelhoff and Teichmann, "Die Europäische Aktiengesellschaft – das Flaggschiff läuft vom Stapel", 74 *SZW/RSDA* (2002) pp. 1; Bungert and Beier, "Die Europäische Aktiengesellschaft", 13 *EWS* (2002) pp. 1; Ebert, "The European Company on the Level Playing Field of the Community", 14 *EBLR* (2003) pp. 183.

¹³ See recitals (1) to (4) of the preamble.

¹⁴ According to the so-called *Ciampi* Group the current structure under which European undertakings currently operate produces a complicated companies' landscape and costs about 30 billion Euro yearly. The group pled for the creation of the SE Statute as a solution to that waste of resources. See Competitiveness Advisory Group (or Ciampi Group) (1995). *Enhancing European Competitiveness*. Luxembourg: European Commission, p. 9.

¹⁵ According to Lutter, *supra* n. 3 p. 3, the Regulation regulates only 1/3 of the issues and mainly with respect to company formation.

technique a *renvoi* to the legislation of the Member States.¹⁶ Given this European regulatory background, commentators doubt that there will be a single European Company type. They speak more properly about fifteen different European Company types.¹⁷

According to Article 1.1 of the SE-Reg. a European company may be set up within the territory of the Community only in the form of a public limited-liability company. The minimum subscribed capital shall be not less than Euro 120 000. A European Company can be formed only by public or private companies (or firms) of different Member States, and not by natural persons, in four forms (Article 2):¹⁸ by *merger*, by way of a *holding SE* company, in the form of a *subsidiary SE* and finally by *transformation*.¹⁹ Generally speaking, on the basis of the *renvoi* technique, subject to particular provisions of the SE-Reg., the formation of an SE is basically governed by the law applicable to public limited-liability companies of the Member State of incorporation of the SE. A European Company is registered in a Member State and from that date acquires legal personality (Article 16.1 SE-Reg.). Notice of the registration shall be published in the Official Journal of the European Community (Article 14 SE-Reg.).²⁰

Article 7 SE-Reg. provides that the registered office of an SE shall be located in the same Member State as its head office. The regulation seems to choose the real seat theory as the conflict of law rule to be applied to European Companies.²¹ Article 8 SE-Reg. provides for the transfer of the registered office from a Member State to another, specifying that such a transfer does not imply the winding up of the SE or the creation of a new legal person.²²

¹⁶ Brandt and Scheifele, “Die Europäische Aktiengesellschaft und das anwendbare Recht”, 40 *DSrR* (2002) pp. 547, at p. 547, have estimated that there are 84 *renvoi* provisions (over 70 Articles). On the *renvoi* technique see section 2.1.

¹⁷ Stressing this point see e.g. Lutter, *supra* n. 3 p. 3; Schulz and Geismar, *supra* n. 12 p. 1079; Hommelhoff, *supra* n. 12 p. 285; Hirte, *supra* n. 12 p. 2. In the dyad harmonization vs. competition characterizing the actual debate in European company law, Ferrarini and Marchetti, “Société européenne et gouvernement des entreprises convergence ou divergence?”, in Hopt, Menjoucq and Wymeersch (eds), *La société européenne* (2003), Paris, p. 235, argue that the ambiguity of the SE statute is the product of the tension between competition and harmonization as alternative or complementary policy devices.

¹⁸ Scholars call it the *numerus clausus* of the formation forms. See Hommelhoff, *supra* n. 12 p. 280.

¹⁹ There is a fifth way in which a European Company may be formed and it is the one provided for in Article 3.2. according to which an SE may itself set up one or more subsidiaries in the form of an SE.

²⁰ For first comments on the several procedures of formation, see e.g. Edwards, *supra* n. 3 pp. 451; Bungert and Beier, *supra* n. 12 pp. 6; Teichmann, *supra* n. 12 pp. 409; Schwarz, *supra* n. 12 pp. 1850; Thoma and Leuring, *supra* n. 12 pp. 1451.

²¹ See also recital 27 of the preamble. Also Member States adhering to the incorporation theory are obliged to apply the real seat theory. Furthermore, according to the same Article 7 a Member State may, in addition, impose strict coincidence in the same place of registered office and head office. Arguing for the explicit choice of the real seat theory just for the SE Statute, see also Schulz and Geismar, *supra* n. 12 p. 1079; Werlauff, *supra* n. 3 p. 96. More cautious seems to be Schwarz, *supra* n. 12 p. 1894. We treat the rule of Article 7 SE-Reg. as the real seat rule also because of the remedy of liquidation referred to in Article 64 Se-Reg. in case a European Company no longer respects Article 7.

²² Head office and registered office have to coincide in a single but different Member State before and after the transfer. Article 8 regulates the transfer with respect to the protection of dissenting shareholders and the protection of creditors. Article 8.14. provides that a Member State may oppose the transfer of registered office on grounds of public interests.

With respect to the internal organisation Article 39 SE-Reg. provides that a European Company includes a general meeting of shareholders and either a supervisory organ and a management organ or an administrative organ on the basis of a free choice made in the statutes.²³ In this way the Regulation offers European Companies the option of a two-tier board (or dualistic) system or a one-tier board (or monistic) system. According to Article 39.5 and Article 43.4 SE-Reg., where no provision is made for one of the two systems in relation to public limited-liability companies with registered offices within its territory, a Member State adopts the appropriate measures in relation to the SEs in order to make the choice effectively possible.²⁴ It has been argued that from a functional and comparative perspective the monistic and the dualistic system are quite similar.²⁵ Nevertheless, both of them are regulated in brief by the SE-Reg., which in Articles 46 to 51 SE-Reg. provides for rules common to the two systems²⁶ otherwise limiting itself to a framework regulation by referring generally to the company law of the Member State of incorporation.²⁷

The two-tier system is composed of a supervisory organ and a management organ and is regulated in Articles 39 to 42 SE-Reg. According to Article 39.1 and 2 the management organ is responsible for managing the SE and its members are appointed and removed by the supervisory organ, or, where required or permitted by the law of the Member State of incorporation, by the general meeting. Article 40 defines the role of the supervisory organ as that of supervising the work of the management board without exercising managing power. Its members are appointed by the general meeting. Article 41 regulates the interaction between the supervisory organ and the management organ defining the scope and quantity of the information the latter shall provide to the former, providing also for a right of investigation of the supervisory organ (Article 41.4).

The one-tier system provides for an administrative organ and is regulated in Articles 43 to 45 SE-Reg. The administrative organ manages the SE and may delegate to a managing director or managing directors the day-to-day management of the SE under

²³ According to Article 6 SE-Reg. *statutes of the SE* means both the instrument of incorporation and, where they are subject of a separate document, the statutes of the SE.

²⁴ The exact literal wording of the two articles is *may adopt*. It has been said that this wording does not impose in a mandatory way legislative activity of the Member States (which may in fact refuse intervention). See on the point e.g. Werlauff, *supra* n. 3 p. 94; Schulz and Geismar, *supra* n. 12 p. 1082; Bungert and Beier, *supra* n. 12 p. 3; Hirte, *supra* n. 12 p. 5. *Contra* see Teichmann, *supra* n. 12 p. 442; Hommelhoff, *supra* n. 12 p. 284; Lutter, *supra* n. 3 p. 4; Brandt and Scheifele, *supra* n. 15 pp. 553-554; Thoma and Leuring, *supra* n. 12 p. 1451. We follow this last interpretation: Member States have to intervene. In fact parties are free to choose one of the two systems directly on the basis of Article 38 SE-Reg. Since a regulation finds direct application in the Member States (Article 249 ECT), its content is the basis for rights parties directly have even without Member State intervention. So, for instance, where intervention is lacking e.g. in Germany, a European Company with monistic structure could be formed in that country on the basis of the provisions of the Regulation and of an extended freedom of contract because of the absence of national legislation (another question is, of course, whether the parties would risk such a degree of uncertainty of law).

²⁵ On the point see Ferrarini and Marchetti, *supra* n. 17 pp. 238.

²⁶ On the rules common to the two systems as well as on the rules to be applied to the general meeting, see Hirte, *supra* n. 12 pp. 5 and pp. 8; Edwards, *supra* n. 3 pp. 456; Schwarz, *supra* n. 12 pp. 1854.

²⁷ On the point that the regulatory density (*Regelungsdichte*) of the SE-Reg. is quite low in the organisation of the two systems, see also Teichmann, *supra* n. 12 pp. 442. On the *renvoi* technique see the following section.

the same conditions as for public limited-liability companies of the Member State of SE's incorporation. Its members are appointed by the general meeting.

