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## How Does the Market React to the Societas Europaea?

Horst Eidenmüller, Andreas Engert and Lars Hornuf

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## How Does the Market React to the Societas Europaea?\*

Horst Eidenmüller,\*\* Andreas Engert\*\*\* and Lars Hornuf\*\*\*\*

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### Abstract

*When Council Regulation (EC) No 2157/2001 on the Statute for a European Company (Societas Europaea – SE) became effective on 8 October 2004, it offered existing publicly traded companies, for the first time, a choice between competing company laws, namely the national law of the company’s home state and the law of the supranational SE. Using an event study methodology, we analyse a unique dataset of publicly traded firms that have announced to re-incorporate under the SE Regulation.*

**Keywords:** event study, Societas Europaea, European Company, EC company law, incorporation, charter competition, regulatory competition, legal arbitrage.

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\* This article is a thoroughly revised version of an earlier working paper circulated under the title *The Societas Europaea: Good News for European Firms* (see *infra* n. 7). We are indebted to Florian Heiss, Klaus Wohlrabe and the participants in the Empirical Economics Research Workshop at the University of Munich. We also thank Jodie Kirshner, participants in Oxford University’s conference on ‘Company Law and Economic Protectionism’ and an anonymous referee for their thoughtful comments.

\*\* Prof. Dr. Horst Eidenmüller, LL.M. (Cambridge) holds the Chair of Private Law, German, European and International Company Law at the University of Munich (Research Professorship). E-mail: horst.eidenmueller@jura.uni-muenchen.de.

\*\*\* Privatdozent Dr. Andreas Engert, LL.M. (University of Chicago) is a Lecturer at the University of Munich. E-mail: andreas@engert.info.

\*\*\*\* Lars Hornuf, M.A. (Essex) is a Ph.D. student at the Department of Economics, University of Munich. E-mail: lars.hornuf@jura.uni-muenchen.de.

## 1. INTRODUCTION

When it came to company law, European firms used not to have much choice. In most Member States of the European Community (EC) as well as the European Economic Area (EEA), a legal rule known as the ‘real seat doctrine’ restricted companies from incorporating in a jurisdiction other than that where their corporate headquarters were located. The situation began to change fundamentally when in 1999 the European Court of Justice (ECJ) ruled that applying the real seat doctrine to companies from other EC Member States violated the freedom of establishment under the EC Treaty.<sup>1</sup> The new case law effectively permitted company founders to choose a company law of their liking. It did not, however, provide the same freedom of choice to *existing* companies and their shareholders. There was no simple mechanism for ‘reincorporating’ a firm, that is, for transforming a company established in one jurisdiction into a company governed by the law of another jurisdiction.<sup>2</sup> Particularly for public companies with a large and dispersed shareholder base it was virtually impossible to switch to another, more favourable company law. For them, the first choice to become available was between the national law of their respective home state and a new corporate form created by the EC: the European Company (Societas Europaea – SE). The European Company owes its existence not to the national laws of the Member States but to EC law itself. Council Regulation (EC) No 2157/2001 on the Statute for a European Company (SE Regulation) entered into force on 8 October 2004. As soon as Member States had adopted the required transposition measures, public companies organised under the laws of an EEA Member State were able to reincorporate as an SE,<sup>3</sup> thereby choosing to be governed by the SE Regulation.<sup>4</sup>

