Corporate Governance and the Relevance of Shares with Unequal Voting Rights in Europe

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Abstract

Shares with unequal voting rights, often proving the owner of a minority equity stake with the majority of the votes, has existed in various forms for more than a century. Consequently, there exists a substantial literature and empirical evidence on the determinants and effects of dual-class shares. During the last decade, dual-class shares have significantly increased in the U.S. as many entrepreneurial firms that go public employ this structure. In contrast, this trend has generally developed into the opposite direction in Europe as the number of listed firms with multiple voting shares has decreased and only a few firms use them nowadays when going public. In this study, we examine the relevance of firms with dual-class shares for European capital markets for the period from 1994 to 2016. We are interested in the costs and benefits of these voting arrangements and analyze valuation and performance differences between single- and dual-class firms for 13 European countries with a focus on the Nordic countries. Our results suggest that firms that go public with dual-class shares are relatively lower-valued compared to single-class firms, whereas dual-class IPOs are more profitable. However, we do not find any evidence that dual-class structures are trading at a general valuation discount (Tobin's Q), whereas from a regional- and country specific perspective the results are mixed. Moreover, our findings indicate that the ownership structure and firm's life cycle has some moderating effect on dual-class firms in Europe.

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I. Introduction

During the last two decades, the financial systems in general and the financing and investment behavior in particular experienced dramatic changes in most countries around the world. These changes had significant effects on ownership structures and the governance of publicly traded companies in the U.S. as well as in Europe. The introduction of the Euro as a common currency led to a higher capital market integration and an increase in cross-border financing and investment activities in Europe, whereas the Global Financial Crisis and the Sovereign Debt Crisis (2007 to 2009) negatively affected the banking systems and financial markets. Moreover, the number of publicly traded companies have continuously declined in the U.S. since 1997 (Lattanzio et al., 2019; Doidge et al., 2017) and in some European countries since 2007 (Bessler et al., 2019; Ritter et al., 2013), whereas some other countries experienced a growth of IPOs (Karolyi and Kim, 2017). All these changes affected not only the capital market structures but also the corporate governance systems in the U.S. and Europe.

Especially, the prominence of shares with unequal voting rights gained momentum in the U.S.[1] (Kim and Michaely, 2019; Cremers et al., 2018), whereas in Europe the number of dual-class shares has consistently declined. Germany, for example, disallowed shares with multiple voting rights in 1998. However, it continues to permit shares that substitute the voting rights with other preferential rights such as dividends (non-voting preference shares). In the Nordic countries, which historically had a relatively high fraction of dual-class shares, the numbers declined substantially (Henrekson and Jakobsson, 2012). In contrast, loyalty shares gained prevalence in Italy (Croci, 2018) and France (Bourveau et al., 2019; Becht et al., 2018), and more European countries such as Belgium and Spain will and might follow, respectively. Interestingly, these developments are in stark contrast to those in the U.S., where nowadays the

[1] Moreover, see Field and Lowry (2017) for the opposite trend in the adoption of classified boards in IPOs and established firms in the U.S.

largest listed firms and firms going public, especially unicorns, typically favor the dual-class share structure.[2]

Other significant financial system and corporate governance developments are the substantial growth and concentration of assets under management in mutual funds, pension funds, sovereign wealth funds as well as ETF and Index Funds (Bebchuk and Hirst, 2019a,b; Fisch et al., 2019; Lund, 2019, 2018; Bessler and Hockmann, 2016). One consequence is the accumulation of voting rights at these large institutional investors, which are gaining substantial influence on company policies and decisions when exercising these voting rights in shareholder meetings.[3] Often these investors use proxy advisors (ISS and Glass Lewis) that shape their opinion of how to vote at shareholder meetings, further concentrating this decision process (McGinty and Uchida, 2019; Copland et al., 2018; Hitz and Lehmann, 2018; Malenko and Shen, 2016).[4] In addition, shareholder activists such as hedge funds and private equity funds are increasing their activities in the U.S. and in most European countries by intensifying their demands on management (Aguilera et al., 2019; Hege and Zhang, 2019; Becht et al., 2017; Bessler et al, 2015). All these developments have significantly affected the markets for corporate control in the U.S. and in most European countries.

This concentration of voting rights and vote recommendations on its own and coupled with shareholder activism from hedge funds and private equity funds, are often perceived as a

[2] Examples are Dropbox, Google, Facebook, Lyft, Pinterest, Slack Technologies, Snap, and Spotify. Many successful start-up and growth companies in the US, especially the large unicorns with a market valuation above one billion US$, may have postponed their going public if dual-class share structures were unavailable. In the first half of 2019, seven of the largest ten IPOs in the US issued dual-class shares. See also the reasons of Alibaba to list in the US instead of Hong Kong, which now dual lists in Hong Kong after the exchange allows dual-class shares. For a historical perspective of the development of dual-class-shares in the US, see Howell (2010).

[3] These institutional investors in many countries have the legal obligation to publish voting guidelines and execute the voting rights by themselves, proxy advisors or custodian banks (see Bessler and Hockmann, 2016 for more details).

[4] The two leading Proxy Advisors, ISS and Glass Lewis, which hold a duopoly position in the world, benefit from economies of scale in information gathering and decision-making. Hence, they offer a valuable and relatively low cost service to institutional investors that have to fulfill their fiduciary duties. Possibly, they are also able to convey their own perspective on good corporate governance standards and recommend a voting behavior that may be consistent with their own agenda.

threat for management and for creating long-term value for companies.[5] Although companies have employed different means to limit the influence of certain investor groups such as staggered boards, voting right ceilings, etc., companies that are in the stage of the going public possess additional choices to deal with or protect themselves against the potential vote concentration and influence of large institutional investors. Staying private and obtaining funds in the private equity markets is one choice, which firms in the U.S. increasingly use (Kwon et al., 2019; Aragon et al., 2018; Chernenko et al., 2018; Ewens and Farre-Mensa, 2018). However, even larger private-equity-backed companies (unicorns) eventually will go public, having to decide on their ownership structure and the allocation of cash flow and voting rights.

One approach is the separation of the cash flow rights and the voting rights before going public in such a way that the majority of the votes always or at least for some time stays with the family, entrepreneur or founder of the company (Kim and Michaely, 2019; Cremers et al., 2018). As the companies' preference for such a legal construction has started to grow worldwide[6] (MSCI, 2018a) and especially intensified in the U.S.[7], most of the largest international stock exchanges adjusted their securities market regulation by introducing and allowing shares with unequal voting rights.[8] Whether the increase in dual-class share structures is a reaction to the potential vote concentration on the institutional investor side or a sensible strategy to keep the votes with the founder, entrepreneur, or family, that, most likely, best understands the products and competitive advantages of the company, is open for debate and require some further discussion and empirical analysis.

[5] See the discussion on short-termism of capital markets (e.g., Fried and Wang, 2019; Kaplan, 2018; Roe, 2018).

[6] For about 20 years, the weight of stock with unequal voting rights in the MSCI World Index remained rather low and stable below 2% (1970-1990) and started to grow continuously to about 10% by 2017.

[7] As of May 2019, dual-class shares are more common among small firms with 8.7% of non-S&P 1500 firms in the Russell 3000 relative to the S&P 600 (4.5%), S&P 500 (5.0%), and S&P 400 (4.9%) (Papadopoulos, 2019).

[8] Recent examples are the exchanges in Singapore and Hong Kong and the Star Market at the Shanghai Stock Exchange in China, alleviating the competitive disadvantage for attracting Asian companies. On the company level, an example is Alibaba, which first listed in the U.S., as dual-class shares were not allowed in Asia, but now cross-lists in Hong Kong as the dual-class share option becomes available.

In contrast, international institutional investors may have motivated companies in the Nordic countries to abandon this structure, although they had employed dual-class shares widely and successfully for many decades. Moreover, companies that go public hardly employ dual-class shares any longer in these and other European countries. Interestingly, Italy allows the issuance of multiple voting shares for non-listed companies and for firms going public since 2014. This is one initiative to make a public listing more attractive after some profiled Italian companies migrated to foreign countries (Sandrelli and Ventoruzzo, 2018; Santoro et al., 2015; Ventoruzzo, 2015). In addition, loyalty shares advanced in France and Italy as another important arrangement of shares with unequal voting rights, offering the owner double voting privileges after holding the shares for longer than two years (Bourveau et al., 2019; Becht et al., 2018; Belot et al., 2018).[9] Whether dual-class shares or loyalty shares are preferable or more regulation is required is a controversially debated issue (Bebchuk and Kastiel, 2019a, 2017; Lund, 2019) that requires further considerations and empirical evidence in the U.S. as well as in European countries. This issue could develop into a regulatory competition between European jurisdictions and may have substantial complications for creating a European Capital Market Union.[10]

Nevertheless, shares with unequal voting rights, offering the minority owner the majority of the votes is another kind of vote concentration, creating agency and corporate governance problem on its own (Anderson et al., 2018; Gompers et al., 2010; Masulis et al., 2009; Smart et al., 2008; Smart and Zutter, 2003).[11] Therefore, the pivotal question is whether and under which circumstances any vote concentration, with minimal economic exposure, either inside or outside

[9] In the U.S., these shares are classified as "time-phased voting" arrangements and has been controversially discusses since long, see Dallas and Barry (2016), Quimby (2013) and Howell (2010).

[10] See the discussion in Howell (2010), page 7 how the three US exchanges (NYSE, AMEX, NASDAQ) agreed on the definition and rules in May 1994.

[11] In addition, dual-class shares provide the owner with the majority of the votes, offering some protection against the concerted voting of institutional investors, or the vote recommendations by proxy advisors.

of the company, is superior and more beneficial to the long-term success of the company.[12] In the first case, inside vote concentration means that the founder, family, entrepreneur, or manager only owns a minority equity stake in the company with limited economic exposure, which, however, grants him, due to owning shares with superior voting rights, the majority of the votes in a shareholder meeting. In contrast, some large outside investors also possess only a minority equity holding or no equity stakes at all (Index Funds and ETFs) and therefore have little or no economic exposure. However, they have as large institutional investor or proxy advisor influence on or control of the majority of the votes or vote recommendations, respectively. Most likely, the relative advantages of inside and outside majority voting may change when firms advance through their life cycle and when the ownership structure adjusts or when firms convert to the one-share-one-vote principle. The objective of this research is to add to the controversial discussion on the benefits and costs of dual-class shares by providing empirical evidence on the financial and operating performance differences between single and dual-class-shares for European capital markets, with a focus on the Nordic countries.

The rest of the paper we structure as follows. In the next section, we review the extant literature and empirical evidence for dual-class shares. As most studies have focused on the United States, where shares with unequal voting rights are existing for more than a century, we employ this literature to deliberate on the various pros and cons. We discuss the literature and different issues for dual-class shares in Europe in section III, and provide the results from our empirical analysis in section IV. Section V contains our summary and conclusions as well as suggestions for future research.

II. Literature Review of Dual-Class Shares

We divided this section into five different subsections in which we discuss (1) the history of

[12] These are opposite avenues to prevent short-termism and to incentivize either management or investors to take a long-term investment perspective.

dual-class shares in the U.S., (2) the benefits and costs of dual-class shares, (3) the performance of dual-class shares and market indices, (4) dual-class shares and active versus passive investors, and finally (5) institutional investors and dual-class shares.

1. History of Dual-Class Shares Structures

Shares with unequal voting rights were already prevalent in the U.S. since the end of the nineteenth century and gained in importance in the 1920s. Examples are the International Silver Company issuing non-voting shares in 1898 and the Dodge Brothers' IPO in 1925. The NYSE, however, started to prohibit unequal voting rights in 1926 and kept this regulation, with some exceptions such as Ford's IPO in 1956, until 1985 (Howell, 2017). In contrast, other exchanges like the AMEX allowed non-voting shares under certain conditions. The one-share-one-vote principle had become the common structure, and it still constitutes one of the key indicators of a good corporate governance system. It remained so until the 1980s when companies explored protective means against hostile takeovers. Subsequently, all U.S. stock exchanges (NYSE, AMEX, NASDAQ) adjusted their voting right regulation, allowing dual-class shares again in 1994 (Howell, 2017, 2010).

More recently, the debate on dual-class shares and its governance implications revived when several entrepreneurial internet companies went public by issuing shares with unequal voting rights. Beginning with Google's (now Alphabet) IPO in 2004, an increasing number of larger entrepreneurial companies such as Alibaba, Dropbox, Facebook, LinkedIn, Lyft, Pinterest, Snap Inc. and Spotify[13] went public with dual-class (or multi-class) share structures. During the first half of 2019, seven of the largest ten IPOs in the U.S. issued dual-class shares (Papadopoulos, 2019). Dell, one of the largest technology companies in the world, is an excellent example for these changes. In 1988, Dell went public with single-class shares, delisted with a

[13] Interestingly, the company chose a single-class structure, but granted insiders 10 beneficiary certificates for each ordinary share providing one additional vote (Council of Institutional Investors, https://www.cii.org/dualclass_stock, Jul. 31, 2018).

leveraged buyout by the founder to reorganize the company in 2013, and became a publicly traded company again in 2018, this time with dual-class shares (Bebchuk and Kastiel, 2019b).