2.1. The *renvoi* technique and Article 9

For the purposes of this article the *renvoi* technique and the content of Article 9 SE-Reg. are of extreme relevance. They do, in fact, provide for the quite complex system defining the rules to be applied to a European Company. As already mentioned, the SE-Reg. directly regulates some issues of the European Company but with respect to several other aspects of the life of the European Company it simply refers to the legislation of the Member States. Their legislation has to fill the gaps left open by the SE-Reg. Member States are competent only to the extent specified by the SE-Reg. by way of the *renvoi* technique. Otherwise, Member States are not permitted to intervene. In other words, the *renvoi* procedure for filling gaps is applicable only to those aspects and fields that the SE-Reg. does not directly regulate even though they lie within its regulatory scope.²⁸ In the quite complex *renvoi* system commentators have identified four basic types of *renvois*.²⁹ Three of them are special *renvois* as defined in Article 9.1.(a), whilst the other is a general *renvoi* as defined in Article 9.1.(c).³⁰ The rule is that the special *renvois* have precedence.³¹ The special *renvois* are the simple *renvoi*, the empowerment to act (*Ermächtigung*) and the obligation to act (*Verpflichtung*). A simple *renvoi* is, for example, the provision of Article 5 SE-Reg.³² It simply refers to the national legislation of the Member State where the European Company is registered. An empowerment to act is a *renvoi*-provision according to which the SE-Reg. allows a Member State to intervene by introducing a regulation on a particular issue that is different from the one provided for by the SE-Reg. An empowerment to act is, for example, that found in Article 2.5.³³ If national legislation already regulates this particular aspect differently than the SE-Reg.,

²⁸ The issue of the extent of the regulatory scope (or regulatory ambit or regulatory field, *Regelungsbereich*) covered by the SE-Reg., i.e. which legal matters the SE-Reg. encompasses either by directly regulating them or by referring to national legislation, is discussed in greater detail by Brandt and Scheifele, *supra* n. 16 pp. 549. The specification of the regulatory scope is the task of the European Court of Justice, by way of interpretation of the SE-Reg.. It seems certain that questions related to the formation, to the structure, as well as to the financial structure belong to the regulatory scope covered by the SE-Reg.. Brandt and Scheifele, *supra* n. 16, plead for a wide interpretation of the regulatory field. On the contrary questions related to tax regulation, competition law or bankruptcy law are not covered by the SE-Reg.. For a definition and methods of filling the gaps to be found in the regulatory framework covered by the SE-Reg., see more details in Brandt and Scheifele, *supra* n. 16 pp. 551 and Wagner, "Die Bestimmung des auf die SE anwendbares Rechts", 5 *NZG* (2002) pp. 985, at pp. 988.

²⁹ See Brandt and Scheifele, *supra* n. 16 p. 553; Teichmann, *supra* n. 12 pp. 394; Brandt, "Überlegungen zu einem SE-Ausführungsgesetz", 5 *NZG* (2002) pp. 991, at p. 992; Wagner, *supra* n. 28 pp. 987. *Renvoi* is here used as *Verweisung*, i.e. *reference*. The SE statute is a European act and is based on a legal interpretation schema that is European and is provided for by the European Court of Justice. On this particular interpretation schema, see Theichmann, *supra* n. 12 pp. 403. It has to be assumed that because of its real complexity the *renvoi* technique will sooner or later be object of an ECJ decision.

³⁰ According to Brandt and Scheifele, *supra* n. 16 pp. 448, Article 9.1.(c) that provides for the general *renvois*, has to be interpreted in a restrictive way, i.e. it finds application only in the context of the regulatory scope included in the SE-Reg. See also Wagner, *supra* n. 28 p. 988.

³¹ See Brandt and Scheifele, *supra* n. 16 p. 553. This means that the special *renvois* prevail on the general *renvois* in case of conflict.

³² For other examples of simple *renvois*, see Wagner, *supra* n. 28 p. 987.

³³ For other examples of empowerment to act, see Wagner, *supra* n. 28 p. 986; Brandt and Scheifele, *supra* n. 16 p. 553.

to keep such a difference also in the national European Company statute, the national legislator has to make use of such empowerment to act by way of the law(s) of implementation of the SE-statute.³⁴ The last kind of special *renvoi* is the obligation to act according to which Member States are obliged to act. An example of an obligation to act is Article 12.1.³⁵ Once empowerment and obligations to act have been adopted by the Member State they become simple *renvois*.³⁶ The fourth category of *renvois* is the general *renvoi* provided for by Article 9.1.(c). Provisions in Article 9.1 (a) and (b) declare the predominance of European law over national law and refer to the legal aspects or fields directly regulated by the SE-Reg. and to the already examined special *renvois*.³⁷ The general *renvoi* of letter (c) specifies that for matters not regulated or partially regulated by the SE-Reg. national provisions do apply. Letter (c) creates a hierarchy of these provisions by providing that reference has to be made in sequence to: (i) provisions of laws adopted by the Member State in order to implement measures specifically relating to the SE as e.g. the national law(s) specifying provisions for the SE-Reg. or the law(s) implementing the supplementing Directive;³⁸ (ii) provisions for public limited-liability companies of the company law of the Member State of registration of the SE; (iii) provisions of the European Company statutes but in the same way as for public limited-liability companies of the Member States of incorporation. This third requirement of letter (c) specifies that freedom of contract in a Member State is allowed only to the extent permitted to other public-limited liability companies. This degree varies, as is well known, considerably in the different Member States.³⁹

It is clear that the *renvoi* technique provided for by the SE-Reg. is the result of *political* compromise to adopt the Regulation (and the Directive) on the European Company form. Nevertheless, it may present some problems of implementation of the SE-Regulation by Member States and of interpretation by way of judicial review. Competent for the interpretation of the SE-Reg. is clearly the European Court of Justice, whose task is to ensure the unity of the SE form as provided for by the SE-Reg.⁴⁰ According, however, to the vast majority of commentators, the *renvoi* technique includes not only legislation of the Member States but also the judicial review of their courts⁴¹ with the result that single, national European Companies will also be the object of regulation by way of case law developed by judicial review. Consequently, where single

³⁴ On the point, see Wagner, *supra* n. 28 p. 987. Brandt, *supra* n. 29 p. 993.

³⁵ For other examples of obligation to act, see Wagner, *supra* n. 28 p. 987; Brandt and Scheifele, *supra* n. 16 p. 553.

³⁶ On the point see Wagner, *supra* n. 28 p. 987-988; Brandt and Scheifele, *supra* n. 16 p. 553.

³⁷ See Brandt and Scheifele, *supra* n. 16 p. 553 and pp. 554. Article 9.1.(b) specifies that freedom of contract in the statutes of a European Company is permitted only where expressly authorised. On the point see, Brandt and Scheifele, *supra* n. 16 p. 555; Wagner, *supra* n. 28 p. 988.

³⁸ See Brandt and Scheifele, *supra* n. 15 p. 555; Wagner, *supra* n. 31 p. 989.

³⁹ See Lutter, *supra* n. 3 p. 4, who complains about the low degree of *Gestaltungsfreiheit* European Companies registered in Germany will have because of the *Satzungsstrenge* of § 23 Abs. 5 AktG.; Wagner, *supra* n. 28 p. 989. On freedom of contract in company law, see generally Lutter and Wiedemann (hrsg.), *Gestaltungsfreiheit in Gesellschaftsrecht* (1998), Berlin. For Germany and from a law and economics perspective, see Bak, *Aktienrecht zwischen Markt und Staat. Eine ökonomische Kritik des Prinzips der Satzungsstrenge* (2003), Wiesbaden.

⁴⁰ See Brandt and Scheifele, *supra* n. 16 p. 551. The ECJ will be competent also for filling the gaps directly and specifically related to the SE form: see Brandt and Scheifele, *supra* n. 16 p. 552.

⁴¹ On the point see Wagner, *supra* n. 28 p. 987; Hirte, *supra* n. 12 p. 2; Teichmann, *supra* n. 12 pp. 406; more cautious are Schulz and Geismar, *supra* n. 12 p. 1079.

national legislations do not properly fill the gaps left by the implementation of the SE-Reg., national courts will have to intervene by way of case law. This will probably also require the intervention of the European Court of Justice according to the preliminary ruling of Article 234 ECT. This procedure for deciding single issues will create legal uncertainty that will ultimately weaken the legal appeal of the European Company as a company type to do business in the single market.⁴²

For the concrete purposes of this article it is now useful to concentrate on the *renvoi* technique used by the SE-Reg. for the regulation of the two-tier, and one-tier system in order to analyse the practical consequences of this technique. The SE-Reg. provides only for a framework regulation of the two systems, referring otherwise to the company law of the single Member States.⁴³ A Member State has to intervene to implement the SE-Reg. In the case it does not allow one of the two systems, this Member State has to intervene in order to make a choice between the two systems possible.⁴⁴ However, there is asymmetry in a Member State's possibilities of intervention as required by the SE-Reg. Indeed for a Member State that already mandates the two-tier system, the freedom to intervene is limited to what is strictly necessary in order to adapt national company law to the SE-Reg. In other words, the SE-Reg. does not provide for such a delegation of powers that would enable the national legislator to create a completely different second two-tier board system. The same is true for a Member State that already provides the one-tier board system. On the contrary, a Member State that does not provide for the two-tier board system is empowered with a greater degree of freedom to implement the SE-Reg.'s freedom of choice. The same is true for a Member State that does not mandate for the one-tier board system.⁴⁵ At the moment there are some Member States that have only one of the two systems and some that already offer both.⁴⁶ It is fair to say that for those Member States that provide only for one organisational structure, the already mentioned legal uncertainty produced by the implemented legislation and its judicial review (both at a European level by the ECJ and at a national level by the national courts)⁴⁷ will be greater for the organisational structure they have to implement *ex novo* rather than for the structure they already offer. This means that in the single

⁴² Legal uncertainty given by the *renvoi* technique is stressed by several commentators as the major obstacle to a successful use of the SE type. See Wagner, *supra* n. 28 p. 991; Schulz and Geismar, *supra* n. 12 p. 1086; Brandt, *supra* n. 29 pp. 991-992; Hommelhoff, *supra* n. 12 p. 285.

⁴³ Teichmann, *supra* n. 12 p. 441, stresses how the SE-Reg.'s regulatory framework on the organisational structure is quite low and necessitates in any case Member State's implementing legislation, even if only in the fields allowed.

⁴⁴ This obligation to act comes from Article 39.5. SE-Reg. for the two-tier system and from Article 43.4. SE-Reg. for the one-tier system.

⁴⁵ On the point see Teichmann, *supra* n. 12 p. 399-400; Brandt, *supra* n. 29 p. 993.

⁴⁶ According to Arlt, Bervoets, Grechenig and Kalss, "The Societas Europaea in Relation to the Public Corporation of Five Member States (France, Italy, Netherlands, Spain, Austria)", 3 *EBOR* (2002) pp. 733, France, Italy already offer both systems; The Netherlands, as well as Austria, provide just for the two-tier structure; Spain has the one-tier system.