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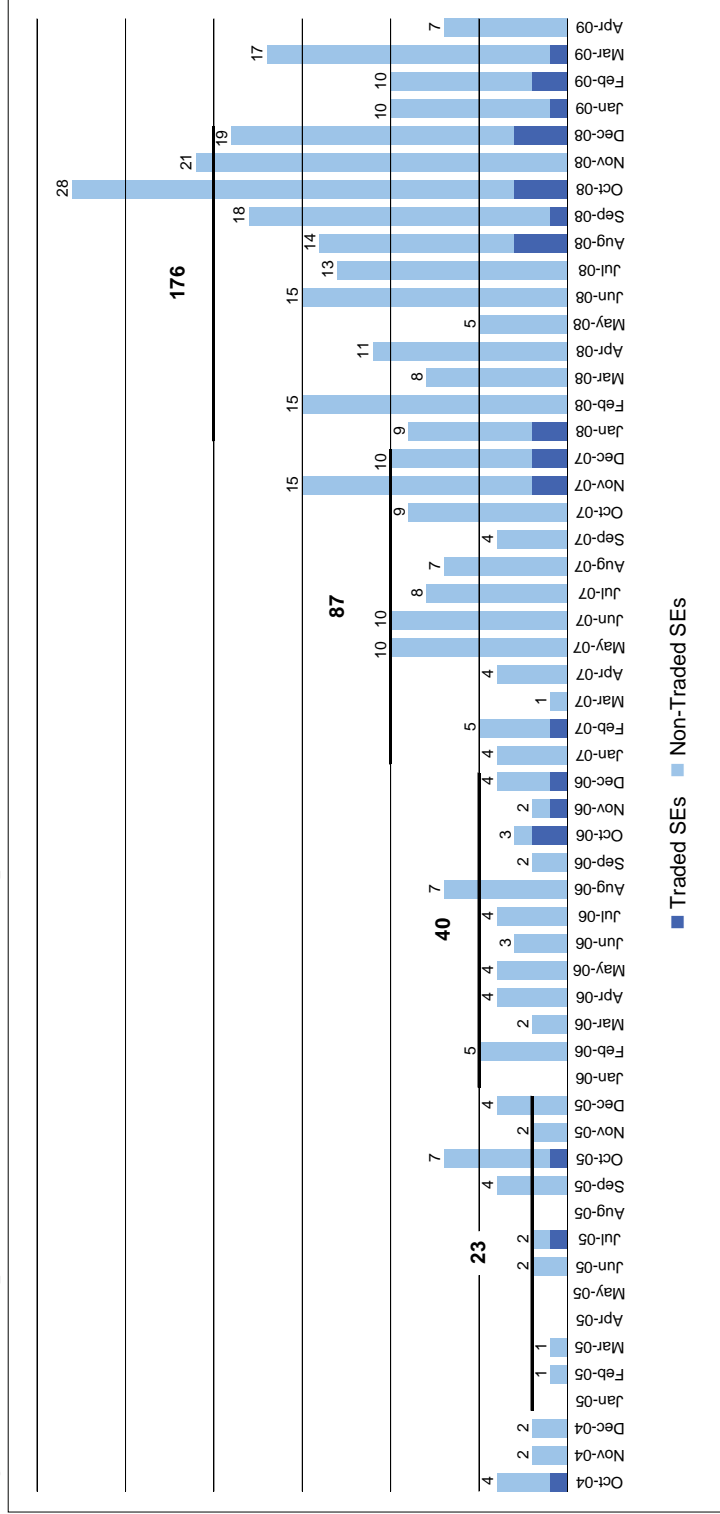
<sup>1</sup> See ECJ, Case C-212/97 *Centros Ltd. v Erhvervs- og Selskabsstyrelsen* [1999] ECR I-1459; Case C-208/00 *Überseering BV v Nordic Construction Company Baumanagement GmbH* [2002] ECR I-9919; Case C-167/01 *Kamer van Koophandel en Fabrieken voor Amsterdam v Inspire Art Ltd.* [2003] ECR I-10155.

<sup>2</sup> Meanwhile, reincorporations among the EEA Member States should be possible by means of a cross-border merger into a shell company of the target jurisdiction under the Cross-Border Merger Directive 2005/56/EC. Member States were required to transpose the Directive into national law by 15 December 2007.

<sup>3</sup> Reincorporation can be accomplished by way of a merger between two or more public companies from different Member States (SE Regulation Art. 2(1)) or, more directly, by converting a public company into an SE; the latter method presupposes that the company has a subsidiary that has been governed by the law of another Member State for at least two years (SE Regulation Art. 2(4)).

<sup>4</sup> It should be noted, however, that the SE company law differs only in part from that of the company’s home state because the SE Regulation frequently makes reference to the national law of the Member State where the registered office is located, see SE Regulation Art. 9(1)(c)(i) and (ii).

**Figure 1: SE incorporations from October 2004 to April 2009**



Since 2004, the new corporate form has been increasingly used by European firms (see Figure 1). While the number of SEs is still in the hundreds, it has so far shown exponential growth. Commentators have asserted potential advantages that the SE might offer to firms and their shareholders.<sup>5</sup> In prior work, we have studied the validity of some of these claims by examining the motives of SE founders.<sup>6</sup> Yet we know only little about whether and to what extent the alleged benefits of the SE corporate form actually materialise. In this regard, stock prices offer a valuable opportunity. If markets are at least reasonably efficient, the stock price should reflect the quality of the corporate governance structure insofar as it has an effect on the position of shareholders in the firm.

Event studies are a proven research tool to exploit this source of information. They have been used extensively to evaluate reincorporation decisions in the United States where firms have enjoyed free choice among the state company laws for much more than a century. With the emergence of the SE, the event study methodology can now be applied to charter competition in Europe. To the best of our knowledge, the working paper version of this article has been the first to do this.<sup>7</sup> Meanwhile, we have discovered eight more publicly traded firms that decided to reincorporate as an SE.<sup>8</sup> Our results now build on 38 publicly traded firms, regarding which the intention to reincorporate under the SE Regulation was publicised before 1 February 2009. Based on this new sample, our original finding of positive abnormal returns following the reincorporation decision still holds but no longer comes out at conventional levels of significance. Besides documenting the present state of knowledge, the article comments on the methodological difficulties of an event study five years after the SE's introduction and offers an outlook for future research.

In the remainder of the paper, we briefly consider the relevant literature (section 2) before presenting our data (section 3) and the event study methodology relied on (section 4). Section 5 contains the main results regarding the abnormal returns on or around the reincorporation decision. In section 6, we discuss why we are no longer able to find significant results in our new sample. Section 7 concludes.

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<sup>5</sup> See, e.g., L. Enriques, 'Silence is Golden: The European Company Statute As a Catalyst for Company Law Arbitrage', 4 *Journal of Corporate Law Studies* (2004) p. 77; J. Reichert, 'Experience with the SE in Germany', 4 *Utrecht Law Review* (2008) p. 22.