2. The Benefits and Costs of Dual-Class Shares

Shares with unequal voting rights are usually attractive for issuers preferring more voting rights (control) relative to their economic exposure (ownership) as well as to investors with no interest in exercising control but with a preference for higher returns.[14] Due to this disproportion of ownership and control, this arrangement always provoked controversial debates. This discussion intensified in 2017, when Snap Inc. issued shares to the public with no voting rights at all (Bebchuk and Kastiel, 2017; Berger, 2017; Kalb and Yates, 2017; Nicolas and Marsh, 2017). Company founders argue that retaining superior voting power protects them from market pressure [15] having to deliver short-term results, but instead allowing them to focus on long-term shareholder value (Baran et al, 2019; Atanassov et al, 2018; Goshen and Hamdani, 2016; Jordan et al., 2016). They may also alleviate the agency conflict of underinvestment as non-voting shares allow financing positive net present value projects without diluting the founder's control rights (Banerjee and Masulis, 2018). Megginson et al. (2008) provide evidence that dual-class firms issue additional equity (SEOs) for financing growth opportunities.

However, the problem remains that founders prefer dual-class shares to limit the equity exposure, while keeping the private benefits of control and possibly engaging less in long-term investments (Arugaslan et al., 2009). In contrast, equity investors counter that the concentration of voting power enables them to express their views and participate in important corporate governance decisions. The following statements from Andrew Hill *(Financial Times)* reflect the

[14] Although many of these newer high-tech companies in the U.S. have not been public for very long, the available data suggests that these newer dual-class companies might out-performing single-class structured companies for some years after the IPO (Kim and Michaely, 2019; Cremers et al., 2018). This in contrast to previous U.S. studies that documented a relative valuation discount of dual-class firms compared to single-class firms (e.g., Gompers et al., 2010; Smart et al., 2008; Smart and Zutter, 2003)

[15] This includes protection from hostile takeovers and uninformed shareholder demands as well as allowing signaling stability and credibility (bonding). There should be less managerial short-termism but the risks are entrenchment and the overall increase in agency costs.

pros and cons for dual-class shares and the opportunities and risks for investors very well: *"The **advantage** of a dual-class share structure is that it protects entrepreneurial management from the demands of shareholders".* In contrast: *"The **disadvantage** of a dual-class share structure is that it protects entrepreneurial management from the demands of shareholders".*

Consequently, dual-class shares could be beneficial for investors as long as management performs well and outside monitoring and control by investors and the capital market are not value enhancing and less important for the moment. In contrast, dual-class shares could be devastating for investors and value destroying if management performs poorly and investors have no effective control over management or cannot replace it (Bebchuk and Kastiel, 2019a, 2017). An example of an extremely successful dual-class company is Google, providing high returns to investors over an extended period. Already in their founders' IPO letter in 2004, the owners made it very clear to investors what their position and their rights were when they decide to invest in Google: *"New investors will fully share in Google's long term economic future but will have little ability to influence its strategic decisions through their voting rights".* Therefore, it is essential to make the separation of cash flow rights and voting rights clearly visible to investors.

3. Performance of Dual-Class Shares and Market Indices

One controversial issue of shares with unequal voting rights raising many difficult questions relates to market indices (Hirst and Kastiel, 2019; Winden, 2018; Winden and Baker, 2018). The pivotal question is whether shares of companies with unequal voting rights should be eligible for inclusion in equity indices (FTSE, 2017; MSCI, 2018a, b). The alternative query is whether index providers should offer different indices, some with and others without dual-class shares. For institutional investors, a different perspective is more important, as they are mainly concerned about the higher or lower risk-return tradeoff of dual-class shares and the valuation effects of voting rights. Nevertheless, most of the U.S. index providers (S&P Dow Jones and FTSE Russell) are not including newly listed compnaies with dual-class shares in their indices.

A recent study by MSCI (2018c) analyzing the performance of dual-class shares and the risk-return attribution concludes that in North America, where unequal voting shares outperformed by 4.5% annually, company-specific effects accounted for 4% (with sectors adding 2% and style factors detracting about 1.5% per year). In emerging markets, only company-specific effects influences determine the outperformance, whereas in Europe, the exposure to common risk factor explains the outperformance of dual-class shares (MSCI, 2018c). These results seem to suggest that in the U.S. and in emerging markets, the outperformance of individual companies having a dual-class share structure relates to the skills of the founder or entrepreneur, whereas in Europe, these benefits are currently unobservable but might have existed in the past. This could explain why dual-class shares are currently favored in the U.S. but become less important in Europe.

4. Dual-Class Shares and Active versus Passive Investors

Generally, active investors are able to judge for themselves whether the growth prospects of a particular company or the superior skills of a visionary entrepreneur justify relinquishing voting rights. Even without equal voting rights, active investors can subsequently sell or short the stock of companies when growth prospects deteriorate or when insiders mismanage the company. Consequently, active investors do not require a specific protection as they can always use the exit route. In contrast, passive investors have no such choices as Index Funds and ETFs have to include all index constituents (Bebchuk and Hirst, 2019a, b; Bessler and Hockmann, 2016). The same also holds for large index oriented long-term institutional investors (quasi-indexers). For these investor groups, engagement through voting or public agitation is the only way to affect changes in corporate policy, making voting rights an important instrument for passive investors.

However, not the individual passive investor exercises the voting right, but instead, Index Funds and ETFs provider such as BlackRock, Vanguard, and State Street have the fiduciary

duty to exercise their vote in shareholder meetings. They may perform their own detailed analysis on how to vote, but most often engage proxy advisors to provide recommendations on the shareholder meeting agenda. Alternatively, they could cooperate with activist shareholders such as hedge funds, which usually engage more actively and aggressively with companies (Appel et al., 2018; Fisch et al., 2019).

5. Institutional Investors and Dual-Class Shares

There are some intense and controversial discussions whether dual-class shares favor investors by offering higher growth rates and abnormal performance, or whether dual-class shares are only to the benefit of management but disadvantaging investors, especially when there is no opportunity to amend or drop the unequal voting right structure later on. Therefore, dual-class shares may result in an over-concentration of power in the hands of a few shareholders, amplifying the conflict of interest and agency problems that the one-share-one-vote principle should mitigate (Masulis et al., 2009; Burkart and Lee, 2008). Most often, they are not in the interest of minority shareholders (Anand, 2018) and have lower board independence relative to single-class firms (Li and Zaiats, 2018). Moreover, the level of tax avoidance increases, when the difference between voting and cash flow rights widens (McGuire et al., 2014). As such, this questions the fundamental principle of good corporate governance by undermining the investors' control rights and protection.

Therefore, many of the world's largest mutual funds and other investors have joined-together to take a strong stance against dual-class structures. Especially the institutional investor side in the U.S. provide some suggestions of how to best deal with dual-class shares. Some have called upon the NYSE and NASDAQ to require all companies that go public with dual-class shares to include a time-based "sunset provision" (Council of Institutional Investors, 2018), which, however, also entails own problems and therefore are debatable as appropriate response to dual-class shares (Fisch and Solomon, 2019). Institutional investors also discourage index providers (S&P Dow Jones and FTSE Russell) to include firms with dual-class structures, and

proxy advisory services oppose the dual-class structures (Papadopoulos, 2019, Berger and Hodrick, 2018). Even the SEC's Investor Advisory Committee has raised its own concerns about dual-class companies, calling on the SEC to "devote more resources" to "identify risks" arising out of governance disputes from dual-class structures (SEC, 2018). They all pretend that it is important to protect shareholders' rights, particularly those of minority shareholders, by promoting the one-share-one-vote principle. Interestingly, this entire discussion and all empirical studies excludes loyalty shares (Europe) or time-phased voting shares (U.S.), as these are currently becoming a new alternative structure, at least in some European countries.

III. Corporate Governance and Dual-Class Shares in Europe

The prevalence of shares with unequal voting rights

Given the increasing relevance of shares with unequal voting rights in the U.S. and its ambiguous effects on the quality of corporate governance and the market for corporate control, it is of high interest to investigate the development and trends as well as the advantages and disadvantages of different share structures in the Nordic and other European countries.[16] Therefore, it is an empirical question whether the evidence is in favor or against to dual-class shares. One possible outcome is the introduction more regulation and restricting or disallowing shares with unequal voting rights. Germany, for example, has taken this step to prohibit shares with multiple voting rights two decades ago (1998). As discussed in the previous section, the idea of dual share-structures exists since more than a century in the U.S. and in many European countries, providing sufficient empirical evidence from many decades of academic research[17].

Especially, firms in the Nordic countries of Europe have a long tradition of employing

[16] Currently, all European countries legally permit issuing dual-class shares with some restrictions on non-voting shares without any preferential rights such as dividends and shares with multiple voting rights (Table 2).

[17] See Adams and Ferreira (2008) for an excellent review and critical discussion on the empirical evidence for dual-class shares to the state of research at that time.

dual-class shares (Bjuggren and Palmberg, 2012; Bjuggren et al., 2007; Holmen and Nivorozhkin, 2007; Holmen and Högfeldt, 2004; Cronqvist and Nilsson, 2003; Bergström and Rydqvist, 1990, 1992). Historically, a high concentration of ownership and control is one of the key corporate governance characteristics in Europe and in the Northern region in particular (e.g., Bennedsen and Nielsen, 2010; Becht and Boehmer, 2003, 1999; LaPorta et al., 1999). Family firms and other companies led by an insider group often used dual-class share structures as control-enhancing mechanisms (CEM) that enables them to benefit from a public listing while preserving the majority of control similar to private ownership.[18] Most of these companies often adopted their dual-class structures for implementing long-term shareholder value strategies and to escape the pressures of having to focus on short-term goals and stock prices. Interestingly, dual-class shares that have been favored in the Nordic countries (Henrekson and Jakobsson, 2012) as well as in Switzerland (Nüesch, 2016) seem to lose important, whereas loyalty shares are quickly gaining ground in the southern European countries with France and Italy taking the lead. The efforts for European capital-market-integration and the harmonization of capital market and corporate governance standards in Europe are an important and critical issue that these diverse developments could jeopardize.

Valuation effects of dual-class shares and potential channels

These changes raise the question why we observe in some European countries both, fewer listed firms with dual-class shares and less IPOs using this share structure. One possible explanation might be the well-documented average valuation discount for dual-class firms relative to single-class firms. Many cross-country studies report that disproportional ownership structures resulting from control-enhancing mechanisms (CEM) such as pyramid and dual-class shares structures have negative performance and valuation effects for European firms

[18] See DeAngelo and DeAngelo (1985) for the US.

(Bennedsen and Nielsen, 2010; Eklund and Poulsen, 2014; Laeven and Levine, 2008). Moreover, there exists similar empirical evidence from studies of individual countries that support these findings and conclusions.[19] In Sweden (Bjuggren and Palmberg, 2012; Bjuggren et al., 2007; Holmen and Nivorozhkin, 2007; and Cronqvist and Nilsson, 2003) and Finland (Maury and Pajuste, 2005) firms with dual-class shares have a lower firm value and economic performance relative to single-class firms.

There exist various potential channels and sources for these different valuation effects. One interpretation is that the valuation discount is evidence for potential agency conflicts and corporate governance issues arising from the separation of ownership and control. The entrenchment effect[20], for example, suggests that the owner (or the holder of the majority of voting rights) used his position to extract some private benefits of control at the expense of minority shareholders (e.g., Bennedsen and Nielsen, 2010). Furthermore, as this ownership-control disproportionality may cause a situation where the controlling shareholder has less economic exposure and incentives to monitor and influence the management, consequently resulting in less efficient investment decisions (e.g., Bebchuk and Kastiel, 2019a;). In contrast, dual-class shares provide the family or entrepreneur with the majority of the voting rights, which function as an effective protection against unwelcomed advances form institutional investors or other participants in the market for corporate control as well as from hostile takeovers (Grossman and Hart, 1988).[21] For firms with dual-class shares in Sweden various studies provide empirical evidence for inferior investments decisions (Bjuggren and Palmberg, 2012; Bjuggren et al., 2009) and a

[19] See Finland (Maury and Pajuste, 2005), Germany (Ehrhardt and Nowak, 2015), the Netherlands (Roosenboom and Goot, 2005; de Jong et al., 2005), Sweden (Bjuggren and Palmberg, 2010; Bjuggren et al., 2009; Holmen and Nivorozhkin, 2007; Cronqvist and Nilsson, 2003), and Switzerland (Nüesch, 2016; Schmid, 2009). In contrast, Nüesch (2016) find that the effect of dual-class shares on firm performance is positive for firms with a need for external finance, which may increase the external monitoring.

[20] The counteracting effect is the incentive of the shareholder to monitor the management when his economic exposure increases with ownership (incentive effect) (Bennedsen and Nielsen, 2010).

[21] Alternatively, dual-class shares might be beneficial in mitigating managerial myopia in the context of takeovers (Burkart and Lee, 2008) and for shareholders in general (Bennedsen and Nielsen, 2010).

lower probability of being taken over (Holmen and Nivorozhkin, 2007; Cronqvist and Nilsson, 2003), which both translates into lower valuation.