⁴⁷ Legal uncertainty of the European Company as a type of company in competition with the national public limited liability companies makes the SE already weak in comparison to the normal national corporations. The extent to which the benefits of the SE outweigh the costs given by legal uncertainty will ultimately be demonstrated by the number of registered European Companies.

Member States the legal appeal of the two organisational structures will be not symmetric.^{48,49}

2.2. Article 7 and companies' freedom of establishment

As already mentioned,⁵⁰ Article 7 SE-Reg. makes a choice in favour of the real seat theory as the conflict of law rule to be applied to European Companies registered in the Member States.⁵¹ This choice has to be interpreted as the result of a political and technical agreement whose intent needs not be analysed here in greater detail. What is relevant here is that such a result may not conform to the new jurisprudence of the European Court of Justice on the freedom of establishment and of movement of companies, as well as mutual recognition of companies in the single market. This section briefly reviews the topic in order to introduce and justify the second step of the model as provided for in section 4.

It is well known that in private international company law (i.e. conflict of law rules for companies) countries apply one of two different and classical connecting factors in order to recognise foreign companies: either the registered office factor, according to which a company is recognised on the basis of the only element of the registered office (incorporation theory), or the real seat of business factor, according to which a company is recognised on the basis of the strict coincidence between registered office and real seat of business or centre of administration (real seat theory).⁵² In the European Union conflict of law issues find reference in some Articles of the EC Treaty. The interpretation of these Articles has been controversial from the beginning. Indeed, according to Article 43 ECT natural persons who are nationals of the Member States have freedom of primary and secondary establishment in another Member State. Article 48 extends such freedom of establishment also to companies or firms that i) have to be formed in accordance with the law of a Member State and ii) have to have either their registered office, or their central administration or their principal place of business in the Community. A company's freedom of establishment presumes nevertheless recognition of its existence in the host jurisdiction. Member States that apply the incorporation theory recognise the existence of the company only according to the law of the jurisdiction where the company is lawfully incorporated. Member States that adhere to the real seat of business theory demand

⁴⁸ The SE-Reg. repeatedly states (see e.g. premise 5 of the preamble and Article 10) that the SE has to be treated in the same way as a national corporation. The extent to which a Member State is more acquainted with the one of the two systems will probably increase the legal certainty of that system also for the SE.

⁴⁹ In Member States that already offer both systems, such as France or Italy, legal uncertainty should depend on the length of time the country has already had both structures and their relative development. France has provided for the two systems since 1966, while Italy is introducing now the possibility to choose between the two (see Arlt, Bervoets, Grechenig and Kalss, *supra* n. 46 p. 740 and 746). According to Hopt, "Europäische Aktiengesellschaft – per aspera ad astra?", 13 *EuZW* (2002) p. 1, in France only 2.61% of the companies have chosen the two-tier system. About 20% of the CAC 40-companies have this structure and among them AXA, Peugeot, Paribas, Printemps. According to Ferrarini, "Le nuove SPA "provano" il sistema dualistico", *Il Sole 24 Ore* 10.10.02 p. 11, in Italy the statutory implementation of the two-tier system has already been biased by the past experience of the monistic system so that the real difference between the two systems is minimal.

⁵⁰ See *supra* n. 21 and accompanying text.

⁵¹ The choice is only for the SE and does not prejudice the freedom Member States otherwise enjoy in fixing their conflict of law rules for companies (see premise 27 of the SE-Reg. preamble).

⁵² See Zimmer, "Private International Law of Business Organisations", 1 *EBOR* (2000) pp. 585.

coincidence of the two connecting factors. This means that in the case of transfer of the centre of administration to their territory, these Member States operate a change of the applicable law. This implies that the foreign company is not eligible for the local exercise of the right of freedom of establishment on the basis of its *original* identity.⁵³

The European Court of Justice with three important decisions has only recently declared the incompatibility of the real seat theory with Articles 43 and 48 ECT. In the *Daily Mail* case⁵⁴ of 1988 the Court had stated that the real seat theory was compatible with those provisions, following the prevalent opinion of scholars, who have long maintained that Article 48, rather than solving problems of conflict of law for companies, assumes that they are already solved by the private international law of the single Member States⁵⁵ and, furthermore, that coordination of national legislations *ex* Articles 44(2)(g) and 293 ECT are prerequisites for freedom of establishment and for the realisation of the single market in general.⁵⁶ A first decision against this conventional doctrinal wisdom was the *Centros*'s decision of March 1999.⁵⁷ The ECJ ruled that a company validly formed in a Member State following the incorporation theory has the right to register a branch in another Member State and that it has to be recognised according to the original statute of the Member State of incorporation. This company enjoys freedom of (secondary) establishment directly on the basis of Article 48 ECT. This liberal ruling was recently confirmed in the case of *Überseering*⁵⁸ and in the case of *Inspire Art.*⁵⁹ In *Überseering* the ECJ recognised the right of primary establishment and

⁵³ The real seat theory is considered to be a *protection theory* for (minority) shareholders, creditors, employees, the general interest, etc., see Wiedemann, *Gesellschaftsrecht*, Band I (1980), München, p. 782. It presents one problem: the precise identification of the real seat's location (or the centre of administration or principal place of business or the place where the decisions are taken); on this point, see Zimmer, *supra* n. 56 pp. 590-593.

⁵⁴ ECJ Case C-81/87 (27 September 1988), *ECR* (1988) pp. 5483. On *Daily Mail* see Behrens, "Die Grenzüberschreitende Sitzverlegung von Gesellschaften in der EWG", 9 *IPRax* (1989) pp. 354; see also Cerioni, "The Barriers to the International Mobility of Companies within the European Community: A Re-reading of the Case Law", *JBL* (1999) pp. 59.

⁵⁵ On this point, see Santa Maria, *EC Commercial Law* (1996), The Hague, p. 25.

⁵⁶ For a general overview of these topics, see Timmermans, „Die Europäische Rechtsangleichung im Gesellschaftsrecht. Eine integrations- und rechtspolitische Analyse“, 48 *RabelsZ* (1984) pp. 1; Wouters, "European Company Law: *QUO VADIS?*", 37 *C.M.L.Rev.* (2000) pp. 257; Schön, "Mindestharmonisierung im Gesellschaftsrecht", 160 *ZHR* (1996) pp. 221.

⁵⁷ ECJ Case C-212/97 (9 March 1999), *ECR* (1999) pp. I 1459. On *Centros* among others, see Behrens, "Das Internationale Gesellschaftsrecht nach dem Centros-Urteil des EuGH", 19 *IPRax* (1999) pp. 323; Behrens, "Centros and the Proper Law of Companies", pp. 503, in Ferrarini, Hopt and Wymeersch (edited), *Capital Markets in the Age of the Euro* (2002), The Hague.

⁵⁸ ECJ Case C-208/00 (5 November 2002). For the English version of the decision and the conclusions of the Advocate General Colomer, see www.europa.eu.int/eur-lex. On *Überseering* among others, see Behrens, "Das Internationale Gesellschaftsrecht nach dem Überseering-Urteil des EuGH und den Schlussanträgen zu Inspire Art", 23 *IPRax* (2003) pp. 107; Leible and Hoffmann, „„Überseering“ und das (vermeintliche) Ende der Sitztheorie“, 48 *RIW* (2002) pp. 925; Wymeersch, "The transfer of the company's seat in the European Company Law", 40 *C.M.L.Rev.* (2003) pp. 661.

⁵⁹ ECJ Case C-167/01, (30 September 2003). For the English version of the decision, see www.europa.eu.int/eur-lex. The case dealt with the compatibility of Dutch provisions to be applied when foreign incorporated companies want to register an agency, branch or subsidiary (*WFBV, Wet op de formeel buitenlandse vennootschappen* "law on formally foreign companies"). The decision confirmed the liberal jurisprudence of *Centros* and *Überseering*, by strictly limiting the possibilities for the host Member State to apply its regulations. The host Member State has to respect the original statute

recognition of the original identity, of a company validly formed in a Member State applying the incorporation theory in the territory of a Member State following the real seat theory. Finally, in *Inspire Art* the ECJ ruled that the limits the host Member State may set to the secondary establishment of a company validly incorporated in another Member State in order to protect relevant interests are extremely strict.

The new judicial developments of the ECJ on conflict of law issues for companies seem to identify a “constitutional” right (i.e. stemming directly from Treaty provisions) for companies to enjoy freedom of establishment and recognition among the Member States in the single market. If this is the new legal framework of international private law for companies, Article 7 SE-Reg. appears to be something like a restoration of the old framework or the attempt to try a “counter-reformation” by way of legislation against the reform by judicial review. It is not clear to what extent Article 7 SE-Reg. may in fact be against the new jurisprudence of the European Court of Justice and the possible object of its examination.⁶⁰ For the concrete purposes of this article, the strict coincidence of the head office and registered office as required by Article 7 SE-Reg. has nevertheless to be taken as a matter of law.

3. Economic theory of the company and company law

The mainstream approach to the economic analysis of company law describes the company form as a nexus of contracts among shareholders, managers, creditors, employees and customers (the stakeholders of the nexus).⁶¹ Shareholders are the owners of the company and keep two residual rights: the right to control the company (by voting on relevant issues) and the right to get profits (dividends). All other stakeholders are creditors of the company on the basis of fixed contractual claims specified *ex ante*.⁶² The company form is efficiently organised and structured on the basis of five core characteristics:⁶³ i) legal personality;⁶⁴ ii) limited liability;⁶⁵ iii) transferable shares;⁶⁶ iv) centralised management under a board structure⁶⁷ and v) shareholders’ ownership.⁶⁸

of the company in relation to liability of managers and company legal capital rules. The decision is available at www.europa.eu.int/eur-lex.