<sup>6</sup> H. Eidenmüller, A. Engert and L. Hornuf, 'Incorporating Under European Law: The Societas Europaea as a Vehicle for Legal Arbitrage', 10 *European Business Organization Law Review* (2009) p. 1.

<sup>7</sup> H. Eidenmüller, A. Engert and L. Hornuf, *The Societas Europaea: Good News for European Firms*, Law Working Paper No. 127 (European Corporate Governance Institute 2009).

<sup>8</sup> We have learned of four new firms from the (almost concurrent) study by F. Lamp, *The Costs of Different European Corporate Governance Legislation: Evidence from the New Legal Form – Societas Europaea*, Working Paper (2009), available at: <<http://ssrn.com/abstract=1411793>>.

## 2. LITERATURE

We are concerned with the economic consequences of company law choice, particularly with regard to shareholders in public companies. Our research interest has important policy implications: which company law a firm elects may depend on substantive differences in legal rules between jurisdictions. Whoever is in control of the decision will opt for the jurisdiction that best serves his/her own interests. Therefore, it is not a trivial question whether firms should be free to choose the company law under which they are organised. If reincorporating in another jurisdiction tends to harm certain stakeholders, the EC legislator may consider restricting firms' choices. For instance, additional requirements could be imposed to prevent harmful reincorporations, such as exit rights for dissenting shareholders and creditors.<sup>9</sup> Learning about the consequences of company law choice can also inform policy making at the national level. If Member States want to attract firms, or discourage firms from switching to another jurisdiction, they too should be interested in the effects of different legal rules on the various constituencies.

The US has a long history of free company law choice. For more than a century, at least some states have actively engaged in what has come to be known as 'charter competition', i.e., competition among state jurisdictions to attract incorporations. Most of the time and until today, the tiny state of Delaware has dominated the market for incorporations. Its success has long been viewed with suspicion. The rival positions have originally been associated with Cary, who argued that states engaged in a 'race to the bottom',<sup>10</sup> and Winter, who took the opposite view that competition improved the quality of company law.<sup>11</sup> It is important to note that the discussion in the US focuses on the agency problem between managers and shareholders in public companies. Accordingly, the quality of Delaware's law – being the epitome of charter competition – was judged primarily by its impact on diversified shareholders. This common understanding and a growing confidence in market efficiency suggested a way to put the conflicting propositions to an empirical test: if reincorporating in Delaware increased (decreased) stock market valuation, this would imply that charter competition benefitted (hurt) shareholders.

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<sup>9</sup> At present, the SE Regulation does not provide any such safeguards. If an SE is formed by way of a cross-border merger, Art. 24 leaves it to the Member States to protect minority shareholders and creditors of the merging companies. Cross-Border Merger Directive Art. 4(1)(b) and (2), grants the Member States similar authority. To define its proper scope, the ECJ should consider the impact of reincorporations on the respective group.

<sup>10</sup> W. Cary, 'Federalism and Corporate Law: Reflections upon Delaware', 83 *Yale Law Journal* (1974) p. 663.

<sup>11</sup> R. Winter, 'State Law, Shareholder Protection, and the Theory of the Corporation', 6 *Journal of Legal Studies* (1977) p. 251.

Hyman was the first to take this cue and to conduct a (somewhat rough) analysis of stock returns of firms announcing their intention to reincorporate in Delaware.<sup>12</sup> A survey by Bhagat and Romano counts a total of eight event studies on reincorporations in Delaware alone, with none of them finding significantly negative returns on the announcement date and four documenting positive returns that are statistically significant.<sup>13</sup> More recently, the event study methodology has been complemented by another approach seeking to detect how the market evaluates Delaware law.<sup>14</sup> Daines<sup>15</sup> and Subramanian<sup>16</sup> examine whether Delaware companies generally enjoy a higher relative market valuation measured in terms of Tobin's Q<sup>17</sup> after controlling for a number of other factors. Again, the evidence seems to be slightly in favour of Delaware, with Daines finding a significantly higher valuation and the Subramanian analysis, using a refined methodology and a different sample, yielding no significant results.

As we pointed out in the introduction, choice of company law is a novel phenomenon in Europe. What little empirical research there is has mostly focused on the evolving use of foreign company law by start-ups since 1999.<sup>18</sup> For existing companies, the opportunity to opt out of the national company law under which they were established is an even more recent phenomenon. So far, reincorporating as an SE under European Community law has been the only relevant alternative to the national company law of the firm's home jurisdiction.<sup>19</sup> We documented in prior work that the SE has gained some popularity among European firms.<sup>20</sup> In addition, we provided evidence on the reasons for choosing the SE form rather than incorporating under national company law.<sup>21</sup> While the German Helaba bank early on presented data on

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<sup>12</sup> A. Hyman, 'The Delaware Controversy – The Legal Debate', 4 *Delaware Journal of Corporate Law* (1979) p. 368.

<sup>13</sup> S. Bhagat and R. Romano, 'Empirical Studies of Corporate Law', in S. Shavell and M. Polinsky, eds., *Handbook of Law and Economics*, Vol. 2 (Amsterdam, Elsevier 2007) p. 945.