Another possible explanation is that the most frequent users of dual-class shares in Europe are firms with an ownership structure in which founding families exercise the control (e.g., Holmen and Högfeldt, 2004; Cronqvist and Nilsson, 2003). Interestingly, dual-class family firms trade at an even larger discount at European stock markets (Bennedsen and Nielsen, 2010) or the Swedish stock market in particular (Holmen and Högfeldt, 2004; Cronqvist and Nilsson, 2003). Moreover, the abolished restrictions on foreign ownership in Sweden (1993) resulted not only in a sharp increase of foreigner owned shareholdings (from 8% in 1990 to 40% in 1999) but also in a relative valuation discount of dual-class firms. Interestingly, the operating performance and the difference between control and ownership rights (wedge) remain unchanged in those firms after 1993 (Holmen, 2011). This suggests that, in general, foreign investors assign a lower value to firms with unequal voting rights.

With respect to the corporate governance of dual-class firms, different studies suggest that they are associated with an inferior information environment and more often employ accrual-based earnings management (Li and Zaiats, 2017, Tinaikar, 2017). Other explanations for the negative valuation effects of dual-class shares are media pressure and reputational concerns (Braggion and Giannetti, 2019, Lauterbach and Pajuste, 2017), difficulties in fair price discovery of voting and non-voting shares (Niehoff, 2016), and the risk of a stock price crash (Hong et al., 2017).

Value of the voting rights

Another important aspect relates to the value of the voting rights (e.g., Yermack, 2010; Nenova, 2003 for cross-country studies). Most studies document a positive price differential

between shares with and without voting rights[22], explained by agency, control and other governance concerns as well as liquidity issues.[23] Consequently, the value of voting rights is a function of the private benefits of control (Dyck and Zingales, 2004; Zingales, 1995). This value decreases when the information environment improves as in more transparent and comparable financial reporting through IFRS (Hong, 2013). In addition, the lifted ban on foreign ownership in 1993 decreased the voting premium on superior voting shares in Finland (Broussard and Vaihekoski, 2019) and Sweden (Holmen, 2011), suggesting that foreign investors may less likely extract the private benefits of control, explaining why voting rights have a lower value for them. In contrast, the voting premium increased in Norway since 1995, when foreigners were allowed to access Norwegian equities without restrictions. Interestingly, in Denmark and Norway (1988-1994) the voting premium is negative, which is related to the investors' liquidity risk when the non- or low-voting shares have a higher free float, are more frequently traded or are the only publicly available share class at all (Neumann, 2003; Ødegaard, 2007).

Share Unifications

An interesting issue in Europe is that the owner of dual-class shares possessing the majority of votes are often willing to relinquish the voting dominance at some point in time. The typical mechanism to grant all shares equal voting right are the unification of share classes.[24] As these are quite common in Europe, many studies focused on the determinants and consequences of

[22] Kalay et al. (2013) proposed a new method using option prices to estimate the value of the voting right.

[23] See the empirical evidence for Denmark (Neumann, 2003), Finland (Broussard and Vaihekoski, 2019); France (Boubaker et al., 2014; Muus, 1998), Germany (Niehoff, 2016; Jaron, 2011; Dittmann, 2003; Daske and Ehrhardt, 2002; Fatemi and Krahnen, 2000), Italy (Bigelli and Croci, 2013; Caprio and Croci, 2008, Nicodano, 1998; and Zingales, 1994), Norway (Ødegaard, 2007), Switzerland (Gardiol, 1997; Horner, 1988) and the UK (Megginson, 1990). Non-U.S. that are cross-listed on U.S. exchanges have a lower voting premium and private benefits of control suggesting that bonding to strong investor protection improvs the corporate governance (Doidge, 2004). For empirical evidence on share unifications in the U.S., see Lease et al. (1983).

[24] In contrast, the consolidation of control through dual-class recapitalizations, in that firms change from one-share-one-vote into a dual-class shares structure is associated with positive valuation effects in British firms (Ang and Megginson, 1989). For the US, many studies focused on dual-class recapitalizations from different perspectives (Dimitrov and Jain, 2006; Amoako-Adu and Smith, 2001; Lehn et al., 1990; Jarrell and Poulsen, 1988).

the transformation into a one-share-one-vote structure. Overall, firms with lower scores of private benefits of control, higher institutional ownership, higher growth opportunities and a greater need for external financing have a higher likelihood of share unifications (Bigelli et al., 2011; Maury and Pajuste, 2011; Pajuste, 2005). In addition, higher costs of capital (Ehrhardt et al., 2008), media pressure (Braggion and Gianetti, 2019; Lauterbach and Pajuste, 2017), the magnitude of the lower voting power (Dittmann and Ulbricht, 2008) as well as index membership (Betzer et al., 2017) also facilitate the unification decision. Most of these studies conclude that voluntary stock unifications lead to enhanced corporate governance mechanisms that result in optimistic stock market reactions (Maury and Pajuste, 2011; Dittmann and Ulbricht, 2008; Ehrhardt et al., 2008; Pajuste, 2005) and positive long-term valuation effects (Lauterbach and Pajuste, 2015). In contrast, controlling shareholders repurchasing shares to increase their relative holding ex-ante, offsetting partially the expected control dilution experience statistically insignificant improvements (Lauterbach and Yafeh, 2011).

IV. Corporate Governance and Dual-Class Shares in Europe: Empirical Evidence

1. Data

For the construction of our data set, we use Thomson Reuters Datastream's constituent lists (research lists, Worldscope lists and dead lists) from 1994 to 2016 for 13 developed countries within Europe.[25] We start with the entire stock universe excluding listings from foreign firms, and match our data set with Worldscope's accounting and financial information. We exclude all firm-year observations with missing or negative values in the following variables: total assets, equity, sales, and market capitalization. We collect ownership information on the global ultimate owner (GUO) from the Osiris database (Bureau van Dijk). To assign our selected firms

[25] We followed the identification process by Hanauer (2014). The countries are Denmark, Finland, Norway, Sweden, Austria, Belgium, Germany, Switzerland, France, Italy, Portugal, Spain and the UK.

to one of four ownership groups[26], we require additional information on the firms GUO, which we hand-collect from various sources such as annual reports, Bloomberg, firms' websites, and Thomson Reuters, which is available for the period from 2007 to 2016 only. Finally, we tracked the status of the dual-class shares structure for the included firms on a yearly basis. For this, we employ several publicly available information sources such as annual reports, official filings, and press releases. The finale data set consists of 11,189 publicly listed firms of which 1,350 firms (12.07%) had shares with unequal voting rights at least for one year during the period from 1994 to 2016 (Table 3). This translates into 105,150 firm-year observations of which 16,531 firm-year observations had dual-class shares in the respective year (15.72%).

2. Description of our Data Set: Dual-Class Shares in Europe

Table 3, Panel A, exhibits the numbers of single- and dual-class firms separate for each of our 13 European countries and in Panel B the yearly numbers of firms for the period from 1994 to 2016. Panel A of Figure 1 depicts the relative share of dual-class firms for each country in the first (1994) and last year (2016) of our investigation, respectively. It becomes evident that the relevance of dual-class shares declined substantially since 1994. In Panel B, we present the temporal development for the relative share of dual-class firms, which reveals a sharp decline until the turn of the millennium that progress steadily but somewhat less pronounced in the time thereafter.

(Insert Table 3 about here)

(Insert Figure 1 about here)

In Figure 2, we present the evolution of the number of listed firms, new listings and

[26] 1) *Founding Family:* Ultimate owner is an individual person or a family that is the founder or related by blood or marriage to one of the founders and holds more than 25% of the voting rights. (2) *Firms controlled by individuals:* Ultimate owner is an individual person or a family that is neither related to the founders nor to any of their relatives and holds more than 25% of the voting rights. (3) *Firms controlled by others:* Ultimate owner is neither an individual person nor a family, and is unrelated to the founders and holds more than 25% of the voting rights. (4) *Widely-held firms*: No ultimate owner holding at least 25% of the voting rights identified.

delisting (both cumulated) for the European countries over the period from 1994 to 2016.[27] We distinguish between single and dual-class firms and provide the cumulated number of firms that went public and later delisted (e.g., M&A, going private or bankruptcy) from the securities-markets during the same period (delist of new lists) as well as unifications of dual-class shares.

(Insert Figure 2 about here)

Panel A clearly reveals a heterogeneous listing pattern across the Nordic countries. Sweden has 156 listed firms (82.05% dual-class) in 1994 that increase to 515 in 2016, whereas the ratio of dual-class firms declined sharply to 28.35%. Finland has a listing change from 85 to 135 firms, and a sharp decrease of the relative share of dual-class firms by almost 2/3 from 70.59% to 25.93%. In both countries, the new listings exceed the delistings. In Sweden, the figures are 802 and 443 firms, and in Finland 151 and 101 firms, which explains the increase in the number of listings. In Denmark, the delisting exceeds new listing in that the number of listing dropped from 154 to 128, which is a decline of -16.88%. The relative decline of dual class shares is even higher from 55.19% to 34.38%. In Norway, these figures are smaller in that 310 firms delisted and 409 firms newly listed, which results in an increase by almost 100%. However, the relative number of dual-class firms sharply decreased from 26.92% to 5.91% in Norway. As the focus of our analysis is on the development of the Nordic countries, we do not discuss the detailed data for the other European countries and regions here. However, the results are available upon request.

Overall, we observe an overall downward trend in the relative shares of dual-class firms across all countries. Interestingly, the most dramatic deterioration of dual-class shares occurred in the Nordic countries, which historically had the largest relative number of firms with dual-

[27] To analyze the number of new lists and delists, we follow Doidge et al. (2017) and classify in the year a firm enters the dataset as new lists and as delist in the year when it exits the dataset.

class shares in Europe. The interesting question to investigate is whether this development results from an increase in share unifications or a change in the composition of listed firms, for example, due to a higher delisting rate or due to fewer firms selecting dual-class share structures when going public. The most important aspect to explore, however, is why these changes occurred in the first place. Are these due to the higher pressure from the growing internationalization of the ownership structure mainly consisting of foreign institutional investors, domestic institutional investors or pension funds, hedge funds activism, or the multiple considerations of the European Commission mandating a one-share-one-vote structure for all publicly listed firms? Or are they a response to eliminating the valuation discounts of firms with dual class shares, which would benefit all shareholders?

3. Descriptive Statistics on Differences in Firm Characteristics

In Table 4, we present the descriptive statistics of our firms. As we are especially interested in analyzing the differences in firm characteristics of firms without and with shares with unequal voting rights, we divided our data set into firms with single-class and dual-class shares. In Table 1, we summarize the data sources, definition and calculation principles of all our used variables.

(Insert Table 4 about here)

Table 4 reveals that European single-class firms have more growth opportunities (*Tobin's Q*) and are smaller compared to dual-class firms. Interestingly, firms with dual-class shares are more profitable (*Return on Assets/Equity/Sales and Investments*). In Europe, dual-class firms have a higher leverage and more tangible assets, and invest more in capital expenditures (*CapEx*). In addition, dual-class firms spend less for research and development (R&D), which contradicts the protection of the idiosyncratic vision and focus on long-term projects argumentation (e.g. Goshen and Hamdani, 2016). Possibly, to mitigate some agency costs of the dual-class share structures, they distribute more dividends and have lower cash holdings. This description largely holds across all regions in our data set.

4. Regression Analysis

a. Firm Performance and Valuation Effects of Dual-Class Shares

In this section, we analyze the complete data set and subsets of countries and regions and examine the valuation effects of dual-class shares structures. For a start, we follow Cremers et al. (2018) by analyzing the relative performance difference of single- and dual-class firms along the life cycle for each European region, separately. In Table 5, we present the development of the average *Tobin's Q* and *Return on Assets* of single-class and dual-class firms in years relative to the IPO. We observe that the average valuation of dual-class firms is lower relative to the unmatched single-class firms in our data set at the IPO and in the following years. This may suggest that firms with dual-class share structures trade at a discount, resulting most likely from higher agency costs. Examples for such costs are the extraction of private benefits of control through the controlling shareholder (Cremers et al., 2018), weaker incentives for profit maximizing due to a smaller minority equity position (Bebchuk and Kastiel, 2019a), and the implementation of an effective anti-takeover device. However, when we compare dual-class to single class firms in the same setting but with respect to profitability (*RoA*), the difference reverses to an outperformance of dual-class relative to single-class firms. This development in valuation and performance along the firms' life-cycle hold across all European regions in our data set.