⁶⁰ On the point see Schindler, ““Überseering” und Societas Europea: Vereinbar oder nicht vereinbar, das ist die Frage”, 21 *RdW* (2003) pp. 122, who actually argues for the conformity of Article 7 SE-Reg. with Article 43 and 48 ECT.

⁶¹ This literature developed on the basis of the seminal article by Coase, “The Nature of the Firm”, reprinted in Coase, *The Firm, the Market, and the Law* (1988), Chicago; Alchian and Demsetz, “Production, Information Costs, and Economic Organization”, 62 *AER* (1972) pp. 777; Jensen and Meckling, “Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure”, 3 *J. Fin. Econ.* (1976) pp. 305. We use the terms company law and corporate law as synonyms.

⁶² A company is just one of several types of firms. Shareholder ownership is justified in terms of economic efficiency of the entire nexus, i.e. in a way that maximises the aggregate value of all the contracts forming the nexus. See Hansmann, *The Ownership of Enterprise* (1996), Cambridge MA, pp. 11 and pp. 53. See also Williamson, “Corporate Governance”, 93 *Yale LJ* (1984) pp. 1197; Fama and Jensen, “Separation of Ownership and Control”, 26 *J. Law & Econ.* (1983) pp. 301. On shareholder value as an efficient means to maximise the residual claim of shareholders, see Brealey and Myers, *Principles of Corporate Finance* (1996), New York, p. 24.; Zingales, “In Search of New Foundations”, 55 *J. Finance* (2000) pp. 1623, at pp. 1630; Jensen, “Value Maximization, Stakeholder Theory, and the Corporate Objective Function”, 14 *J. Applied Corp. Fin.* (2001) pp. 8.

⁶³ See Hansmann and Kraakman, “What is Corporate Law?”, in Hansmann and Kraakman *et al.*, *The Anatomy of Corporate Law. A Comparative and Functional Approach* (2003), Oxford.

With the exception of legal personality, whose transaction costs are prohibitive, all the four elements that constitute the company form can be organised by means of contracts. Transaction costs of the company form are not prohibitive and the efficiency gains all stakeholders get permit its organisation by means of contracts.⁶⁹ The transaction costs that arise from the company form are specified in terms of agency costs among stakeholders.⁷⁰ The agency costs are a consequence of so called agency problems. Three agency problems are typically identified:⁷¹ i) between shareholders and managers; ii) between majority and minority shareholders; iii) between shareholders and the others stakeholders (particularly creditors and employees but potentially also customers).

The role of (company) law is to try to deal with these agency problems. Jurisdictions use different methods to deal with agency problems by way of (company) law. Nevertheless, in economic terms, a common goal of (company) law in all jurisdictions is (or rather, should be if efficiency is taken as a policy goal) to reduce transaction costs among stakeholders, i.e. the agency costs of the company form.⁷² Since this article deals with the relationship between shareholders and managers as one to be organised according to a particular (one-tier or two-tier) organisational structure, we refer only to the agency problem between shareholders and managers and to the role of company law in regulating such an agency problem by way of a monistic or dualistic system.

⁶⁴ Legal personality is basically associated to affirmative asset partitioning: company assets are pledged in the exclusive interest of company creditors. See Hansmann and Kraakman, *supra* n. 63 pp. 6. See also Hansmann and Kraakman, “The Essential Role of Organizational Law”, 110 *Yale LJ* (2000) pp. 387, at pp. 398.

⁶⁵ Limited liability is basically associated with defensive asset partitioning: shareholders’ personal assets are pledged in the exclusive interest of shareholders’ personal creditors. See Hansmann and Kraakman, *supra* n. 63 pp. 8. See also Hansmann and Kraakman, *supra* n. 64 pp. 423.

⁶⁶ It permits to the company to do business independent from the identity of its owners. See Hansmann and Kraakman, *supra* n. 63 p. 10. See also Woodward “Limited Liability in the Theory of the Firm”, 141 *JITE* (1985) pp. 601; Ekelund and Tollison, “Mercantilist origins of the corporation”, 11 *Bell J. Econ.* (1980) pp. 715.

⁶⁷ This structure allows specialisation of work between owners (shareholders), who invest capital, and managers, who run the company in the shareholders’ interest, according to comparative advantages. See Hansmann and Kraakman, *supra* n. 63 pp. 10.

⁶⁸ As already analysed. See *supra* n. 62 and accompanying text.

⁶⁹ For this reason the role played by affirmative asset partitioning (legal personality) is said to be essential. See Hansmann and Kraakman, *supra* n. 64.

⁷⁰ Agency theory goes back to Ross, “The Economic Theory of Agency: the Principal’s Problem”, 63 *AER* (1973) pp. 134. See also Jensen and Meckling, *supra* n. 61. For the application of agency theory in the company context, see Hansmann and Kraakman, “Agency Problems and Legal Strategies”, in Hansmann and Kraakman *et al.*, *supra* n. 63. Generally speaking in the relationship between principal and agent, the agent is asked by the principal to perform an action or a sequence of actions in the principal’s interest. But since the principal may not be fully able to control the conduct of the agent, the agent may perform his activity in a way that does not maximise the principal’s interest. This creates agency costs in the agency relationship and, accordingly, an agency problem for the principal. These agency costs vary according to the task the agent has to perform. The solution is to organise a contractual mechanism that aligns principal and agent interests.

⁷¹ See Hansmann and Kraakman, *supra* n. 63 p. 2.

⁷² See generally Hansmann and Kraakman, “Agency Problems and Legal Strategies”, in Hansmann and Kraakman *et al.*, *supra* n. 63 and Hansmann and Kraakman, “The Basic Governance Structure”, in Hansmann and Kraakman *et al.*, *supra* n. 63. The others chapters of the book provide a useful comparative analysis of the ways different jurisdictions regulate several aspects of the company form.

The economic theory of company law has been traditionally developed in terms of contract law. From this perspective company law is simply a branch of contract law.⁷³ The role of company law (statutory law as well as judicial review) is to provide standard contract terms to reduce the costs that parties (i.e. shareholders and managers) incur in drafting and enforcing the contracts that regulate their agency problem.⁷⁴ The content of standard contractual terms has to be defined according to the hypothetical bargaining model: what parties would have agreed on in a world without transaction costs.⁷⁵ Companies that decide to opt out of standard contractual terms may be able to contract around the standard terms by customising their own terms. Mandatory rules in company law have been generally viewed with suspicion. They are justified only on the basis of market failures (particularly asymmetric information) and on the basis of a cost-benefit analysis of regulation.⁷⁶

That paradigm, which is generally referred to as the *contractarian* paradigm, considers companies as organisations that try to maximise the value of corporate contract terms in order to reduce the costs of capital (i.e. the agency costs). Managers (agents) have an incentive to select efficient contract terms to attract shareholder investments (principals). The assumption is that in the long run only efficient contractual terms survive and consequently that social welfare is also maximised.⁷⁷ The paradigm is based on the implicit assumption that contracts between shareholders and managers are drafted and enforced in an atomistic way or, in other words, that the behaviour of a company in defining its contractual terms does not influence the behaviour of other companies. In doing so the model assumes that there are no externalities among companies in the definition of the contracts that regulate the shareholders-managers relationship.⁷⁸

⁷³ This paradigm may find a limit with respect to affirmative asset partitioning (i.e. legal personality) whose contractual costs are prohibitive and cannot be created by way of contract. See Hansmann and Kraakman, *supra* n. 64.

⁷⁴ For an early approach to the question, see Posner, *Economic Analysis of Law* (1972), Boston, p. 180 and (1977), Boston, pp. 293.

⁷⁵ See Eastrebrook and Fischel, *The Economic Structure of Corporate Law* (1991), Cambridge MA, pp. 1, who propose a *majoritarian* approach. For the proposal of penalty default rules, i.e. rules that force parties to disclose information, see Ayres and Gertner, "Filling Gaps in Incomplete Contracts", 99 *Yale LJ* (1989) pp. 87; Ayres and Gertner, Strategic Contractual Inefficiency and the Optimal Choice of Legal Rules", 101 *Yale LJ* (1992) pp. 729.

⁷⁶ On the debate on mandatory vs. default rules see Bebchuk, "Limiting Contractual Freedom in Corporate Law: The Desirable Constraints on Charter Amendments", 102 *Harvard LR* (1989) pp. 1820; Coffee, "The Mandatory/Enabling Balance in Corporate Law: An Essay on the Judicial Role", 89 *Columbia LR* (1989) pp. 1618; Romano, "Answering the Wrong Question: The Tenuous Case for Mandatory Corporate Laws", 89 *Columbia LR* (1989) pp. 1599; Eastrebrook and Fischel, *supra* n. 81 pp. 1. From a German perspective, see Bak, *supra* n. 43.

⁷⁷ For all, see Eastrebrook and Fischel, *supra* n. 75 pp. 1.

⁷⁸ Eastrebrook and Fischel, *supra* n. 85 pp. 7, state that "the corporation's choice of governance mechanism does not create substantial third-party effects". Along the same lines Bebchuk, "Federalism and the Corporation: The Desirable Limits on State Competition in Corporate Law", 105 *Harvard LR* (1992) pp. 1435, at p. 1494, also states that "..., although positive externalities from standardization do undoubtedly exist in theory, their size is likely to be quite limited. For those issues with respect to which structural problems of managerial opportunism and externalities do not exist, the positive externalities of standardization seem smaller than the benefits of having states compete to supply the best rule".

3.1. Network economics and company law

The network economics approach to company law alters the assumption of atomistic, independent contractual behaviour among companies. Instead, it assumes as a working hypothesis that the contractual behaviour of a company directly influences the contractual behaviour of other companies. The economic theory of the company as nexus of contracts among different classes of stakeholders is not modified. What is modified is the paradigmatic approach to company law, i.e. the nature and scope of the regulation of the contracts forming the nexus on the basis of the different assumptions of interdependent contractual behaviour among companies.