<sup>14</sup> For a critical assessment of the event studies on Delaware law, see L. Bebchuk, A. Cohen and A. Ferrell, 'Does the Evidence Favor State Competition in Corporate Law?', 90 *California Law Review* (2002) p. 1775.

<sup>15</sup> R. Daines, 'Does Delaware Law Improve Firm Value?', 62 *Journal of Financial Economics* (2001) p. 525.

<sup>16</sup> G. Subramanian, 'The Disappearing Delaware Effect', 20 *Journal of Law, Economics & Organization* (2004) p. 32.

<sup>17</sup> Tobin's Q is defined as the ratio of the market value and the replacement cost of the firm's (net) assets.

<sup>18</sup> See M. Becht, C. Mayer and H. Wagner, 'Where Do Firms Incorporate', 14 *Journal of Corporate Finance* (2008) p. 241; M. Becht, L. Enriques and V. Korom, 'Centros and the Cost of Branching', 9 *Journal of Corporate Law Studies* (2009) p. 171.

<sup>19</sup> This will change gradually after the Cross-Border Merger Directive has been implemented in all Member States, see *supra* n. 2.

<sup>20</sup> H. Eidenmüller, A. Engert and L. Hornuf, 'Die Societas Europaea: Empirische Bestandsaufnahme und Entwicklungslinien einer neuen Rechtsform', 53 *Die Aktiengesellschaft* (2008) p. 721; Eidenmüller, Engert and Hornuf, *supra* n. 6.

<sup>21</sup> See Eidenmüller, Engert and Hornuf, *supra* n. 6.

abnormal returns surrounding the decision to reincorporate as an SE,<sup>22</sup> our study and the almost concurrent one by Lamp are the first to analyse the stock price reaction based on a meaningful sample.<sup>23</sup>

### 3. DATA

Our objective is to detect abnormal stock returns surrounding the decision of a listed firm to reincorporate as a European Company. The first critical step is to identify the ‘event day’, i.e., the point in time when the reincorporation decision was made public. We collected data on three events: the first public statement, by the firm itself or by a third party, on the firm’s decision to reincorporate, the shareholder meeting authorising the reincorporation, and finally, the registration of the SE in the company register. We relied on *Thomson Knowledge* and *LexisNexis* as primary sources to identify the event dates. For all firms, the intention to reincorporate was publicly announced by the firm, included in the invitation to the shareholder meeting or otherwise mentioned in media reports before the respective shareholder meeting took place. We chose the earliest publication as the relevant event day in all cases because it was then that the market first learned of the reincorporation plan. We obtained information on firms regarding which the intention to reincorporate became known to the public by 1 February 2009,<sup>24</sup> even if these firms have not, or had not, yet been registered as SEs. For firms listed on German stock exchanges, we double-checked the dates against the inside information disclosure statements as recorded by the semi-official provider *Deutsche Gesellschaft für Ad-hoc-Publizität* (DGAP). Finally, we requested information from and clarified discrepancies with the investor relations departments of the respective firms.

As a result, we generated a dataset of 42 publicly traded stock companies which announced to reincorporate under the SE Regulation. Four firms were transformed into an SE just before or shortly after going public.<sup>25</sup> After dropping these 4 cases, our ultimate sample consists of 38 firms. We rely on daily stock prices and indices from *Thomson Reuters Datastream*. The information on the method of incorporation, a possible transfer of the registered office, the (new) board structure, the number of employees and the industry branch of the firm were hand-collected from annual reports, special reports on the transfer of the registered office and the website of the European Trade Union Institute.<sup>26</sup>

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<sup>22</sup> S. Rausch, *Die Europäische Aktiengesellschaft (SE) im Spiegel der Kapitalmärkte* (Helaba Volkswirtschaft Research 2007).

<sup>23</sup> See Eidenmüller, Engert and Hornuf, *supra* n. 7, and Lamp, *supra* n. 8.

<sup>24</sup> Since February 2009, at least two more firms (Nordex and Tipp24) announced to reincorporate as an SE. Other candidates that might soon announce to reincorporate under the SE Regulation are M-Tech, Infineon and EADS.

<sup>25</sup> The four firms are Artemis Global Capital, Equipotential, Wacker Neuson and ENRO Energie.

<sup>26</sup> See: <<http://www.worker-participation.eu>>.