(Insert Table 5 about here)

We next analyze the performance and valuation effects in a panel regression model and examine *Tobin's Q*, *Return on Assets*, *Returns on Equity, Returns on Sales and Returns on Investments* (Hettler and Forst, 2019) as the dependent variables (Table 6). We follow the previous literature by controlling for firm size, profitability, investment decisions, capital structure, cash holdings and for unobservable specific characteristics in countries, industries (Fama-French 12-industry classification) and years by including fixed-effects (e.g., Kim and Michaely, 2019, Cremers et al., 2018; Kim et al., 2018). However, our main variable of interest is the

dummy for *Dual-Class Shares*, which takes the value of one when the firm issued share classes with unequal voting rights in the respective year and zero otherwise. We estimated the coefficients of our regression models for every single country and region in our data set to obtain more insights into the specific country and regional valuation effects of dual-class shares. In column 1 of Table 6 Panel A, we find a negative and statistically significant effect of dual-class shares structures on firm value (*Tobin's Q*) for Denmark and Finland as well as the Nordic countries as region. With respect to profitability, our results are mixed in the unmatched full data and matched setting. More specifically, dual-class shares have a positive effect in Austria (*Return on Equity*), Finland (*Return on Sales*), Germany (*Return on Assets*) and Spain (*Return on Equity*), whereas they have a negative effect in Italy, Norway, Portugal, and Switzerland across all performance measures. Our control variables have the same coefficient signs and statistical significance as in previous studies (Kim and Michaely, 2019; Bennedsen and Nielsen, 2010).

In Panel B, we turn to our matched sample and find that a statistically significant valuation discount (*Tobin's Q*) in Denmark, Finland, Sweden and the UK and mixed results for firm performance (*Return on Assets/Equity/Sales and Investments*) for dual-class firms relative to single-class firm that are comparable by size (market capitalization) and industry affiliation in the given year. With respect to the other variables, our results remain qualitatively unchanged.

(Insert Table 6 about here)

To address the argument that dual-class shares are particularly beneficial in innovative firms with high growth opportunities and to protect them from the short-term pressure of capital markets, we follow Jordan et al. (2016) and replace the *Dual-Class Shares* dummy with the interaction *of Dual-Class Shares* and the dummy for *High Growth.* We assign each firm of the top tercile as measured by the firm-level sales growth rates to these groups, respectively. Panel C to D of Table 6 show that the coefficients of this interaction terms are positive and statistically

significant throughout all regression models and regions in the full and matched sample.

Overall, our findings indicate that in the unmatched full and matched sample setting, dual-class shares have a rather inconclusive effect on various performance and valuation measures. In contrast with the current literature for the U.S., firms that have dual-class shares have neither a valuation premium nor discount in general, or are, on average, more or less profitable compared to single-class firms. Rather, the effects are conditional on the country or region in which the firm is incorporated and listed. Moreover, our results suggest that dual-class shares are particularly beneficial for high growth firms, which the capital markets rewards with a valuation premium. These findings are consistent with the results for the U.S. (e.g. Hettler and Forst, 2019; Kim and Michaely, 2019; Cremers et al., 2018 and Jordan et al., 2016).

b. The Role of Ownership in Dual-Class Firms

Next, we analyze how different ownership structures affect the performance and valuation of firms with unequal voting rights for the shorter period from 2007 to 2016. We include a series of ownership variables and construct various groups (as in Anderson et al. (2018)) based on our dummy for *Dual-Class Shares* and dummies for different types of controlling shareholders (*Founding Families*, *Controlled by Individuals* and *Controlled by Others)* as well as *Widely Held* firms in our regression models in Table 7. In Panel A (matched sample), the results indicate that single-class firms under the control of a founding family have a valuation discount (*Tobin's Q*) in the Nordic countries, but are more profitable (both sample settings) in all regions. In contrast, dual-class shares have a positive effect on profitability and valuation in family firms from Central Europe and the UK, respectively. In Panel B, we further observe that the presence of an individual that is neither related to the founder nor to their relatives also increases the operating performance in U.K. dual-class firms (*Return on Assets*), while single-class shares structures have a negative effect on the firm valuation. With respect to other controlling shareholders (e.g. an institutional investor), the effects are mixed and largely country- and region-

specific (Panel C). Finally, as the results in Panel D suggest, dual-class shares structures rather have a detrimental impact on widely-held firms' operative performance in the UK. In all models, the sign and the magnitude of our control variables remain largely unchanged and are not reported here.

(Insert Table 7 about here)

Overall, our results suggest that the ownership structure has some influence on the employed performance measures and some differential effects on dual-class shares. However, this depends on the identity of the controlling shareholder and share-class structure.

c. The Interaction with the Life-Cycle Effect

We next investigate the effect of the life cycle on the valuation and performance of firms and are particularly interested in the interaction with dual-class shares in Europe. As Bebchuk and Kastiel (2017) outlined in their life cycle theory, the costs and benefits of dual-class shares are time-variant, predicting a detrimental effect on shareholder value when the firm matures. For this conjecture, Kim and Michaely (2019) and Cremers et al. (2018) provide empirical evidence for the U.S. by presenting a decreasing valuation premium of dual-class IPOs relative to single-class IPOs over time. To approximate the firms' public market age, we calculate the years since going public (*Listing Duration*) and construct a dummy (*Mature*) that takes the value of one when it is above the median in the country where the firm is incorporated (Kim and Michaely, 2019; Kim et al., 2018). In addition, we test the interaction effect between the dummy for *Dual-Class Shares* and *Mature (Dual-Class Shares * Mature).*

(Insert Table 8 about here)

In Table 8, we present the results for the analysis of the life cycle effect. In column 1 and 3 of Panel A and B, we find that in the Nordic and Central European countries mature firms trade at a valuation discount, which is, however, lower in mature firms with dual-class-share structures. Nevertheless, they are still more profitable compared to younger firms (columns 4

and 8), whereas firms with multiple share classes perform weaker. Across all valuation and performance measures, the coefficient of the interaction for mature dual-class firms is only significant for the Nordic countries and Central Europe, suggesting that dual-class shares have no moderating effect on the correlation between a firm's maturity and its valuation in the remaining European regions.

d. Channels through which Dual-Class Shares Impact the Firm Valuation and Performance

Alternative Measures of Operating Performance

We are now interested in the relevant channels through which dual-class shares affect the valuation discount and superior operative performance relative to single-class firms. For this analysis, we follow Kim and Michaely (2019) and estimate the (real) effects of dual-class shares in more detailed using other operating performance measures such as the *Operating Margin, Asset Turnover,* and *Labor Productivity* conditional on the maturity of the firm (Table 9). The presumption is that dual-class shares are associated with increasing agency costs over time, which is reflected in declining operations' efficiency and valuation.

(Insert Table 9 about here)

Column 1 of Panel A indicates that dual-class shares have a positive (negative) effect on the operating margin (asset turnover) in the Nordic region, while in Central and Southern Europe and the UK the effect on asset turnover and labor productivity is negative (column 6, 8, 9, 11 and 12). In contrast, column 8 and 9 of Panel A and B shows a negative (positive) coefficient for the *Mature* dummy (*Dual-Class Shares * Mature* interaction term) in Southern Europe, which suggests that mature firms exhibit a lower asset turnover and labor productivity relative to younger firms but the relationship improves when dual-class shares are employed. Interestingly, in Central Europe this relationship is reversed (column 4 of Panel A) In sum, the specific effect of dual-class shares on the operating performance may explain their impact on firm performance and valuation in the European countries, respectively.

Sensitivity to Investment and Employment Decisions

For another potential channel, we again follow Kim and Michaely (2019), who propose that the agency issues in dual-class firms are also associated with higher systematic risk due to management entrenchment effects such as the aversion to divest assets and lay off employees during times of economic difficulties ("quiet life"). In this context the higher downward adjustment costs are a potential source for the systematic risk (Kim and Michaely, 2019).

Therefore, we examine the *q*-sensitivity of dual-class firms in terms of investment and employment decision in Panel C. We use *CapEx* and *Employment Growth* as proxy for the investment behavior, *Tobin's Q* as a measure for growth opportunities and *Cash Flow* as control variable. As we are interested in different effects of dual-class shares on corporate investments for young and mature firm we split the sample. In addition, as the demand for downward adjustments is higher in firms with the lowest growth rates, we focus on a subsample in the first quartile of sales growth. In Panel C, our results reveal a negative coefficient for the *Dual-Class Shares * Tobin's Q* interaction term for slow growing and mature firms with respect to *CapEx* in the Nordic countries and *Employment Growth* in Southern Europe and the UK. Overall, we provide some empirical evidence for the notion that at least mature dual-class firms are associated with higher agency problems, which may partially explain the valuation discount and operative underperformance relative to single-class firms (Table 6).

e. Robustness Test – Industry Adjustments & Alternative Performance Measures

To test whether our results depend on the definition of the performance measures, we once again estimated the regressions models of section IV.4. for *Tobin's Q*, *Return on Assets, Equity, Sales and Investments* adjusted by the median performance of the Fama-French 12-industry in a given country and year, respectively. In this model we do not control for industry fixed effects. We also repeated our analyses in Table 6 Panel C, Table 7 and 8 with *Return on Equity, Sales and Investments* as dependent variables. The results of this robustness test strongly support all

of our previous findings (unreported).

Overall, our results indicate that the effects of dual-class-shares on firm performance and valuation are rather mixed in the cross-country setting. In accordance with the U.S. literature, we do not find a statistically significant coefficient for the *Dual-Class Shares* dummy on *Tobin's Q* when we combine all firm-year observations (not reported), while we find a valuation discount for Danish, Finnish and Swedish as well as U.K. dual-class firms in the matched sample setting. In contrast, dual-class structures positively affect the operating performance (*Return on Assets/Equity/Sales and Investments*), which largely holds across all firms from Austria, Finland, Germany and Spain. However, there is also evidence for a negative association between dual-class shares and profitability in Italy, Norway, Portugal and Switzerland. We do find evidence for a statistically significant moderating effect of the firm's life cycle and ownership structure on dual-class firms in Europe, which, however, is rather mixed for both variables.

V. Summary, Conclusions and Directions for Future Research

For many decades, the academic literature viewed the U.S. corporate governance system as the superior structure as it was characterized by dispersed ownership and mostly adhering to the one-share-one-vote principle, possibly best controlling for the agency problems between management and shareholders as well as between majority and minority shareholders. Europe, in contrast, had established diverse structures for many decades in that in some countries either banks dominated corporations by holding the majority of the votes (Germany) or the government kept a strong influence (France and Italy). In some other countries, especially the Nordic countries, shares with unequal voting rights were traditionally and legitimately employed (Sweden, Finland, Denmark and Norway) as well as in Switzerland, although these arrangements received strong criticism in the literature for representing an inferior corporate governance structure. The superior U.S. corporate governance system, however, has substantially changed in that the ownership structure is much more concentrated nowadays with large active (mutual

funds) and passive (ETF) institutional investors being the dominating groups. In addition, the U.S. is experiencing also a new listing environment in which more private start-up firms are acquired and less firms go public early on, but if they eventually go public, a considerable fraction of these then larger firms employs a dual-class shares structure. Both developments lead to a concentration of voting rights in that, either the institutional investors (outsiders) or the founder of the company (insiders), control most of the voting rights. In contrast, this inside control trend has developed into the opposite direction in Europe, as more and more companies abandon the historically often used dual-class share structure by share class unifications and by avoiding this structure when going public.

There are a number of important observations and conclusions from the asset management industry and from the academic literature. Overall, the institutional investment community is clearly opposing dual-class shares, pretending that this is not in the interest of their clients and long-term shareholder value. However, this perspective may only reveal self-interest, as preventing higher voting rights for entrepreneurs, founders and families will concentrate the voting rights with a few large institutional investors, without much economic exposure of the fund managers. Moreover, the vote recommendations for annual shareholder meetings remain concentrated mainly with two proxy advisors, again with no economic exposure. Consequently, this vote concentration with institutional investors could be a threat towards the founders and management that face economic exposures, and the long-term corporate strategy. Nevertheless, in certain circumstances, there could be a valid argument made for dual-class shares and new listings, at least for a limited period, concentrating the majority of votes with the entrepreneur, founder or family. Moreover, entrepreneurs may only be willing to go public when they can keep control over the company, at least for some time, by issuing dual-class shares. Consequently, there exists a battle for access to the majority of the voting rights, which eventually will end up either on the large institutional investor side or on the founder and management side.

The objective of this study is to examine empirically the different corporate governance issues outlined and discussed above for companies with dual-class shares structures in Europe, especially from the Nordic countries. One essential aspect is why firms in countries that historically had allowed shares with unequal voting rights as a legitimate governance structure are, to some extent, abandoning this construction in that the relative numbers of listed firms decrease and firms going public hardly employ this structure any longer. This is especially important as we observe the exact opposite trend in the U.S. with a large fraction of entrepreneurial firms from the most innovative growth sectors in the economy that go public with dual-class shares. Especially larger firm (unicorns) employ this structure in an IPO.

Our empirical analysis for dual-class shares in European firms, with a focus on the Nordic countries, suggests that firms that uses shares with unequal voting rights while going public have a relative valuation discount compared to firms with one-share-one-vote regimes. With respect to profitability, however, we observe a superior performance of dual-class shares. These observations are supported by our regression analysis results. Combing all firm-year observations, we do not observe any evidence that dual-class shares are negatively associated with Tobin's Q relative to single-class shares (not reported), whereas the results from the regional- and country-specific analysis reveals a valuation discount in the Nordic countries. In contrast, our results for the impact on profitability is mixed. Finally, our results suggest that the firm's ownership structure and maturity also have some explanatory power for the performance and valuation effects of dual-class shares. For future research it is important to determine whether law makers, securities exchanges, and index provides should constrain the issuing of dual-class shares in the U.S. and Europe as a prevalent view is that they violate good corporate governance standards and possibly are harmful for investors, maybe at the cost that more companies will delist and even less companies will not go public to escape the dominance of large institutional investors and proxy advisors. Investigating this development we leave for future research.