The network economics approach to the study of law is a relatively new phenomenon⁷⁹ as network economics has only recently become the object of systematic analysis by economists.⁸⁰ Furthermore, the extent to which network economics may be fruitfully applied to the study of law is quite uncertain.⁸¹ This statement probably applies less for the theoretical approach, which is and remains quite appealing, but for practical policy implications, i.e. for the definition of normative propositions about the role and scope of law on the basis of theoretical analysis. Nevertheless, we think that network economics may be an interesting instrument for analysing the statute of the *Societas Europaea* from a theoretical perspective, in an attempt to forecast possible patterns of development.

Generally speaking, a network effect is a demand curve effect. It arises when the utility a consumer gets from consuming a good or service depends on the number of users of the same good. Typical examples of a network effects are those to be found in network goods as telephone nets or computer programs. The utility one single consumer gets from joining the net or using the computer program positively depends on the number of other individuals using the same product.⁸² The interdependence of utilities functions among consumers might create a problem. In fact, the single atomistic choices do not necessarily lead to social efficiency: in this case a form of coordination has to be created among consumers, and consumers and providers to ensure social efficiency.⁸³

The paradigm of network economics in corporate law was used for the first time in an article by Michael Klausner only in 1995.⁸⁴ The merit of Klausner's article is to

⁷⁹ As one of the first contributions, see Adams, "Normen, Standards, Rechte", 46 *JZ* (1991) pp. 941.

⁸⁰ Network economics is a branch of industrial organisation. For a summary of the debate, see the symposium on network externalities in 8 *J. of Economics Perspectives* (1994) pp 93.

⁸¹ For a survey article on network economics applied to several fields of law, see Lemley and McGowan, "Legal Implications of Network Economics Effects", 86 *California LR* (1998) pp. 478.

⁸² Correspondingly, in the case of negative network externalities the utility one consumer gets from joining the network or consuming the good decreases as the number of other consumers increases.

⁸³ For a general introduction, see Liebowitz and Margolis, "Network Externality: An Uncommon Tragedy", 8 *J. Econ. Perspectives* (1994) pp. 133, who actually use the general term of network effects to describe the general phenomenon of interdependence of utility functions and network externalities to describe situations where network effects lead to effective market failure.

⁸⁴ See Klausner, "Corporations, Corporate Law, and Networks of Contracts", 81 *Virginia LR* (1995) pp. 757. Other systematic contributions are Kahan and Klausner, "Standardization and Innovation in Corporate Contracting (or "The Economics of Boilerplate")", 83 *Virginia LR* (1997) pp. 713; Kahan and Klausner, "Path Dependence in Corporate Contracting: Increasing Returns, Herd Behaviour and Cognitive Biases", 74 *Washington U. L. Quarterly* (1996) pp. 347. Other scholarship has built on that paradigm implicitly assuming the presence of network externalities for other purposes. See e.g. Kamar, "A Regulatory Competition Theory of Indeterminacy in Corporate Law", 98 *Columbia LR* (1998) pp. 1908. It is worth noting that already Johnston, "The Influence of *The Nature of the Firm* on the Theory

conceptualise network economics as a possible device for the study of corporate law. This paradigm postulates that when the assumption of atomistic and decentralised contractual solutions is modified by the introduction of network economics, the social solution reached by independent contractual parties may no longer be optimal. In this case the role of corporate law is not to provide default terms but to function as a coordination means among parties, i.e. as a standardisation system to reach socially efficient results. The article distinguishes between *inherent benefits* of a contract term, due to the value already present in it when a company opts for it (and related to past use) and *network benefits* as the net present value of the term in relation to the number of firms that will adopt it in the future.⁸⁵ Network benefits come in particular from five different sources:⁸⁶ i) from the expected quantity and frequency of judicial review that interprets the contractual terms companies will use. Assuming that judicial review reduces legal uncertainty and that legal uncertainty reduces the value of the contractual terms, by joining the “right” network the company may be able to increase its value to investors; ii) from business practices among practitioners that have also the effect of reducing uncertainty; iii) from legal services associated with drafting and enforcing contractual terms; iv) from marketing services that arise by selling contractual terms to investors; v) from learning effects that arise because of the simultaneous or future adoption by other companies. On the basis of these five sources of network benefits the article develops several models that show the theoretical possibility that the competitive equilibrium of atomistic contracting may lead to an inefficient social outcome.⁸⁷ Given this positive analysis the article normatively proposes a menu approach where legislators and courts offer sets of alternative corporate terms to provide the market with an optimal balance of uniformity and diversity.⁸⁸

As already mentioned, the extent to which network economics can be helpfully adopted for studying company law is at least doubtful. Even if the theory appears appealing, empirical results have been so far limited and controversial.⁸⁹ Furthermore,

of Corporate Law”, 18 *J. Corpor. L* (1993) pp. 213, at 242, stresses the importance of network economics for the study of corporate law.

⁸⁵ See Klausner, *supra* n. 84 pp. 774.

⁸⁶ See Klausner, *supra* n. 84 pp. 775.

⁸⁷ The paper presents in particular four results: i) suboptimal diversity among corporate terms; ii) suboptimal uniformity among corporate terms; iii) adoption of the wrong term; iv) excessive inertia, i.e. lock-in effects (desirable innovations are lock out by a predominant term) or excessive momentum, i.e. terms are too quickly abandoned. See Klausner, *supra* n. 84.

⁸⁸ See Klausner, *supra* n. 84 pp 825. Klausner also critically analyses the debate on charter competition among states on the basis of the network economics approach. See Klausner, *supra* n. 84 pp. 841.

⁸⁹ Empirical evidence on the presence of network externalities in the company context is at least inconclusive. Klausner, *supra* n. 84 pp. 815, provides some empirical evidence and refers i) to the coordination mechanism embodied by the Corporate Trust Indenture Project that apparently overcame the problem of suboptimal diversity of bond indenture terms; ii) the contractual terms (change of control covenants) protecting bondholders from value decreasing takeovers, apparently leading to the adoption of the wrong term; iii) the form of stand-alone corporation of the vast majority of Silicon Valley start-up companies as uniform adoption of the wrong form; iv) the common use of “plain vanilla” (i.e. the complete adoption of the default rules as provided for by the corporate statute) in comparison to customised rules. Kahan and Klausner, *supra* n. 84 pp. 740, further empirically analyse the presence of network externalities in the contractual terms for protecting bondholders from takeovers. For a general criticism of that empirical evidence as support for the presence of network externalities, see Lemley and McGowan, *supra* n. 87 pp. 576 (for the Corporate Trust Indenture Project)

policy implications about the choice of the “right” corporate term to produce the “right” menu from which companies are able to choose, appear quite problematic. In company law as opposed to general contract law jurisdictions widely differ as to the degree of freedom of contract granted to companies. This means that freedom of contract inside the company contract varies in the different jurisdictions according to several possible explanatory factors. Nevertheless, what seems to be common in the different jurisdictions is the principle of the *numerus clausus* of company types, which is a phenomenon common to all jurisdictions.⁹⁰ The question relating to company vs. contract law becomes why, given the possible presence of network externalities in both areas, do jurisdictions grant complete freedom of contractual type and contractual content in contract law⁹¹ and limited freedom of company type and different freedom of contract degrees in single company types? Should, for instance, a legislator fix the terms of the type of “franchising contract” on the basis of a network economics analysis of the possible results of uncoordinated behaviour amongst decentralised and uncoordinated groups of contractual parties? Does the legislator know better and have better incentives than active contractual parties who respond to proper incentives? Or should the legislator simply invent contract types as it creates company types or, on the contrary, should both be the result of a bottom-top legal evolution?⁹² We rhetorically ask these questions because we would like to stress that we are completely agnostic about the real existence of network effects deriving generally from legal institutions (property or contract) and the consequent need of a system of standardisation to coordinate those contractual parties toward optimality that otherwise would not reach efficient results. Consequently, we are agnostic about the presence of network externalities arising from the SE statute, as provided by the Regulation. Only practical experience will show if network effects are really present and if they might lead to the inefficient outcome we show in the model when the real seat theory applies. Our point is that this result could be one of the possible handicaps of the

and pp. 581 (for bond covenants). Wortman, “Unlocking Lock-In: Limited Liability Companies and the Key to Underutilization of Close Corporation Statutes”, 70 *NYUL Rev.* (1995) pp. 1362, explains the overwhelming utilisation by close corporations of the public corporation statute as a form of inefficient path dependency due to network externalities. On the contrary Ribstein and Kobayashi, “Choice of Form and Network Externalities”, 43 *William and Mary LR* (2001) pp. 79, provide empirical evidence that the development of the private limited liability company (LLC) and the limited liability partnership (LLP) as new company types have spread in several US states without burdening problems due to network externalities. It has furthermore to be said that the same empirical evidence provided for by classical economics articles as proof of the existence of network externalities remains doubtful. See Liebowitz and Margolis, *supra* n. 89 and Liebowitz and Margolis, “Path Dependence, Lock-In, and History”, 11 *J. LE&O* (1995) pp. 205.

⁹⁰ See Hansmann and Kraakman, *supra* n 64; Schmidt, *Gesellschaftsrecht* (1991), Berlin, pp. 84.

⁹¹ With the only exception of consumer protection concerns, e.g. in contract of adhesions where mandatory law generally provides for the protection of the weaker party by granting information and special terms requirements.

⁹² For literature attempting to provide answers to these complex questions, see Merrill and Smith, “Optimal Standardization in the Law of Property: The *Numerus Clausus* Principle”, 110 *Yale LJ* (2000) pp. 1; Merrill and Smith, “The Property/Contract Interface”, 101 *Columbia LR* (2001) pp. 773, who specify the distinction between *numerus clausus* in property/contract as one mainly based on information costs related to the different parties dealing with a resource. Hansmann and Kraakman, “Property, Contract, and Verification: The *Numerus Clausus* Problem and the Divisibility of Rights”, 31 *J. Legal Studies* (2002) pp. S373., who identify the major problem of *numerus clausus* in the spectrum property/contract as mainly one of verification of ownership of rights.