**Table 1: Public companies regarding which an intention to reincorporate as an SE was published by 1 February 2009**

Name of company and state of registration	Registered office transferred from	First public information of reincorporation plan*	Shareholder meeting on reincorporation	Date of registration as an SE	Board structure before reincorporation	Board structure change	Industry**	Number of employees	Method of reincorporation
Nordea, SE	-	19/06/03	-	-	one-tier	-	K	32,000	-
Elcoteq, LU	FI	08/10/04	27/09/05	01/10/05	one-tier	-	C	24,222	Conversion
Strabag Bauholding, AT	-	12/10/04	12/10/04	12/10/04	two-tier	-	F	61,125	Conversion
Graphisoft, HU	LU	11/04/05	10/05/05	27/07/05	one-tier	-	J	253	Conversion
Allianz, DE	-	11/09/05	08/02/06	13/10/06	two-tier	-	K	177,000	Merger
Mensch und Maschine, DE	-	29/10/05	30/05/06	07/12/06	two-tier	+	J	388	Conversion
Scor, FR	-	04/07/06	24/05/07	25/06/07	one-tier	-	K	1,840	Conversion
Fresenius, DE	-	11/10/06	04/12/06	13/07/07	two-tier	-	Q	114,000	Conversion
Surteco, DE	-	12/10/06	31/08/07	19/11/07	two-tier	-	C	2,109	Conversion
HIT International Trading, DE	-	05/11/06	24/09/07	-	two-tier	+	G	5	Conversion
Prosafe, CY	NO	17/11/06	22/12/06	02/02/07	one-tier	-	D	1,030	Conversion
BASF, DE	-	27/02/07	26/04/07	14/01/08	two-tier	-	C	95,000	Conversion
Odfjell, NO	-	14/03/07	03/05/07	23/07/07	one-tier	-	H	3,500	Conversion
Porsche Automobil Holding, DE	-	24/03/07	26/06/07	13/11/07	two-tier	-	C	11,500	Conversion
Eurofins Scientific, FR	-	28/03/07	02/05/07	25/06/07	one-tier	-	M	4,069	Conversion
Wiener Privatbank, AT	-	24/04/07	31/05/07	23/08/08	two-tier	+	K	204	Conversion
Norddeutsche Affinerie, DE	-	24/06/07	-	-	two-tier	-	C	4,700	-
I.M. Skaugen, NO	-	17/09/07	18/10/07	20/12/07	one-tier	-	H	1,500	Merger
Klöckner & Co, DE	-	20/09/07	20/06/08	08/08/08	two-tier	-	C	10,581	Conversion
Conwert Immobilien Invest, AT	-	22/09/07	25/10/07	14/12/07	two-tier	+	L	436	Conversion
Interseroh, DE	-	26/09/07	25/06/08	24/09/08	two-tier	-	D	1,729	Conversion
Catalis, NL	-	03/10/07	03/01/08	25/01/08	one-tier	-	J	444	Conversion
SGL Carbon, DE	-	12/03/08	25/04/08	27/01/09	two-tier	-	C	5,862	Conversion
Linde, DE	-	17/03/08	-	-	two-tier	-	D	51,908	-
GfK, DE	-	31/03/08	21/05/08	04/02/09	two-tier	-	M	10,000	Conversion

Name of company and state of registration	Registered office transferred from	First public information of reincorporation plan*	Shareholder meeting on reincorporation	Date of registration as an SE	Board structure before reincorporation	Board structure change	Industry**	Number of employees	Method of reincorporation
DVB Bank, DE	-	09/04/08	11/06/08	01/10/08	two-tier	-	K	437	Merger
IMW Immobilien Invest, DE	-	11/04/08	-	-	two-tier	+	L	88	Merger
Songa Offshore, NO	-	23/04/08	26/05/08	12/12/08	one-tier	-	B	296	Merger
Betbull Holding, AT	UK	23/04/08	17/11/08	31/10/08	one-tier	-	R	109	Conversion
Q-Cells, DE	-	14/05/08	26/06/08	23/10/08	two-tier	-	C	2,300	Merger
Solon, DE	-	15/05/08	24/06/08	02/12/08	two-tier	-	C	850	Merger
Fotex Holding, LU	HU	02/07/08	04/08/08	31/12/08	one-tier	-	K	593	Conversion
Dexia, BE	-	03/07/08	-	-	one-tier	-	K	35,200	-
MAN, DE	-	07/07/08	03/04/09	19/05/09	two-tier	-	C	51,000	Conversion
SCA Hygiene Products, DE	-	18/11/08	-	-	two-tier	-	C	8,000	Conversion
Colexon Energy, DE	-	27/11/08	-	-	two-tier	-	C	93	Merger
Navigator Equity Solutions, NL	-	17/12/08	12/02/09	17/03/09	two-tier	-	M	124	Conversion
Sword Group, FR	-	29/12/08	30/01/09	-	one-tier	-	J	2,018	-

\* We report here the actual date of the first publication even if it was publicised after the market close or on a weekend or holiday.

\*\* NACE Rev. 2 Statistical classification of economic activities in the European Community:

B = Mining and quarrying  
C = Manufacturing  
D = Electricity, gas, steam and air conditioning supply  
F = Construction  
G = Wholesale and retail trade; repair of motor vehicles  
H = Transportation and storage  
J = Information and communication  
K = Financial and insurance activities  
L = Real estate activities  
M = Professional, scientific and technical activities  
Q = Human health and social work activities  
R = Arts, entertainment and recreation

For six observations, the intention to reincorporate was publicised on a weekend.<sup>27</sup> As securities were not traded over the weekend, we would not be able to calculate abnormal returns for the actual event and hence defined the event day as the following Monday. Furthermore, if we had knowledge that the information was revealed after the stock market had closed, we specified the following day as the true event day.<sup>28</sup>

#### 4. METHODOLOGY

In this section, we briefly outline our methodology for assessing the market response to the reincorporation decision.<sup>29</sup> We take the following three steps: first, we predict the returns for each day of the event window that we would expect if no event had occurred. Second, we subtract the expected returns from the actual returns to obtain abnormal returns. In our third and final step, we test whether the abnormal returns are statistically different from zero.