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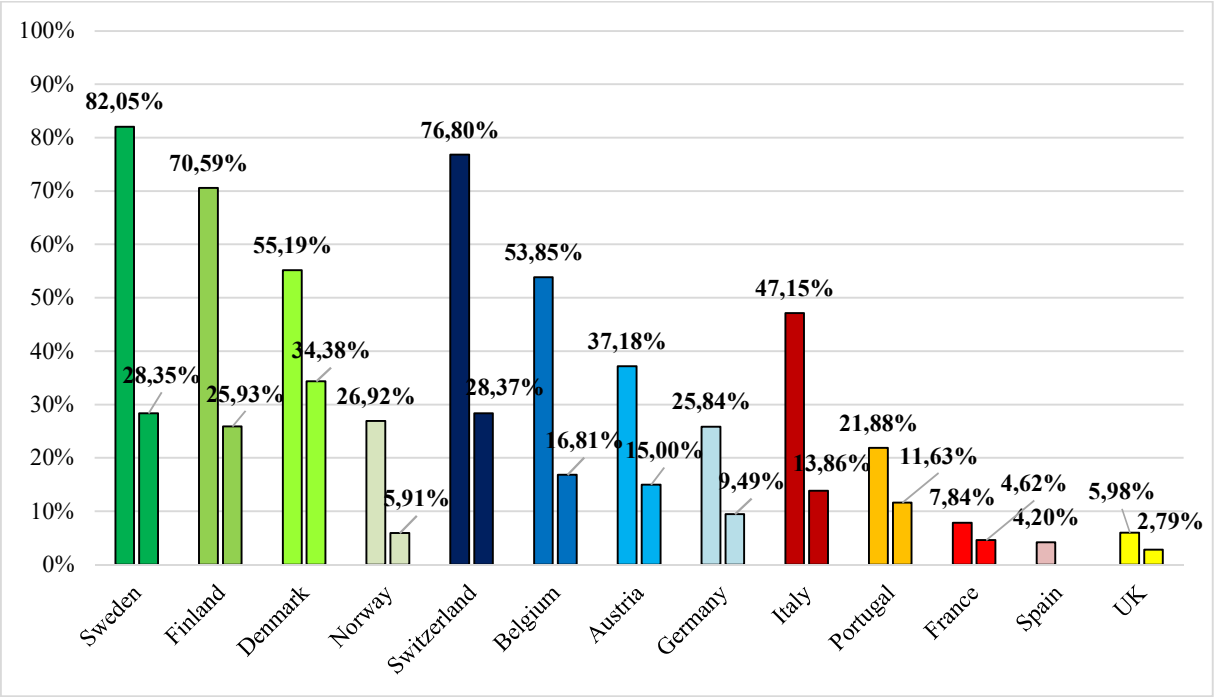
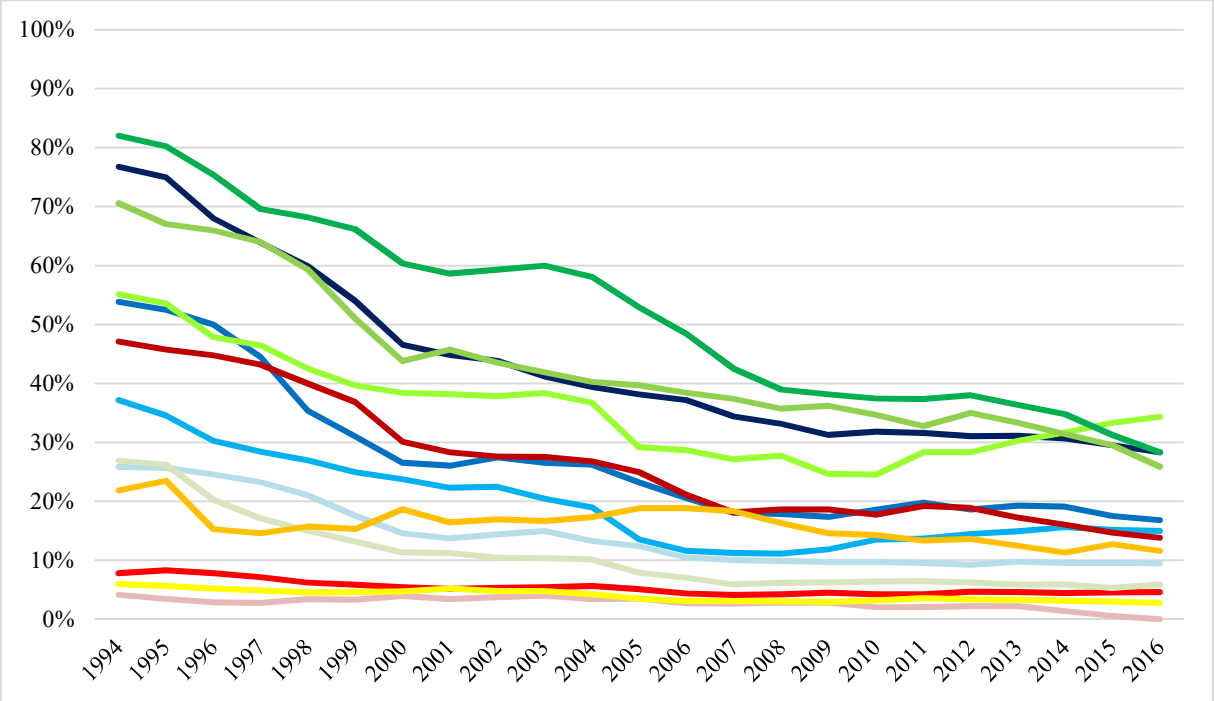
Figure 1: Relative share of dual-class firms by country from 1994 to 2016 in Europe

Panel A: Cross-country variation of dual-class firms in 1994 (left bar) and 2016 (right bar)



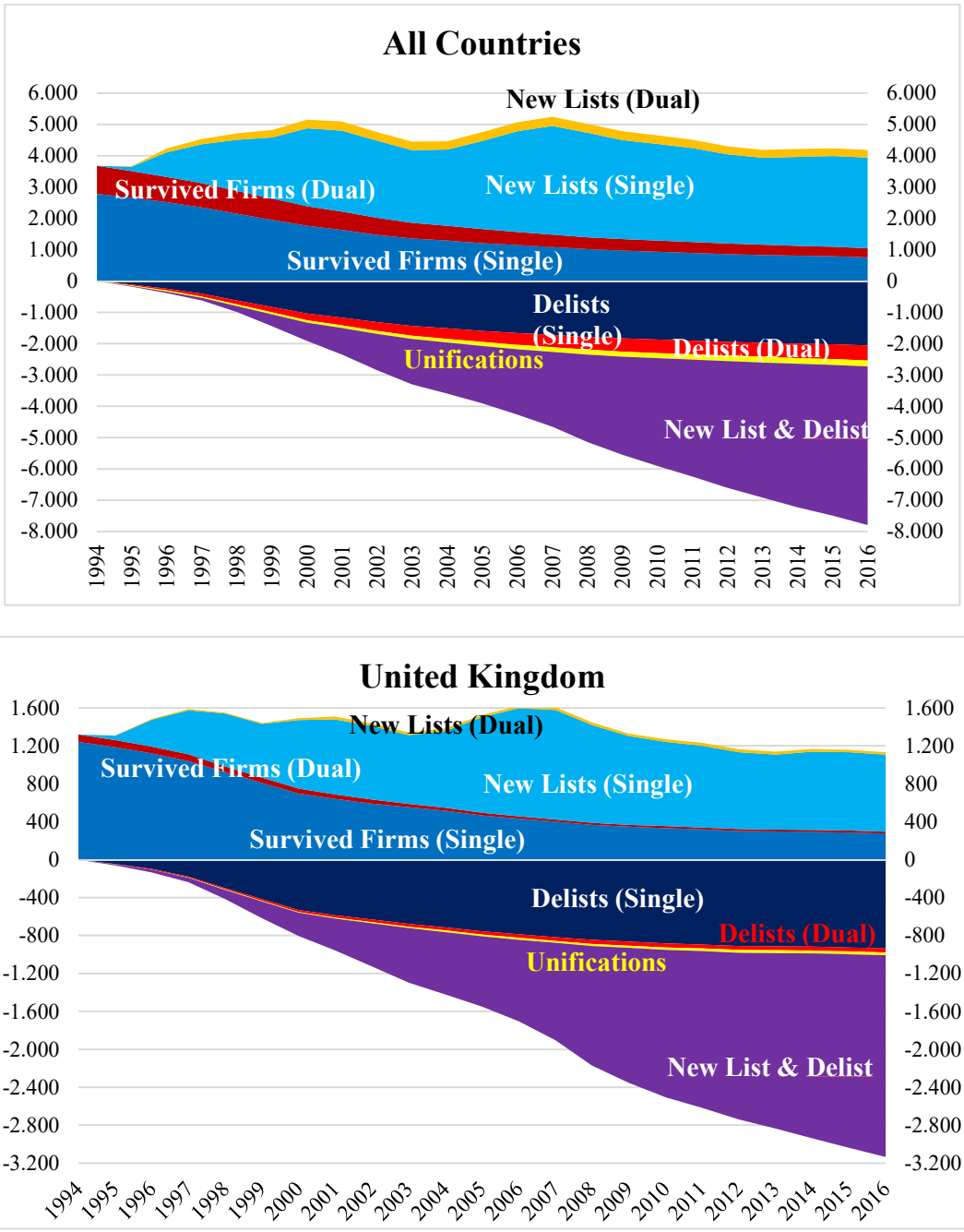
Panel B: Time series variation of dual-class firms by country



Notes: The figures above represent in Panel A the relative share of firm year observations with dual-class shares of the total firm year observations for each country in the first and last year of the sample period and in Panel B the relative share of firms with dual-class shares by country of our sample over the period from 1994 to 2016. Source: Own calculation based on data from Thomson Reuters Datastream, annual reports, official filings and press releases.

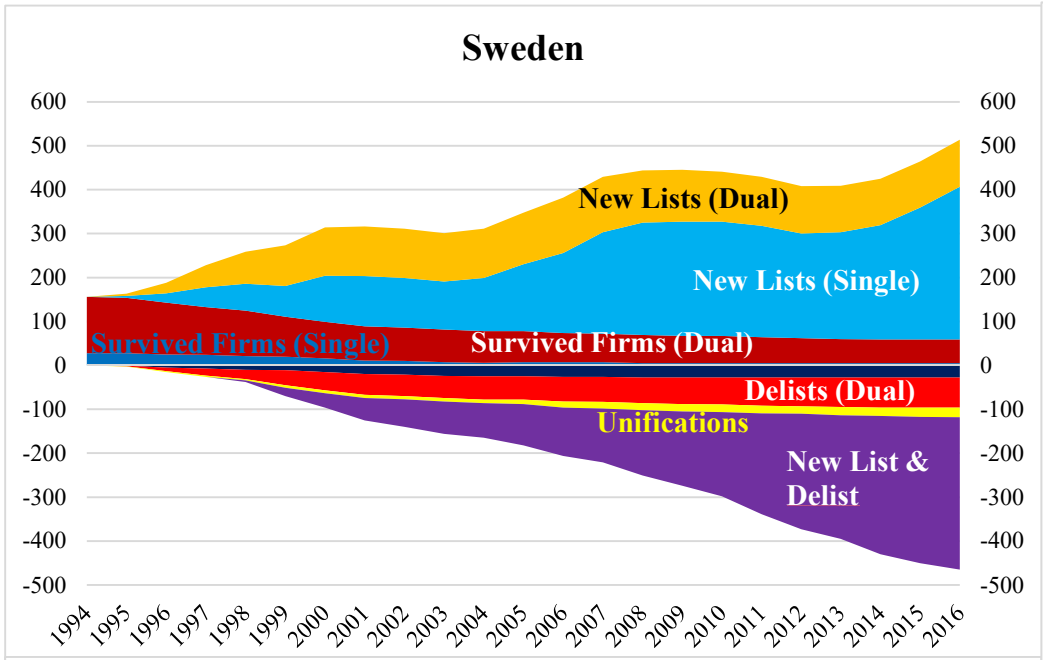
Figure 2: Number of Listed Firms, New Listings and Delistings in the Europe