SE statute. We stress that the aim of our analysis is only to anticipate possible future outcomes by providing a theoretical framework of analysis for dealing with a possible future problem.

4. The model

As already mentioned,⁹³ the *renvoi* technique used by the SE-Reg. to provide the legal framework regulating the European Company is quite complex. Legal uncertainty arising from that *renvoi* technique has been identified by commentators as one of the main problems of the SE-Reg. Legal uncertainty is mainly due to three connected factors: i) implementation of the SE-Reg. provisions in national legislation; ii) national judicial review of legislation governing the SE in a single jurisdiction (this legislation being a mix of provisions directly provided for by the SE-Reg. and the national measures implementing it); iii) judicial review by the European Court of Justice according to Article 234 ECT with respect to the interpretation of the SE-Reg. and the possible compatibility of national regulation with the SE-Reg. Furthermore, with respect to the choice between a two-tier board system and one-tier board system, legal uncertainty will be probably higher for the organisational system the Member States have to introduce *ex novo*.⁹⁴ It is in this context of legal uncertainty that the regulatory aim of the SE-Reg. has to be evaluated. Indeed, the aim of the SE-Reg. is to allow undertakings to do business Europe-wide on the basis of a single corporate body incorporated in a Member State under the condition of strict coincidence between the real seat of business and the registered office. It has been argued that, even with this condition of strict coincidence, the European Company may become an instrument of regulatory arbitrage in the Community.⁹⁵ On the other hand, one has to consider that after the recent decisions by the ECJ on freedom of establishment and mutual recognition of companies, single company types of the Member States adhering to the incorporation theory can be used to do business Europe-wide.⁹⁶ This creates a form of regulatory competition without the condition of strict coincidence of the two connecting factors. It follows that these company types represent serious competitors to the quite complicated and uncertain regulation of the European Company as instruments of regulatory arbitrage in the European Community.⁹⁷

⁹³ See *supra* section 2.1.

⁹⁴ See *supra* section 2.1. The hypothesis that legal uncertainty may be higher for the new organisational structure because of the asymmetric role played by national legislation (simple adaptation in the case of the old system vs. complete new development in the case of the new system) simply extends the level of relative legal uncertainty. Legal certainty would be, in fact, *per se* higher for the old system also in the case of symmetric implementation of the two systems due to the fact that the old system has already been in force for a long time.

⁹⁵ Enriques, "Silence is Golden: The European Company Statute As a Catalyst for Company Law Arbitrage", *ECGI* working paper, available at www.ecgi.org/wp, pp. 10, argues that, on the basis of positive network externalities stemming from national company laws, the complete *renvoi* technique used by the SE-Reg. may be the key factor in making the SE an appealing company type in comparison to the partial *renvoi* used by previous drafts.

⁹⁶ This point is true only for start-up companies. For already existing companies, there exist limitations to migration (in terms of change of registered office) deriving from company as well as tax law.

⁹⁷ This analysis does not take into consideration tax provisions that generally may also play a role in the choice of company type. Depending on the relative tax provisions of national types as opposed to the statute of the SE, the result may be the superiority of one of the two forms.

In this context of explicit or implicit regulatory aims, the point we make with our model is that the burden of legal uncertainty stressed by scholars, may not only be a serious obstacle to the diffusion of the European Company as a company type in the European Union. This burden may also jeopardise the fundamental choice allowed by the SE-Reg. between the one-tier and the two-tier organisational structure (dualistic or monistic)⁹⁸ as something that includes and regulates part of the complexity of the agency problem between shareholders and managers.⁹⁹ Indeed, in our model the *renvoi* technique to national legislation causes national precedents to have an effect on the level of legal uncertainty. From these national precedents arise in particular those network effects that may create path dependency in the organisational choice. This means that in the case of extensive network effects a European Company may be forced to choose the organisational structure that is already common in its jurisdiction. It follows that the concrete choice would be ultimately biased and one of the aims of the SE-Reg. would be eventually not pursued. As a solution to this path dependency problem the model shows that the incorporation theory would be superior to the real seat theory. European Companies would choose as jurisdiction of incorporation the one that better fits their wishes on organisational structure without having to respect the strict coincidence between the registered office and the real seat that ties European Companies to the path dependency problem.¹⁰⁰

4.1. Explaining the model

Imagine a European Community constituted by two Member States X and Y . In Member State X the one-tier organisational structure A has historically been the only one. On the contrary in Member State Y the two-tier organisational structure B has been the only form for a long period of time. The two Member States decide to introduce a regulation such as the SE-Reg. that provides both Member States, and consequently the Community, with both organisational structures by a certain point in time $t = t_0$ (October 2004). The European Company statute of such a Community presents the complex *renvoi* technique as provided by the SE-Reg. and a strict coincidence between head office and registered office in the same jurisdiction (either X or Y), as in Article 7 SE-Reg. As in the SE-Reg. Member State X has to introduce national legislation regulating the system B and Member State Y has to introduce national legislation regulating the system A . At time t_0 the SE-Reg. enters into force.

As a first step we show that in both Member States (in X with respect to the system B and in Y with respect to the system A) the legal uncertainty of the new system may make the choice of the new system substantially less attractive in comparison to the

⁹⁸ We would like to stress that, even though we discuss this specific issue, the same analysis could be applied to other issues in the corporate contract as specified by the SE statute.

⁹⁹ We exclude the general meeting of shareholders which is an exogenous element that we consider as not relevant for our purposes and actually present in both systems. We, furthermore, exclude all other possible factors that would interfere with the choice. We are, in the words of economists, working under *ceteris paribus* conditions to simplify the model.

¹⁰⁰ As a direct consequence the European Company would also be no longer at a disadvantage for regulatory arbitrage purposes *vis-a-vis* normal companies that, after the jurisprudence of the European Court of Justice, do not have to respect the strict coincidence of the two connecting factors.

old system, given the presence of network effects.¹⁰¹ Note that in the model, companies are ex ante heterogeneous in their evaluation of the two systems. This means that there are companies that prefer the one-tier organisational structure and companies that prefer the two tier-organisational structure in both countries. The problem of choice between the two systems arises in particular when companies ask for technical legal counsel. Practitioners will probably warn them about the dangers due to legal uncertainty associated with the new organisational structure as compared to the relatively more certain legal framework of the old system. Practitioners will probably suggest companies to adopt the old system, so reducing the risk of litigation and ultimately the costs of capital (so increasing the company's pay-off). Indeed legal uncertainty of the new system has to be compared with the relatively higher legal certainty provided by the minimal adaptation the SE-Reg. requires of the provisions of the old organisational structure in order to complement the same organisational structure provided for in the SE-Reg. The higher legal certainty of the old system derives from widespread use of the old system and is based on the consolidated and long tradition of statutory law and on an abundant and stabilised judicial review of it, as well as a coherent doctrinal background.¹⁰² In our model, network effects derive from joining an organisational structure (*A* or *B*) that is based on the relative degree of stability and certainty of the past and future legal framework between the two systems. Particularly relevant is the relative strength of the two systems in terms of judicial precedents of the previous periods and the expected value of future precedents.¹⁰³ The result is that according to the relative network externalities deriving in Member State *X* or Member State *Y* from choosing either system *A* or system *B*, the legal certainty of the two systems may be self-enforcing and the path dependency of one structure, i.e. predominance of one structure, may be the final result of the process.

¹⁰¹ We do not concentrate on the methods of formation of the European Company (one of the four forms, as specified in section 2.1.) because this has no relevant consequence for the model and would at the same time complicate it.

¹⁰² The relative degree of legal (un)certainty will generally depend on the accuracy and preciseness of the statutory law adopted to introduce the new system (to be established by national judicial review) and on the degree of its compatibility with the SE-Reg. (to be established by the judicial review of the European Court of Justice).

¹⁰³ In doing so, we basically follow Klausner, *supra* n. 84 pp. 779, who distinguishes between inherent benefit of term, i.e. the benefit deriving from past judicial review on a term commonly used, and network benefits, i.e. the benefit deriving from future judicial review (i.e. their expected value) because in this way we stress, as commentators do, the legal uncertainty problem caused by the complex *renvoi* technique.

Our model stresses and is based on the importance of interpretative network externalities as a form of the complexity of five forms of network externalities (together with legal services network externalities, marketing network externalities, common practices network externalities and learning effects). In reality the importance of interpretative network externalities may vary according to several factors such as, for example, the nature of the legal system (common law vs. civil law system, completeness and preciseness of statutory law with respect to both the issue of compatibility of national legislation with the SE-Reg. and the internal coherence of national law). Furthermore, it is plausible to assume that also the other four forms of network externalities will play a role in defining the pattern of development because of the strong interdependencies exist amongst them are strong. Indeed, we have assumed that legal counsel (i.e. legal services network externalities) will advise companies to introduce the more consolidated structure.

In a second step we show that the incorporation theory, as opposed to the real seat theory is, at least, weakly Pareto-superior from the point of view of any company. This is because companies of Member State X that prefer the organisational structure B could incorporate in Member State Y joining the network they prefer and profiting from its positive network effects. Similarly, companies of Member State Y that prefer the organisational structure A could incorporate in X . The point is that given the presence of network externalities the incorporation theory is always Pareto-superior to the real seat theory.¹⁰⁴

4.2. Companies' choice in the single Member State

In this section we sketch the assumptions of the model and the propositions we have proved. Proof of the following propositions can be found in the appendix.

4.2.1 Assumptions and propositions

Assumption 1: Let us assume the existence of two organisational structures: $s \in \{A, B\}$. Where A = one-tier organisational structure and B = two-tier organisational structure.