There are different ways to calculate predicted returns.<sup>30</sup> The most widely used are the market model and the constant mean return model. The latter assumes that the mean return of a given security is constant over time and hence uses the security's mean return over a certain period of time as predicted return for the event window. By contrast, the market model presupposes a steady linear relationship between the returns of an individual security and the returns of the market. In so doing, the market model tends to reduce the variance in abnormal returns because it can capture the portion of the individual security's return that is related to the variation of the market return. We want to take advantage of this property and therefore adopt the market model. Since the predictive power of the market model depends primarily on how well the market index matches the market component in the returns of the security as measured by the  $R^2$ , we rely on different indices covering the various European stock markets and market segments. For instance, we choose from the DAX, MDAX, SDAX and TecDAX for the subsample of German companies. If a firm is part of one of these indices, as is the case for Allianz and BASF with respect to the DAX, we use this index. In the remaining cases, we choose the index that best approximates the firm's size and industry. We estimate the predicted return parameters in a window from 230 to 30 days before the event date. To establish whether abnormal

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<sup>27</sup> The six firms are Allianz, Conwert Immobilien Invest, HIT International Trading, MAN, Mensch und Maschine and Porsche Automobil Holding.

<sup>28</sup> This was the case for DVB Bank and Fotex Holding.

<sup>29</sup> For a more detailed account, see Eidenmüller, Engert and Hornuf, *supra* n. 7, at pp. 8-11.

<sup>30</sup> See S. Brown and J. Warner, 'Measuring Security Price Performance', 8 *Journal of Financial Economics* (1980) p. 205, at pp. 207-208; C. MacKinlay, 'Event Studies in Economics and Finance', 35 *Journal of Economic Literature* (1997) p. 13, at pp. 17-19.

returns are significantly different from zero we apply a t-test<sup>31</sup> and – as a robustness check – a non-parametric Wilcoxon rank-sum test.<sup>32</sup>

## 5. EMPIRICAL FINDINGS

Information is sometimes not disclosed to the market at one distinct point in time. It may leak out before and disseminate after the event day. Also, we are often not able to observe when exactly the decision to reincorporate became known to the public for the first time. For instance, rumours spread some days before the official press release, or there may not even be a specific announcement by the firm that is clearly communicated to the market. To increase the chance of capturing the abnormal returns associated with a piece of information, it has become standard practice to consider event windows of more than one day around the event date and calculate cumulative abnormal returns (CARs) over those timeframes.

We find both positive and negative abnormal returns for individual firms in our sample. The results for the event date (0), the day before (-1) and after (+1) the event date as well as for the time window from day -1 through day +1 are reported in the Appendix. Table 2 contains the *average* abnormal returns in our sample. The event date 0 yields a modest average abnormal return of .2 percent, which falls far short of any significance level. The picture brightens somewhat when we cumulate average returns over broader timeframes. Cumulative average abnormal returns (CAARs) rise to .9 percent as we extend the event window from the event date 0 up to day +5. While these CAARs still fail to reach even the 10 percent level of significance, the p-values decrease. This is the remnant of the result in an earlier version of this study, in which we did find significant positive CAARs for all time windows beginning on day 0 and ending at days 0 to 8. In the subsequent section we will examine why we fail to confirm this earlier finding with our larger sample. As Figure 2 depicts, the average stock market valuation of the firms in our sample increased around the event date. Given the behaviour of our test statistics on and after the event date, we still believe that ‘something is going on’.<sup>33</sup>

In contrast to our results, the concurrent study by Lamp claims to find significantly positive CAARs.<sup>34</sup> However, this conclusion rests only on the timeframes

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<sup>31</sup> See S. Brown and J. Warner, ‘Using Daily Stock Returns – The Case of Event Studies’, 14 *Journal of Financial Economics* (1985) p. 3, at pp. 7-8.

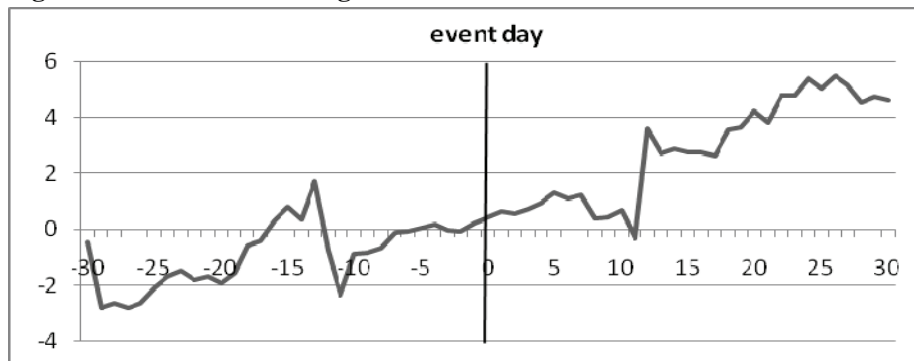
<sup>32</sup> For non-parametric tests in the event study context, see MacKinlay, *supra* n. 30, at p. 32. The Wilcoxon rank-sum test goes back to F. Wilcoxon, ‘Individual Comparisons by Ranking Methods’, 1 *Biometrics Bulletin* (1945) p. 80.