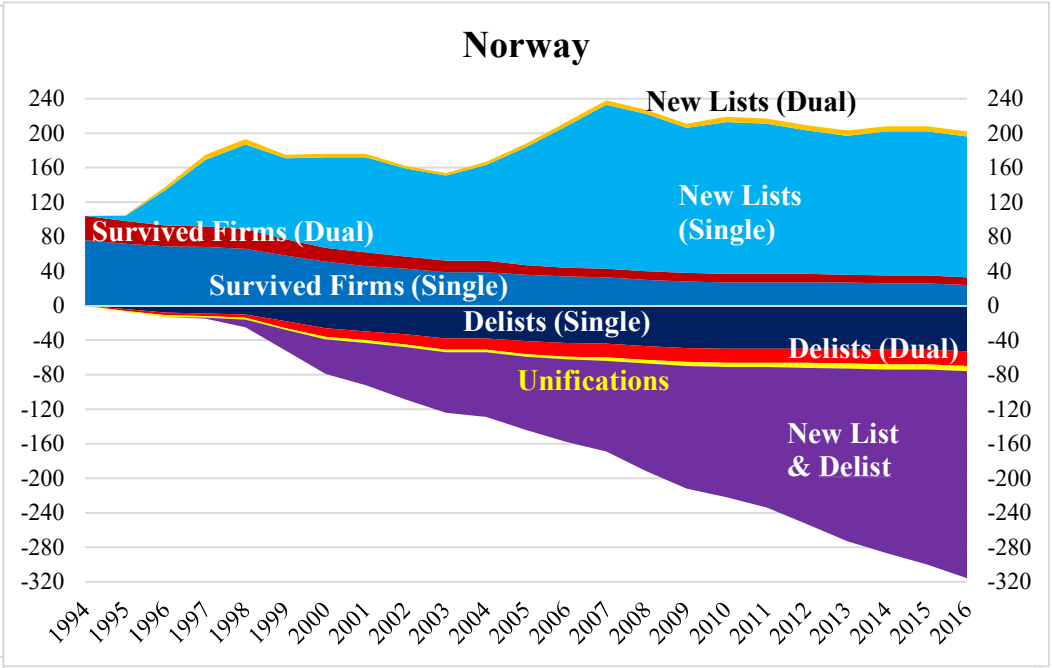
Panel A: All Countries and the UK

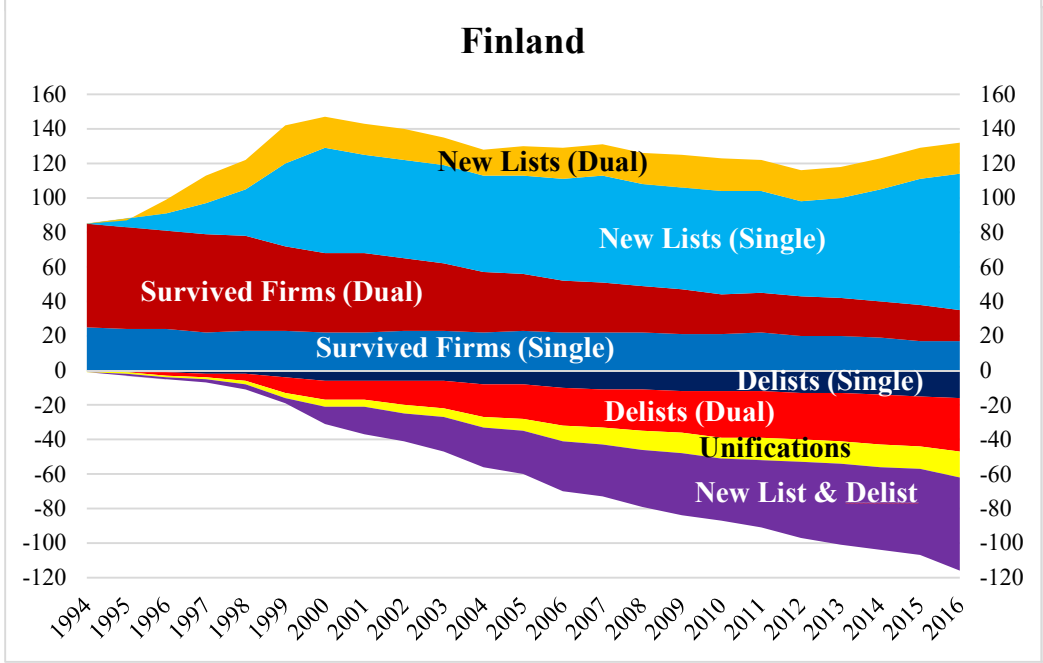


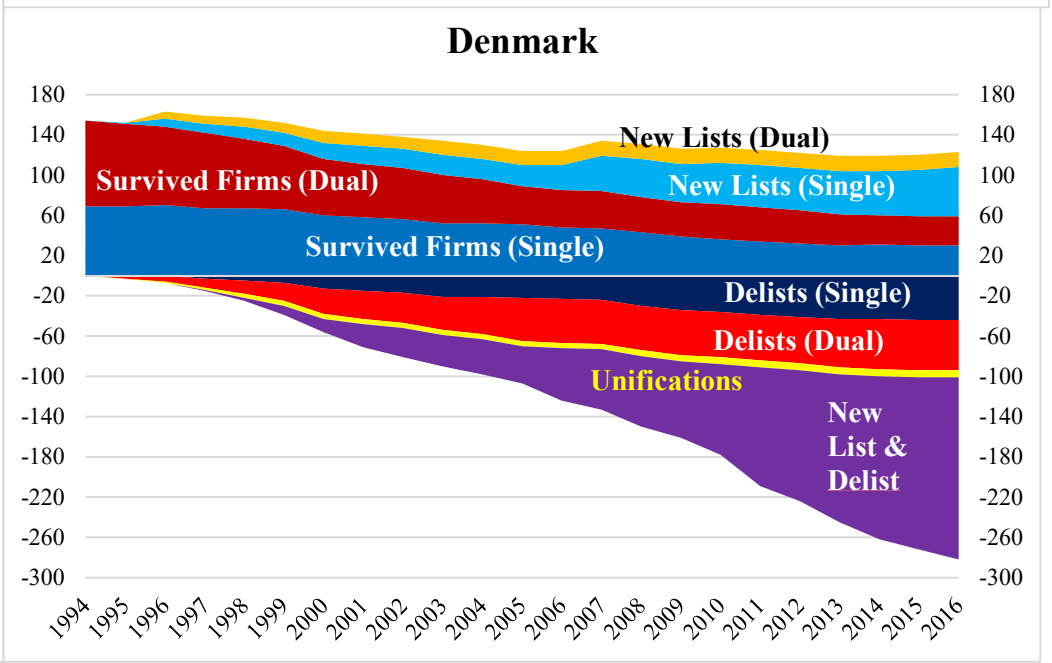
Notes: The figures above and below represent the development of the number of listed firms, new listings (cumulated), delisting (cumulated), unifications (cumulated) and delisting of firms that newly listed during our sample period (cumulated) for 13 European countries over the period from 1994 to 2016. We distinguish between single- and dual-class firms and cluster our sample countries into four different regions: Full Sample and the UK (Panel A), Nordic countries (Panel B), Central Europe (Panel C) and Southern Eu-rope (Panel D). We do not report detailed data but is available upon request from the authors. Source: Own calculation based on data from Thomson Reuters Datastream, annual reports, official filings and press release