Assumption 2: Let us assume that in the initial state only one of these two organisational structures is allowed. Then, at time $t = t_0$ the law changes and from that moment both organisational structures are allowed.

This means that, from t_0 on, in every period the generic company (j) can choose to adopt one of the two organisational structures.

Definition 1: $n(t)$ is the share of companies choosing, at time t , the structure A .

Then, if the only allowed structure is A , at time $t=t_0$ the share is $n(t_0)=1$. On the contrary, if the only structure allowed is B , then at time $t=t_0$ the share is $n(t_0)=0$.

Assumption 3: Let us also assume the existence of positive judicial network effects in the choice of the organizational structure.

We assume that positive network effects arise from the existence of a greater number of precedents (or judicial review). For sake of simplicity, we also assume that the number of judicial precedents, at a certain point in time, is directly proportional to the share of companies choosing a specific structure. This implies that the pay-off associated with the choice of a specific structure will depend linearly on the share of companies that has chosen a certain structure in the previous period. It is reasonable to assume that, on average, more recent precedents are more relevant than older ones. This is the reason why, as a simplifying assumption, we assume that only the precedents in the previous period matters. So we assume that network effects depend upon the number of companies that have chosen a certain structure in the period $t-1$, but not upon the number of companies that have chosen that structure in the periods before that one.

¹⁰⁴ This means that the incorporation theory makes every company at least as well off as the real seat rule, and some of them better off.

Assumption 4: Assume to have an infinite number of heterogeneous companies, in the sense that they differ in their evaluation of the intrinsic value of the two organisational structures. More precisely, assume that these evaluations follow a bi-dimensional uniform density distribution over the closed interval $[\underline{\pi}, \bar{\pi}]$ ¹⁰⁵.

Given these assumptions, the choice of the companies in the economy at any time t can be described with the model in the appendix. From that model we derive the following results.

Proposition 1: In the long run equilibrium the share of companies choosing a certain structure depends upon two factors: the initial state of the system and the relative strength of the network effects.

With the term *initial state of the system* we mean the kind of structure allowed before period t_0 , either A or B , respectively in Member State X and Y . With *relative strength* we mean the relation between the value of network effects and the extent in the range of evaluation the companies give to the intrinsic value of this system.

Proposition 2: If relative network effects are weak¹⁰⁶ then, no matter what had been the initial state of the system, in the long run the share of A-type companies will equalise the share of B-type companies.

Proposition 3: If relative network effects are neither weak nor strong,¹⁰⁷ then the majority¹⁰⁸ of the companies will choose the same type of structure as the one allowed before t_0 , but a small share¹⁰⁹ of companies will choose the other organisational structure.

Proposition 4: If relative network effects are strong,¹¹⁰ then in the long run all the companies will keep choosing the same organisational structure that was allowed before time t_0 .

¹⁰⁵ The distribution of density will be $(\pi_A, \pi_S) \sim U\{\llbracket \underline{\pi}, \bar{\pi} \rrbracket \times \llbracket \underline{\pi}, \bar{\pi} \rrbracket\}$. This means that the density function will be $f(\pi_A, \pi_S) = \frac{1}{(\bar{\pi} - \underline{\pi})^2}$.

¹⁰⁶ This means that $0 < \alpha \leq \frac{\bar{\pi} - \underline{\pi}}{2}$, where α is the level of the network effects.

¹⁰⁷ This means that $\frac{\bar{\pi} - \underline{\pi}}{2} < \alpha \leq \bar{\pi} - \underline{\pi}$, where α is the level of the network effects.

¹⁰⁸ More precisely, the share is $1 - \frac{1}{2} \left(\frac{\bar{\pi} - \underline{\pi}}{\alpha} - 1 \right)^2$

¹⁰⁹ The share of companies choosing the minoritarian kind of structure will be $\frac{1}{2} \left(\frac{\bar{\pi} - \underline{\pi}}{\alpha} - 1 \right)^2$

¹¹⁰ This means that $\alpha > \bar{\pi} - \underline{\pi}$

4.3. The equilibrium outcome: real seat vs. incorporation theory

Assumption 5: Let us now assume to have a Community made up by two different countries $c \in \{X, Y\}$ such that the two countries differ only in the organisational structure allowed before t_0 . In Member State X the only structure allowed before t_0 is A and in Member State Y the only structure allowed is B.

In general it is true that to move the headquarters (real seat of business) of a company to another country is more costly than to simply move the incorporation act (i.e. the registered office). For this reason we will assume the following:¹¹¹

Assumption 6: Let us assume that the cost of moving the real seat of the company is infinite and the cost of simply moving the incorporation is normalised to zero.¹¹²

Given assumption 6 it is clear that no company will change the real seat after t_0 .

4.3.1. The equilibrium outcome under the real seat theory

From propositions 1-4 and assumptions 5-6 we derive:

Proposition 5: Under the real seat theory, when judicial network effects are relatively weak, in the long run, in both Member States, half of the companies will choose the organisational structure A and the others will choose the structure B.

Proposition 6: Under the real seat theory, when judicial network effects are not relatively weak, in the long run the share of companies choosing a certain structure will substantially differ between the two Member States. And in any Member State the majority of the companies will be of the same type as the ones existing before t_0 .

Under the real seat theory, the generic company does not gain any benefit if it changes the Member State of incorporation. It is obvious, therefore, that no company will change the Member State of incorporation after t_0 .

4.3.2. The equilibrium outcome under the incorporation theory

Given our assumptions and especially assumption 6, it follows that if a company decides to change the organizational structure, it gains a greater pay-off if it also changes the Member State of incorporation. This implies that:

Proposition 7: If network effects are positive¹¹³ and the incorporation theory applies, in any period, all the one-tier companies will be incorporated in Member State X and all the two-tier companies will be incorporated in Member State Y.

¹¹¹ This assumption crucially relies on international tax provisions. But for simplicity as explained in note 10, we intentionally completely omit the treatment of the complex national and international tax issues related to the SE. This is because the model concentrates exclusively on the company law issue.

¹¹² Enriques, *supra* n. 95 p. 6, makes the point that for a large multinational company the costs incurred by changing the real seat may be affordable. We would like to stress that this is no more than a simplifying assumption that allows us to reach a sharper result. Weakening this assumption does not, however, alter the general findings.

4.4. Welfare comparison

Proposition 8: From the point of view of any company the incorporation theory is, at least, weakly superior.

As we show in the appendix, in the long run equilibrium under the incorporation theory all the companies will earn a greater pay-off in comparison to the gains associated with the real seat theory.

5. Conclusions

This article has tried to apply network economics to the study of the European Company statute. We argued that legal uncertainty, which is a structural problem of the SE statute given the complex *renvoi* technique, may prove to be a fundamental factor in the choice of one of the two organisational structures as provided for by the SE-Reg. In particular, we have shown in a first step that path dependency may be the result of the possible presence of network effects. In a second step we have shown that the problem of path dependency may be solved with the introduction of the incorporation theory. Article 69(a) SE-Reg. empowers the Commission after a maximum of five years from the SE-Reg.'s coming into force to forward a report to the Council and the Parliament with an analysis of the appropriateness of allowing a separate location of registered office and head office. If practical experience demonstrates the pattern of development of the two systems we have predicted, the Commission should seriously take into consideration the possibility to permit a separation between the two factors.¹¹⁴

Since we are conscious of the limits in scope and results of our analysis, we do not provide more ambitious policy conclusions. Indeed, the article is just a first attempt to study the SE-Reg. from the perspective of a network economics paradigm.¹¹⁵

Appendix: the Model

Given assumptions 1-4 the problem that the individual company faces, at any time t , is the following:

¹¹³ These effects are very weak. This result is due to the absence of any cost in the choice of changing the member state of incorporation.

¹¹⁴ We certainly do not claim that the presence of network externalities will be the *only* reason for the possible development we have described but, at least, one of the possible reasons.

¹¹⁵ For instance it would be interesting to analyse for the case of a Member State like Germany the relative development of the two systems according to the codetermination issue. The working hypothesis could be that for German SEs not confronted with the issue because of the number of employees, the number of companies choosing the new one-tier system may be higher than the companies choosing the two-tier system. On the contrary for codetermined companies legal uncertainty may induce choosing the two-tier structure where past experience is huge.

$$\max_{s_j} \Pi_j(s_j) = \begin{cases} \pi^{(j)}_A + \alpha n_{t-1} & s_j = A \\ \pi^{(j)}_B + \alpha(1 - n_{t-1}) & s_j = B \end{cases}$$

Where $\pi^{(j)}_s$ with $s \in \{A, B\}$, is the intrinsic value of choosing a specific organisational structure for company j , and α is the marginal increase in the company's pay-off due to an increase of the judicial network effects deriving from an increase in the share of companies choosing a defined structure. We also assume that α is equal for the two different organisational forms. We think that an interesting extension of the model could be the introduction of different values of α between different structures.

It may be worth to highlight that, with an infinite number of companies, the impact of the individual choice on the other future profits is deniable and the solution of this sequence of static maximizations is the same of the dynamic one.