<sup>33</sup> A difference-in-means test of the CAARs 30 days before and after the event day comes out at the 5 percent level. This may be seen as a hint that the market valuation increases on or around the event day.

<sup>34</sup> Lamp, *supra* n. 8.

from -20 to +1 and -2 to 0. Other intermediate event windows in Lamp's analysis yield insignificant or significantly negative CAARs,<sup>35</sup> which is in line with the results reported in Table 2. While news of the reincorporation decision may leak out before the information is published, we believe that at least some effect should occur on or after the event date. Unfortunately, Lamp does not report results for any post-event windows, making a direct comparison infeasible.

**Figure 2: Cumulative average abnormal returns**



**Table 2: Cumulative average abnormal returns<sup>36</sup>**

window	CAAR <sub>t</sub>	t-test		Wilcoxon rank-sum test	
		t-value	p-value	z-value	p-value
-1 to +1	.006	1.09	28.1	.43	66.9
-2 to +2	.005	.77	44.4	.24	81.1
-3 to +3	.005	.60	55.5	.33	74.4
-4 to +4	.009	1.02	31.5	1.04	30.0
-5 to +5	.010	.91	37.0	1.34	18.0
-5 to -1	.000	.03	99.7	.53	79.7
-4 to -1	.002	.27	78.5	.44	65.8
-3 to -1	.000	-.07	94.7	.27	78.9
-2 to -1	-.001	-.24	81.0	-1.17	24.3
0	.002	.62	54.0	.07	94.8
0 to 1	.004	.96	34.3	.31	75.5
0 to 2	.006	1.23	22.6	.54	58.7
0 to 3	.005	1.04	30.5	.78	43.8
0 to 4	.007	1.37	17.8	1.20	23.2
0 to 5	.009	1.43	16.2	1.28	19.9

<sup>35</sup> Lamp, *supra* n. 8, at p. 21.

<sup>36</sup> We use robust standard errors to account for possible heteroskedasticity.

## 6. ASSESSING THE PRESENT FINDINGS

In the prior version of our analysis, we found significantly positive CAARs ranging from 1.2-3.0 percent in a sample of 30 firms.<sup>37</sup> Why did we lose statistical significance when we moved to a larger sample consisting of 38 firms? One possible explanation, of course, is that reincorporation does not affect market valuation and that our previous results were spurious. For instance, it may be that in our old sample other news was often disclosed simultaneously with the decision to reincorporate. Although we cannot rule out this possibility, we do not believe that it was behind our old findings. As long as event days do not cluster, other news revealed on the event day can be positive as well as negative. Its effect should cancel out. To distort the results, concurrent information would have had to pull systematically in one direction.

In any event, adding eight firms to the sample (and correcting eight event days) made our CAARs drop to .4-.9 percent. While 38 observations can be a sufficiently large sample to conduct an event study, the power of the tests decreases rapidly as the magnitude of abnormal returns falls. For a sample size of 40, a Monte Carlo simulation by MacKinley reveals that the power of a t-test decreases from 100 to 35 percent if abnormal returns fall from 2 percent to .5 percent, assuming that the standard deviation is .02.<sup>38</sup> Thus, CAARs of 1.2-3.0 percent in our old sample of thirty firms gave the t-tests statistical power that is noticeably reduced for CAARs of .4-.9 percent in a somewhat larger sample of 38 firms.<sup>39</sup> The probability of committing a type II error – failing to reject a null hypothesis when it should have been rejected – rises considerably. It follows that our new result should not be read as evidence *against* the hypothesis that firms' decision to reincorporate as an SE leads to positive abnormal returns on average. Given the lack of statistical power, the loss of significance only implies that there is no valid evidence *in favour* of a positive stock market reaction.

Consequently, the key question is why CAARs in our larger sample are much smaller than in our original study. We attribute this to the greater problems in identifying the correct event day for reincorporations of less prominent firms. It is often quite uncertain when news of the reincorporation decision first hit the market. Even with an announcement by the firm, it was sometimes hard to determine the release date. In a number of cases, the earliest event date we could obtain was some type of media coverage, including reports from internet sources. We cannot be sure that we have actually spotted the first occurrence of the information. All of these difficulties increased as we discovered additional firms because they were typically smaller and less well-known than the ones in our old sample. Missing the correct event day, and

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<sup>37</sup> Eidenmüller, Engert and Hornuf, *supra* n. 7, at p. 15.

<sup>38</sup> MacKinlay, *supra* n. 30.

<sup>39</sup> MacKinlay, *supra* n. 30, at p. 29.

hence any abnormal returns associated with the decision to reincorporate, is more of a risk for the new firms in our sample.

Another, related point is that the market reaction is likely to differ depending on how the information on the possible reincorporation is revealed. A posting on a market information website may amount to little more than a market rumour. Even a newspaper article can be misleading, as in the case of Siemens AG, where in April 2007 the weekly magazine 'Euro am Sonntag' reported plans for a reincorporation, which later turned out to be the result of a misunderstanding during an interview with a company representative. Because reports from third parties involve a greater degree of uncertainty, one would expect such information to be discounted by investors as compared to statements from the firms themselves. But even when firms announced their decision to reincorporate as an SE, the communication was often far from clear-cut. Some announcements were only made orally during press conferences, others through a mere post on the company website, still others consisted of no more than an agenda item on the invitation to the shareholder meeting. In all these cases it may have taken a couple of days or even weeks for the information to spread. Its price impact on the event day should therefore be much weaker than its total effect over time. Again, the new firms that were added later are likely to suffer more from this problem because we had already combed news providers like Reuters and DGAP for our old sample. Our old dataset, therefore, covered most firms with a well-defined announcement that was publicised on a specific date.