Panel B: Nordic Countries

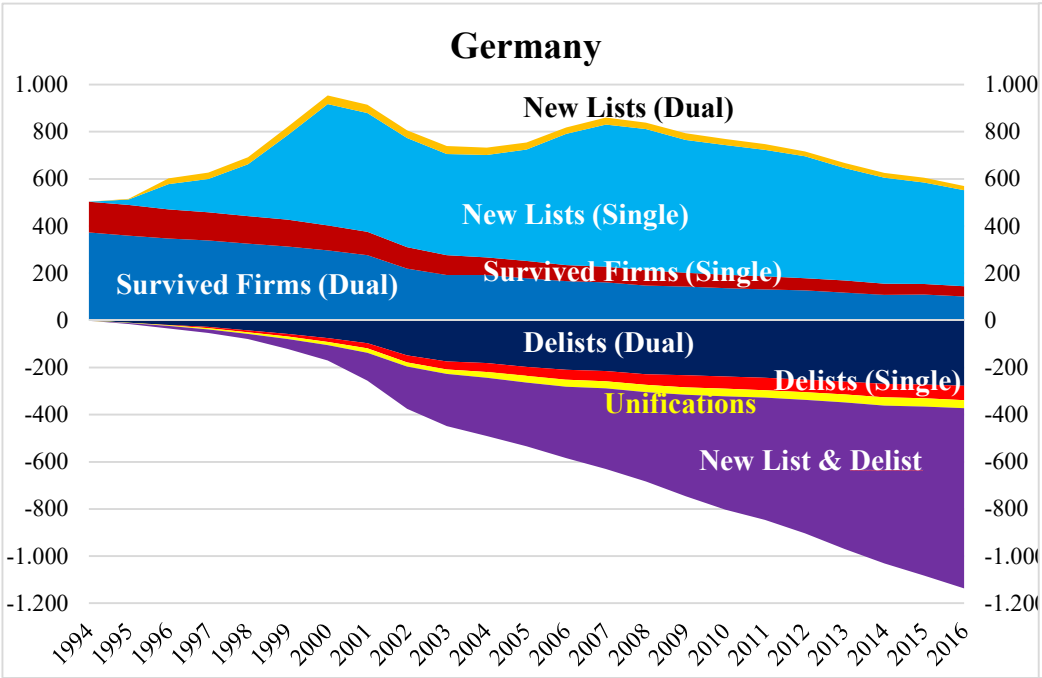


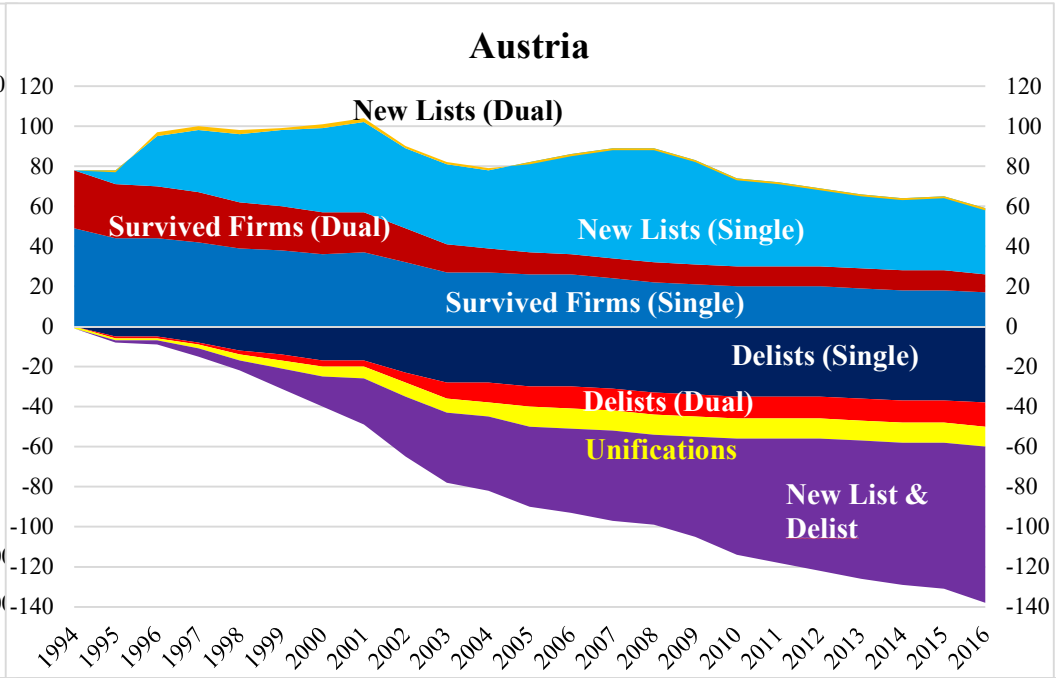


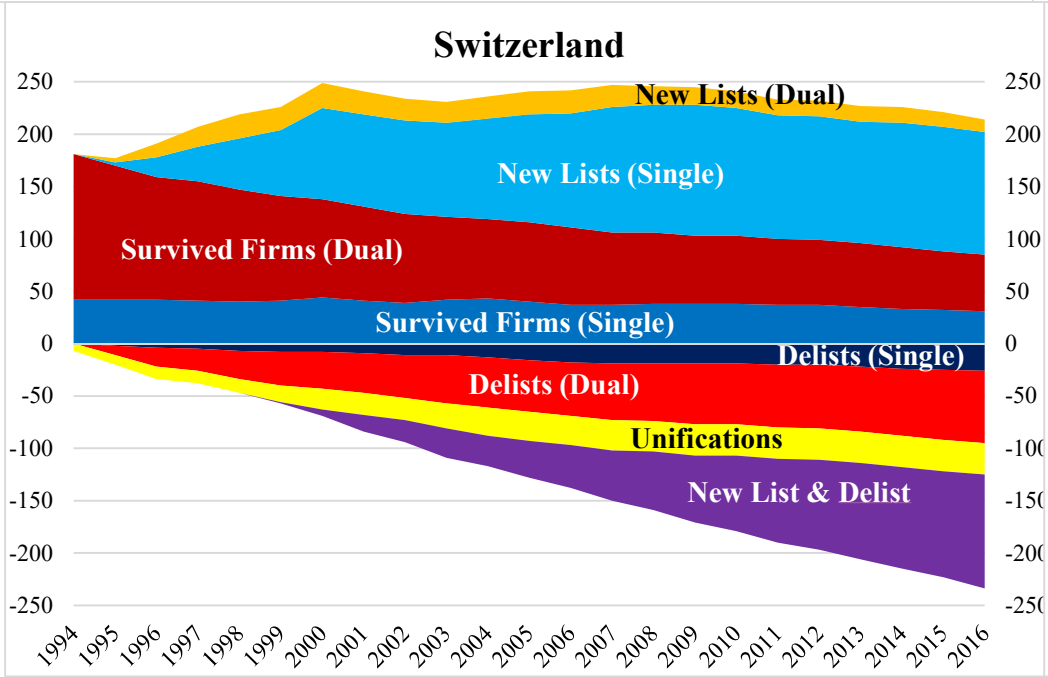


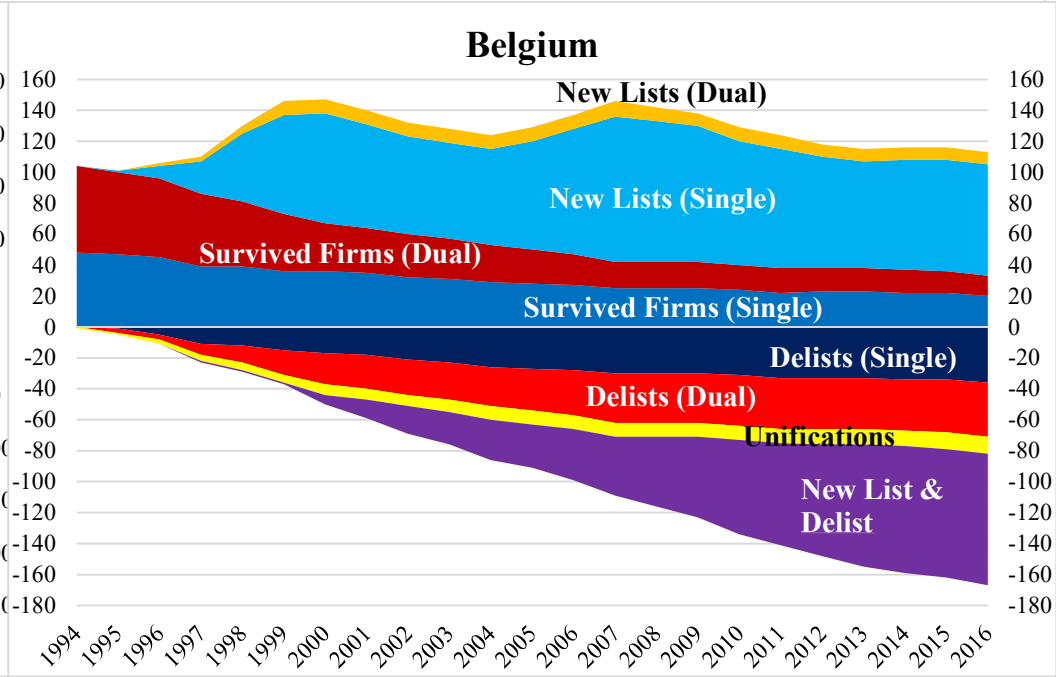


Panel C: Central Europe









Panel D: Southern Europe

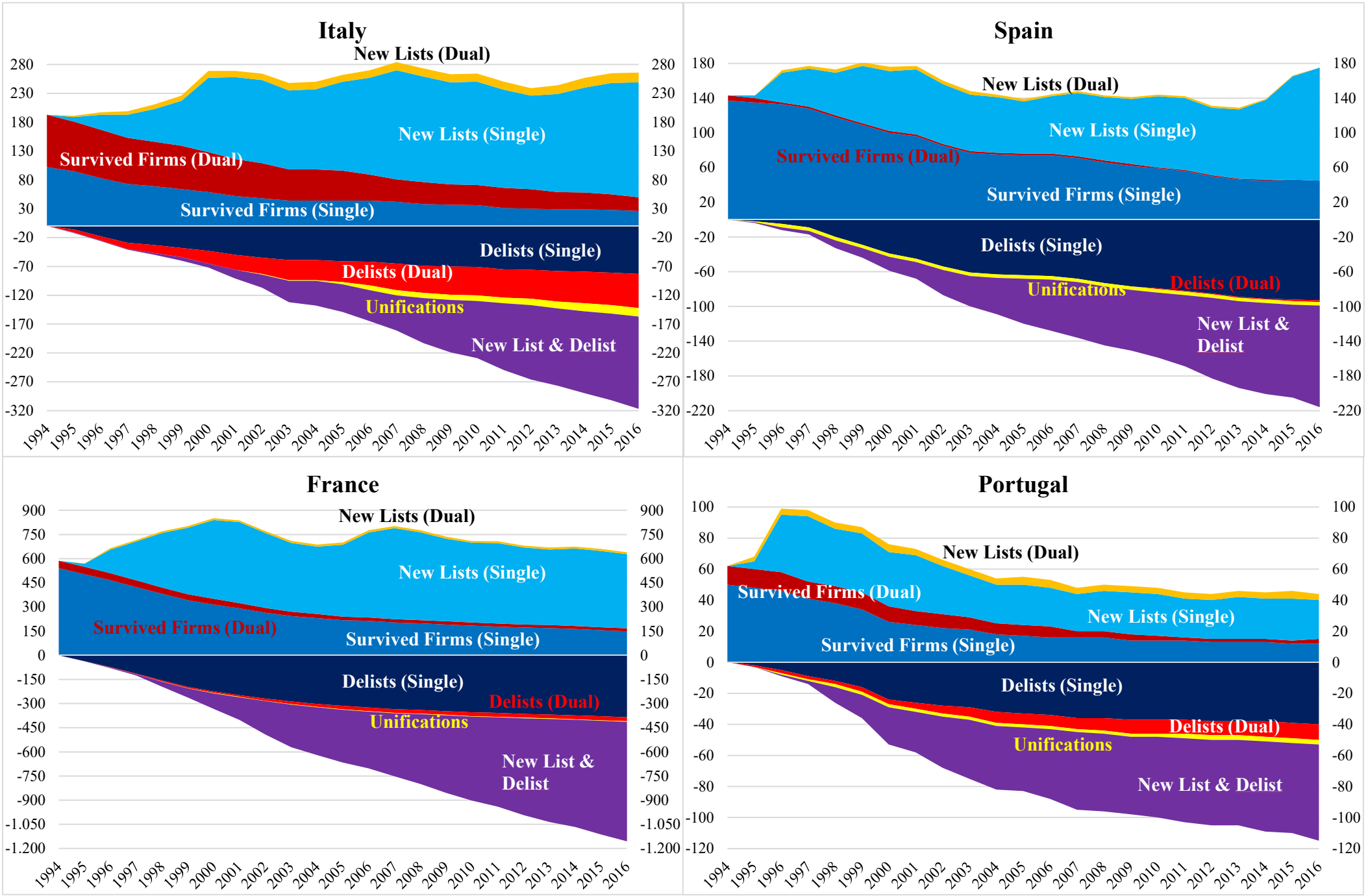


Table 1: Variable Definitions

Variable	Data Source	Description and Construction Principles
Dual-Class Shares	Worldscope, Annual Reports, Filings	Dummy variable, 1 if the firm has dual-class shares with unequal voting rights, zero otherwise.
Tobin's Q	Worldscope	Total Assets plus the market value of equity minus the book value of equity divided by Total Assets.
Size	Worldscope	Total assets of a firm, logarithmized.
Sales Growth	Worldscope	Change in net sales from year t-1 to t, logarithmized.
Return on Assets	Worldscope	Net income relative to total assets.
Return on Equity	Worldscope	Net income relative to book value of equity.
Return on Sales	Worldscope	Net income relative to net sales.
Return on Invest-metns	Worldscope	Net income relative to long-term debt and book value of equity.
Leverage	Worldscope	Total debt relative to total assets.
Tangibility	Worldscope	Net property, plant and equipment relative to total assets.
CapEx	Worldscope	Capital expenditures relative to total assets.
R&D	Worldscope	Research and development expenses relative to net sales.
Dividends	Worldscope	Total common and preferred dividends paid to shareholders of the company relative to total assets.
Cash	Worldscope	Cash holdings relative to total assets.
Founding Family	Osiris	Dummy variable, 1 if the ultimate owner is an individual person or a family that is the founder or related by blood or marriage to one of the founders and holds at least 25% of the voting rights, zero otherwise.
Controlled by Indi-viduals	Osiris	Dummy variable, 1if the ultimate owner is an individual person or a family that is neither related to the founders nor to any of their relatives and holds at least 25% of the voting rights, zero other-wise.
Controlled by Others	Osiris	Dummy variable, 1if the ultimate owner is is neither an individual person nor a family and is not related to the founders and holds at least 25% of the voting rights, zero otherwise.
Widely-Held	Osiris	Dummy variable, 1 if no ultimate owner holding at least 25% of the voting rights identified, zero otherwise.
Listing Duration	Authors' Calculation	Number of years since the firm went public based on the year the firm enters the dataset.
Mature IPO	Authors' Calculation	Dummy variable, 1if a firm's listing duration (years from IPO) is above the median in the country where the firm is primarily listed (Kim et al., 2018), zero otherwise.
Operating Margin	Authors' Calculation	EBITDA relative to net sales.
Asset Turnover	Authors' Calculation	Net sales relative to lagged total assets.
Labor Productivity	Authors' Calculation	Net sales relative to lagged number of employees.
Employment Growth	Authors' Calculation	Change in number of employees from year t-1 to t, logarithmized.
Cash Flow	Worldscope	Net income and depreciation & amortization relative to lagged to-tal assets.

Notes: This table represents the data sources, description and calculations of the used variables in our analysis.

Table 2: Institutional Background on Shares with Unequal Voting Rights in Europe

Jurisdiction	Issuing a class of shares with: Limited voting rights			Multiple voting rights	Loyalty Shares
		Without voting rights			
			And without preferential rights to dividends		
Austria	Allowed	Allowed			
Belgium	Allowed	Allowed (Max 1/3)			Allowed (2020)
Denmark	Allowed	Allowed	Allowed	Allowed	
Finland	Allowed	Allowed		Allowed	
France	Allowed (Max 50%)	Allowed (Max 25%)			Allowed
Germany	Allowed	Allowed: (Max 50%)	Not allowed	Not allowed	
Italy	Allowed: Max 50%	Allowed Max 50%		Allowed	Allowed
Norway	Allowed	Allowed		Allowed	
Portugal	Allowed	Allowed (Max 50%)	Allowed	Not Allowed	
Spain	Allowed	Allowed (Max 50%)	Not allowed	Not allowed	Public Consulation
Sweden	Allowed	Not allowed		Allowed (1/10)	
Switzerland	Allowed	Allowed	Allowed	Allowed	
United Kingdom	Allowed	Allowed	Allowed	Allowed	

Notes: The figures above represent an overview on the regulation related issuing a class of shares with limited voting rights or multiple voting rights across the jurisdictions included in our sample. Source: OECD Corporate Governance Factbook 2019 with further amendments related to loyalty shares by the authors.

Table 3: Sample Overview of Dual-Class Shares Firms in Europe

Panel A: Firms with Dual-Class Shares by Country

Country	Sample - Firm Years				Sample - Unique Firms			
	Total	**Single-Class**	**Dual-Class**	**(%)**	**Total**	**Single-Class**	**Dual-Class**	**(%)**
Denmark	4,146	2,675	1,471	35.48%	369	254	115	31.17%
Finland	2,863	1,642	1,221	42.65%	229	139	90	39.30%
Norway	4,258	3,844	414	9.72%	499	461	38	7.62%
Sweden	7,892	4,123	3,769	47.76%	925	609	316	34.16%
Nordic Countries	19,159	12,284	6,875	35.88%	2,022	1,463	559	27.65%
Austria	1,915	1,529	386	20.16%	179	145	34	18.99%
Belgium	2,871	2,107	764	26.61%	257	189	68	26.46%
Germany	16,857	14,524	2,333	13.84%	1,586	1,406	180	11.35%
Switzerland	5,199	2,987	2,212	42.55%	403	235	168	41.69%
Central Europe	26,842	21,147	5,695	21.22%	2,425	1,975	450	18.56%
France	16,481	15,601	880	5.34%	1,679	1,616	63	3.75%
Italy	5,638	4,184	1,454	25.79%	551	438	113	20.51%
Portugal	1,397	1,170	227	16.25%	143	121	22	15.38%
Spain	3,580	3,481	99	2.77%	365	354	11	3.01%
Southern Europe	27,096	24,436	2,660	9.82%	2,738	2,529	209	7.63%
UK	32,053	30,752	1,301	4.06%	4,004	3,872	132	3.30%
Total	**105,150**	**88,619**	**16,531**	**15.72%**	**11,189**	**9,839**	**1,350**	**12.07%**