The generic company j will choose the structure A if and only if $\Pi_j(A) > \Pi_j(B)$. This means that structure A will be chosen by all the companies j such that $\pi^{(j)}_A > \pi^{(j)}_B + \alpha(1 - 2n_{t-1})$. Under the assumption that the companies' evaluations of the two structures follow a bi-dimensional uniform distribution, the share of companies satisfying the above condition at period t is:

$$n_t = \begin{cases} \int_{\underline{\pi}}^{\bar{\pi}' - \alpha(1 - 2n_{t-1})} \int_{\pi_B + \alpha(1 - 2n_{t-1})}^{\bar{\pi}} \frac{1}{(\bar{\pi} - \underline{\pi})^2} d\pi_A d\pi_B & \text{if } \alpha(1 - 2n_{t-1}) \geq 0 \\ 1 - \int_{\underline{\pi} - \alpha(1 - 2n_{t-1})}^{\bar{\pi}} \int_{\underline{\pi}}^{\pi_B + \alpha(1 - 2n_{t-1})} \frac{1}{(\bar{\pi} - \underline{\pi})^2} d\pi_A d\pi_B & \text{if } \alpha(1 - 2n_{t-1}) \leq 0 \end{cases}$$

Then the dynamics of the share of companies choosing the one-tier organisational structure is:

$$n_t = \begin{cases} \frac{1}{2} \left[\frac{\bar{\pi} - \underline{\pi} - \alpha(1 - 2n_{t-1})}{\bar{\pi} - \underline{\pi}} \right]^2 & \text{if } n_{t-1} \leq \frac{1}{2} \\ 1 - \frac{1}{2} \left[\frac{\bar{\pi} - \underline{\pi} + \alpha(1 - 2n_{t-1})}{\bar{\pi} - \underline{\pi}} \right]^2 & \text{if } n_{t-1} > \frac{1}{2} \end{cases}$$

Depending on the strength of the network effects, this dynamic law has either one long run stable equilibrium or three different long run equilibria (two stable rest points and one unstable rest point).

To prove propositions 6-9 it is enough to compute the fixed point of this function and to check the stability of these equilibria.

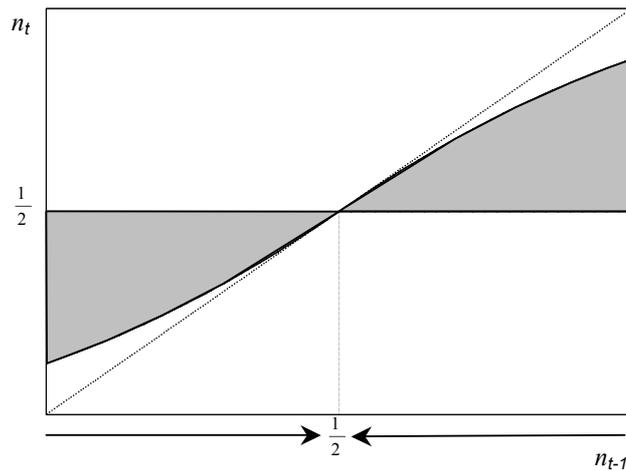
Proof of Proposition 1

Proposition 1 is a summary of the results proved in propositions 2, 3 and 4. In order to prove that this proposition holds, it is enough to prove that propositions 2, 3 and 4 hold. So we suggest the interested reader to go through the following proofs.

Proof of Proposition 2

Definition 2: network effects are relatively weak if and only if $0 < \alpha \leq \frac{\bar{\pi} - \underline{\pi}}{2}$

If $0 < \alpha \leq \frac{\bar{\pi} - \underline{\pi}}{2}$ there is a unique long run equilibrium $n = \frac{1}{2}$. The shadowed region in the graph below, shows where the function $n_t(n_{t-1})$ lies when α is relatively small. The dotted line is the function $n_t = n_{t-1}$.



It is clear that in this case, in the long run, the share of companies choosing the one-tier structure will converge to $\frac{1}{2}$. This is enough to prove Proposition 2.

Proof of proposition 3

If relative network effects are neither weak nor strong, then α will satisfy the following

condition: $\frac{\bar{\pi} - \underline{\pi}}{2} < \alpha \leq \bar{\pi} - \underline{\pi}$. Then there are three long run equilibria. Of these three

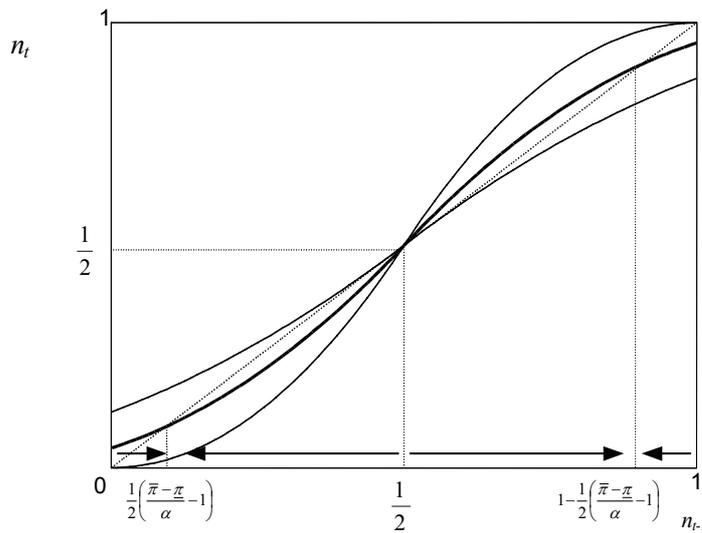
equilibria only two are stable; the long run equilibrium is determined by the initial condition of the system.

If at t_0 $n < 1/2$, then the long run equilibrium will be $n = \frac{1}{2} \left(\frac{\bar{\pi} - \underline{\pi}}{\alpha} - 1 \right)^2$

If at t_0 $n > 1/2$, then the long run equilibrium will be $n = 1 - \frac{1}{2} \left(\frac{\bar{\pi} - \underline{\pi}}{\alpha} - 1 \right)^2$

If and only if at t_0 $n = 1/2$, then the long run equilibrium will be $n = 1/2$

If we draw the graph of $n_t(n_{t-1})$ then we obtain:



Where the thin curves are the boundaries of the region in which $n_t(n_{t-1})$ lies. This proves proposition 3.

Proof of Proposition 4

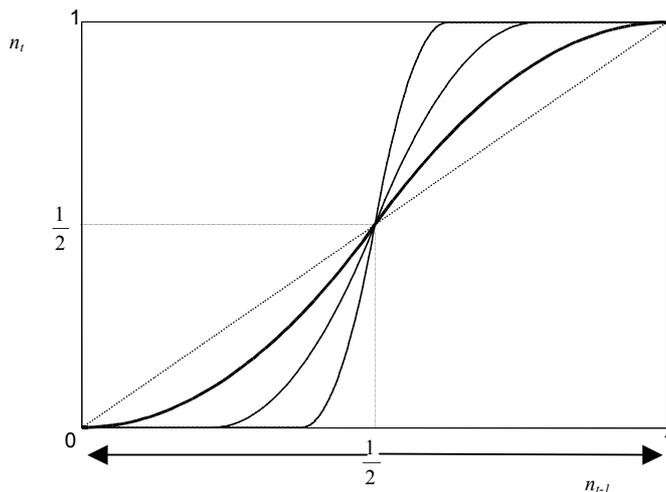
If $\alpha > \bar{\pi} - \underline{\pi}$, the relative network effects are strong and there are still three long run equilibria. Of these three equilibria, only two are stable; the long run equilibrium is determined by the initial condition of the system.

If at t_0 $n < 1/2$, then the long run equilibrium will be $n=0$

If at t_0 $n > 1/2$, then the long run equilibrium will be $n=1$

If and only if at t_0 $n=1/2$, then the long run equilibrium will be $n=1/2$

If we draw the graph of $n_t(n_{t-1})$, then we obtain:



Where the thick curve is the shape of $n_t(n_{t-1})$ when $\alpha = \bar{\pi} - \underline{\pi}$. The other equilibria are drawn for values of $\alpha > \bar{\pi} - \underline{\pi}$. This proves proposition 4.

Proof of proposition 5

If the costs of moving the real seat to the other Member State are infinite, as follows from assumption 6, then proposition 5 is equivalent to proposition 2. As we have shown proposition 2 holds, then also proposition 5 holds.

Proof of proposition 6

If the costs of moving the real seat to the other Member State are infinite, as follows from assumption 6, then proposition 6 is a necessary condition for propositions 3 and 4. Since propositions 3 and 4 hold, then also proposition 6 holds.

Proof of proposition 7

Under the incorporation theory at time t_0 the company has to choose between 4 different strategies:

Ax = Incorporate in Member State X with a one-tier structure

Ay = Incorporate in Member State Y with a one-tier structure

Bx = Incorporate in Member State X with a two-tier structure

By = Incorporate in Member State Y with a two-tier structure

Given assumption 5, it follows that at time t_0 for any company j it holds that:

$$\Pi_j(Ax) > \Pi_j(Ay) \text{ and } \Pi_j(Bx) < \Pi_j(By) \quad (1)$$

At time t_0 all the companies which choose to change the organisational structure will also change the Member State of incorporation. Then, in the following period, all the *A-type* companies will be incorporated in the Member State X and all the *B-type* companies will be incorporated in the Member State Y . But then assumption 5 holds also for period t_0+1 and then also condition (1) holds in period t_0+1 . Then in period t_0+2 (and by recursive reasoning in all the following periods), all the *A-type* companies will be

incorporated in the Member State X and all the B -type companies will be incorporated in the Member State Y . Consequently, this proves proposition 7.

Proof of proposition 8

Under the real seat theory the pay-off earned by the generic company is

$$\Pi_j^{RS}(s_j) = \begin{cases} \pi^{(j)}_A + \alpha n_{t-1} & s_j = A \\ \pi^{(j)}_B + \alpha(1 - n_{t-1}) & s_j = B \end{cases}$$

Under the incorporation theory the strategies Ay and Bx are strictly dominated and will never be chosen. Then the pay-off of the generic company will be:

$$\Pi_j^I(s_j) = \begin{cases} \pi^{(j)}_A + \alpha & s_j = Ax \\ \pi^{(j)}_B + \alpha & s_j = By \end{cases}$$

But from the simple observation that $n_{t-1} \leq 1$, it follows immediately that for any company j , incorporated in any country c , and for any organisational structure s chosen, it holds that:

$$\Pi_j^I(s) \geq \Pi_j^{RS}(s) \quad s \in \{A, B\}$$

This proves proposition 8.

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