## 7. CONCLUDING REMARKS

Our analysis of the market reactions to the decision to reincorporate under European law has led to a sobering result: in contrast to the findings in a precursor to this article, the positive abnormal returns on and after the event day cease to be statistically significant in our new and extended sample. The available data as of 1 February 2009 do not yet allow a reliable conclusion as to whether the new European Company appeals not only to firms and their managers (which we know) but also to diversified shareholders of public companies. The loss of significance in our results can be attributed to the lower quality of the data for those firms that we learned of only after our working paper was published. Our original results may thus have been diluted by new bad data. Alternatively, they may have simply been wrong in the first place. At present, there is no way of distinguishing which of these two possibilities applies. We will have to wait until more publicly traded firms opt into the new legal form and, accordingly, provide us with a larger sample and more statistical power.

If significantly positive abnormal returns can be re-established, this will carry a general policy lesson: a broader range of company law choice for European firms may open up new opportunities and help to unlock hidden value. One implication would be that the EC should keep experimenting with enhancing company law choice as well as offering additional company types, such as the European Private

Company that is presently being contemplated.<sup>40</sup> A larger sample would also enable us to investigate the important follow-up question of what drives the market's appreciation – if any – of the SE. We have some evidence that avoiding or mitigating the effects of mandatory worker co-determination laws plays an important role in the choice of the SE corporate form.<sup>41</sup> However, firms for which this motive may have been relevant do not exhibit higher CAARs than others; rather, the converse is true.<sup>42</sup> If SE incorporations keep their pace, we will be able to study this and other important issues in a not-too-distant future.

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<sup>40</sup> See the recent Commission proposal for a Council Regulation on the Statute for a European Private Company, COM (2008) 396 final.

<sup>41</sup> Eidenmüller, Engert and Hornuf, *supra* n. 6, at pp. 26-27, 29-31.

<sup>42</sup> This point is elaborated for our old sample in Eidenmüller, Engert and Hornuf, *supra* n. 7, at p. 20.



## Appendix

Table 3: Firm-level abnormal returns

Firm	Day (t)	-1	0	1	-1 to 1
Allianz		-.0054	-.0292***	.0034	-.0312
Bauholding Strabag		-.0170	-.0039	.0108	-.0101
BASF		.0077	-.0028	-.0000	.0049
Betbull		.0004	-.0149	-.0014	.0016
Catalis		-.0158	-.0149	-.0188	-.0495***
Colexon Energy		.0246	.0762*	-.0376	.0632
Conwert Immobilien Invest		.0456***	-.0347***	-.0088	.0021
DVB Bank		-.0035	.0147	.0147	.0007
Elcoteq		.0139	-.0079	.0017	.0077
Dexia		.0088	.0264	.0016	.0368
Eurofins Scientific		.0057	.0021	-.0130	-.0052
Fotex Holding		.0325**	-.0320**	.0293*	.0298
Fresenius		-.0153	.0039	-.0106	-.0221
GfK		.0477**	.0076	.0173	.0726*
Graphisoft		.0022	.0027	.0131	.0179
HIT International Trading		.0026	.0010	.0027	.0063***
I.M. Skaugen		-.0181	.0061	-.0015	-.0135
IMW Immobilien		-.0030	-.0032	-.0031	-.0093***
Interseroh		.0086	-.0205	.0160	.0041
Klöckner & Co		.0152	-.0073	.0180	.0258
Linde		.0049	.0299**	.0185	.0533**
MAN		-.0058	-.0013	-.0087	-.0158**
Mensch und Maschine		-.0026	-.0008	.0011	-.0023
Navigator Equity Solutions		-.0056	-.0017	-.0079	-.0151***
Norddeutsche Affinerie		-.0086	-.0174	-.0159	-.0419***
Nordea		-.0048	-.0032	-.0002	-.0082*
Odfjell		.0010	-.0134	.0056	.0022
Porsche Automobil Holding		.0129	.0162	.0723 <sup>a</sup>	.1015*
Prosafe		-.0254	-.0053	.0192	-.0115
Q-Cells		-.0132	.0447**	.0055	.0370
SCA Hygiene Products		.0042	-.0141	-.0374*	-.0473
Scor		.0025	.0226	.0374***	.0625**
SGL Carbon		-.0212	.0171	.0155	.0113
Solon		-.0289	.0059	-.0087	-.0316
Songa Offshore		.0035	-.0023	-.0023	-.0010
Surteco		-.0008	-.0019	-.0001	-.0028*
Sword Group		-.0006	.0170	-.0288	-.0123
Wiener Privatbank		.0000	-.0008	.0001	-.0006

\*\*\* indicates the 1 percent, \*\* the 5 percent and \* the 10 percent level of significance.