Panel B: Firms with Dual-Class Shares by Year

Year	Sample - Firm Years			
	Total	**Single-Class**	**Dual-Class**	**(%)**
1994	3,673	2,782	891	24.26%
1995	3,653	2,782	871	23.84%
1996	4,243	3,317	926	21.82%
1997	4,555	3,611	944	20.72%
1998	4,719	3,780	939	19.90%
1999	4,805	3,901	904	18.81%
2000	5,146	4,261	885	17.20%
2001	5,085	4,235	850	16.72%
2002	4,767	3,963	804	16.87%
2003	4,469	3,707	762	17.05%
2004	4,479	3,753	726	16.21%
2005	4,776	4,073	703	14.72%
2006	5,088	4,414	674	13.25%
2007	5,272	4,613	659	12.50%
2008	5,037	4,411	626	12.43%
2009	4,803	4,200	603	12.55%
2010	4,681	4,093	588	12.56%
2011	4,534	3,959	575	12.68%
2012	4,312	3,760	552	12.80%
2013	4,246	3,709	537	12.65%
2014	4,255	3,734	521	12.24%
2015	4,274	3,770	504	11.79%
2016	4,278	3,791	487	11.38%
Total	**105,150**	**88,619**	**16,531**	**15.72%**

Panel C: Firms with Dual-Class Shares by Ownership Type (2007-2016)

Country	Single-Class Firms						Dual-Class Firms					
	Total	**FFF**	**ICF**	**OCF**	**WH**	**n/a**	**Total**	**FFF**	**ICF**	**OCF**	**WH**	**n/a**
Denmark	1,259	77	27	275	522	358	501	0	0	17	7	477
Finland	841	71	24	180	453	113	417	20	0	23	97	277
Norway	2,003	134	96	359	700	714	129	0	4	6	0	119
Sweden	2,793	99	134	477	1295	788	1,581	71	42	163	270	1,035
Nordic Countries	6,896	381	281	1,291	1,953	1,973	2,628	91	46	209	346	1,908
Austria	637	57	75	258	144	103	99	0	1	20	1	77
Belgium	1,018	129	60	387	308	134	228	5	2	32	25	164
Germany	6,610	1,164	757	1,607	1,916	1,166	708	65	11	90	36	506
Switzerland	1,595	90	109	376	734	286	729	37	6	22	8	656
Central Europe	9,860	1,440	1,001	2,628	5,069	1,689	1,764	107	20	164	291	1,403
France	6,736	2,182	705	1,435	1,542	872	311	44	18	32	55	162
Italy	2,151	617	212	659	386	277	450	22	21	82	25	300
Portugal	401	105	62	116	71	47	65	0	0	5	4	56
Spain	1,458	221	81	337	609	210	150	20	0	23	97	10
Southern Europe	10,746	3,125	1,060	2,547	6,732	1,406	976	86	39	142	267	528
UK	34,972	5,908	3,040	8,034	16,289	1,701	407	13	6	24	112	252
Total	**62,474**	**10,854**	**5,382**	**14,500**	**30,043**	**6,769**	**5,775**	**297**	**111**	**539**	**1,016**	**4,091**

Notes: The table presents our sample of single-class and dual-class firms. Panel A shows the distribution by country and region, Panel B the distribution by year and Panel C the distribution by ownership types for the period 2007 to 2016 only. The sample includes publicly listed firms from 13 European countries between 1994 and 2016, which we clustered into five regions. (1) *Founding Family (FFF):* Ultimate owner is an individual person or a family that is the founder or related by blood or marriage to one of the founders. (2) *Firms controlled by individuals (ICF):* Ultimate owner is an individual person or a family that is neither related to the founders nor to any of their relatives. (3) *Firms controlled by others (OCF):* Ultimate owner is neither an individual person nor a family and is not related to the founders. (4) *Widely-held firms (WH)*: No ultimate owner holding at least 25% of the voting rights identified (5) n/a: No ownership data available.

Table 4: Descriptive Statistics

Variable	Nordic Countries			Central Europe			Southern Europe			UK		
	Single-Class mean	Dual-Class mean	Difference	Single-Class mean	Dual-Class mean	Difference	Single-Class mean	Dual-Class mean	Differ-ence	Single-Class mean	Dual-Class mean	Difference
Dependent Variables												
Tobin's Q	1.738	1.638	**0.100*****	1.613	1.436	**0.177*****	1.453	1.231	**0.221*****	1.802	1.473	**0.329*****
Return on Assets	-0.027	0.011	**-0.038*****	-0.003	0.027	**-0.030*****	0.013	0.012	0.001	-0.023	0.027	**-0.050*****
Return on Equity	-0.097	-0.005	**-0.092*****	-0.051	0.04	**-0.091*****	-0.017	0.012	**-0.029*****	-0.081	0.038	**-0.119*****
Return on Sales	-0.609	-0.227	**-0.382*****	-0.225	-0.015	**-0.210*****	-0.08	-0.012	**-0.068****	-0.627	0	**-0.627*****
Return on Investments	-0.06	0.01	**-0.069*****	-0.02	0.045	**-0.065*****	0.01	0.016	-0.006	-0.05	0.038	**-0.088*****
Firm-Level Controls												
ln(Total Assets)	11.656	12.17	**-0.513*****	12.088	13.441	**-1.353*****	12.366	14.912	**-2.546*****	11.526	12.952	**-1.426*****
Leverage	0.233	0.242	**-0.009*****	0.206	0.235	**-0.028*****	0.235	0.32	**-0.085*****	0.172	0.207	**-0.036*****
Tangibility	0.237	0.284	**-0.047*****	0.242	0.292	**-0.049*****	0.23	0.194	**0.035*****	0.272	0.432	**-0.160*****
CapEx	0.048	0.05	-0.001	0.045	0.047	**-0.003*****	0.042	0.034	**0.008*****	0.05	0.055	**-0.006*****
R&D / Sales	0.033	0.031	0.002	0.028	0.013	**0.015*****	0.016	0.008	**0.008*****	0.048	0.009	**0.038*****
Dividends	0.016	0.02	**-0.004*****	0.014	0.015	**-0.001*****	0.013	0.01	**0.003*****	0.019	0.02	**-0.001***
Cash	0.153	0.139	**0.013*****	0.157	0.116	**0.041*****	0.133	0.091	**0.041*****	0.163	0.093	**0.070*****
N	**11,755**	**6,798**	**18,553**	**20,676**	**5,637**	**26,313**	**24,093**	**2,625**	**26,718**	**30,158**	**1,193**	**31,351**

Notes: The table presents the univariate analysis. The sample includes publicly listed firms from 13 European countries between 1994 and 2016, which we clustered into five regions. *, **, *** indicate significance at the 0.10, 0.05, 0.01 level, respectively.

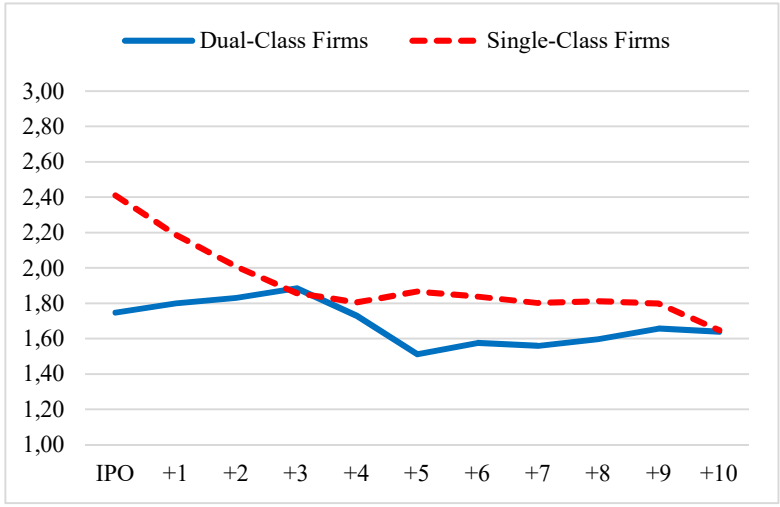
Table 5: Performance differences between single- and dual-class firms along the life cycle

(1) *Evolution of Tobin's Q and Return on Assets relative to the IPO year*

Panel A - Nordic Countries

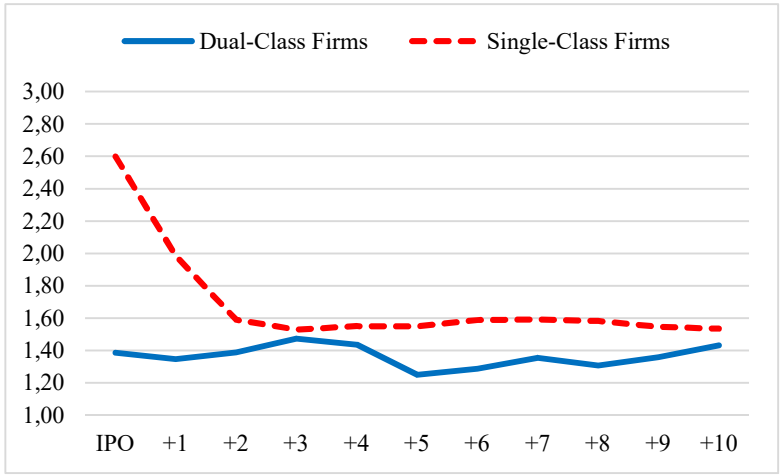
Variable	IPO	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10
Dual-Class Tobin's											
Q	1.75	1.80	1.83	1.89	1.73	1.51	1.58	1.56	1.60	1.66	1.64
n	*299*	*283*	*265*	*253*	*240*	*229*	*222*	*212*	*202*	*188*	*179*
Single-Class Tobin's											
Q	2.41	2.19	2.01	1.86	1.81	1.87	1.84	1.80	1.81	1.80	1.65
n	*927*	*806*	*690*	*589*	*525*	*462*	*408*	*362*	*336*	*291*	*235*
Difference	-0.66	-0.39	-0.18	0.03	-0.08	-0.35	-0.26	-0.24	-0.22	-0.14	-0.01
Dual-Class RoA	-0.56%	0.31%	1.94%	0.99%	2.23%	-0.24%	-0.05%	2.82%	1.54%	2.30%	2.66%
n	*299*	*283*	*265*	*253*	*240*	*229*	*222*	*212*	*202*	*188*	*179*
	-	-	-	-	-	-	-	-	-		-
Single-Class RoA	5.05%	8.55%	7.64%	6.71%	4.64%	3.44%	2.58%	0.71%	1.81%	0.68%	2.48%
n	*927*	*806*	*690*	*589*	*525*	*462*	*408*	*362*	*336*	*291*	*235*
Difference	0.04	0.09	0.10	0.08	0.07	0.03	0.03	0.04	0.03	0.02	0.05

(2) *Dynamics of Tobin's Q*



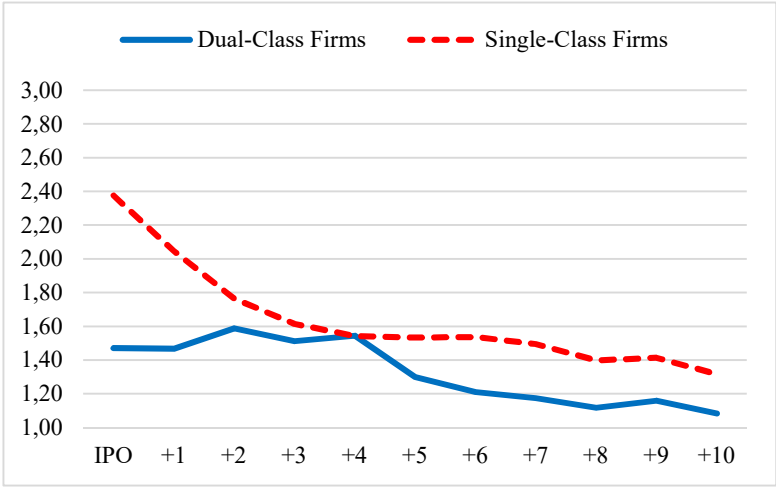
Panel B - Central Europe

Variable	IPO	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10
Dual-Class Tobin's											
Q	1.39	1.35	1.39	1.47	1.44	1.25	1.29	1.35	1.31	1.36	1.43
n	*175*	*166*	*162*	*157*	*150*	*144*	*138*	*132*	*129*	*120*	*116*
Single-Class Tobin's											
Q	2.60	1.99	1.59	1.53	1.55	1.55	1.59	1.59	1.58	1.55	1.54
n	*1084*	*1025*	*951*	*878*	*804*	*735*	*681*	*621*	*582*	*520*	*432*
Difference	-1.21	-0.64	-0.20	-0.05	-0.12	-0.30	-0.30	-0.24	-0.28	-0.19	-0.10
Dual-Class RoA	2.11%	2.84%	1.57%	2.28%	2.55%	2.72%	1.14%	3.55%	2.03%	3.15%	3.21%
n	*175*	*166*	*162*	*157*	*150*	*144*	*138*	*132*	*129*	*120*	*116*
	-	-	-	-	-	-	-	-	-	-	-
Single-Class RoA	0.77%	4.64%	7.20%	5.75%	4.11%	2.12%	1.90%	0.62%	0.74%	0.69%	0.33%
n	*1084*	*1025*	*951*	*878*	*804*	*735*	*681*	*621*	*582*	*520*	*432*
Difference	0.03	0.07	0.09	0.08	0.07	0.05	0.03	0.04	0.03	0.04	0.04



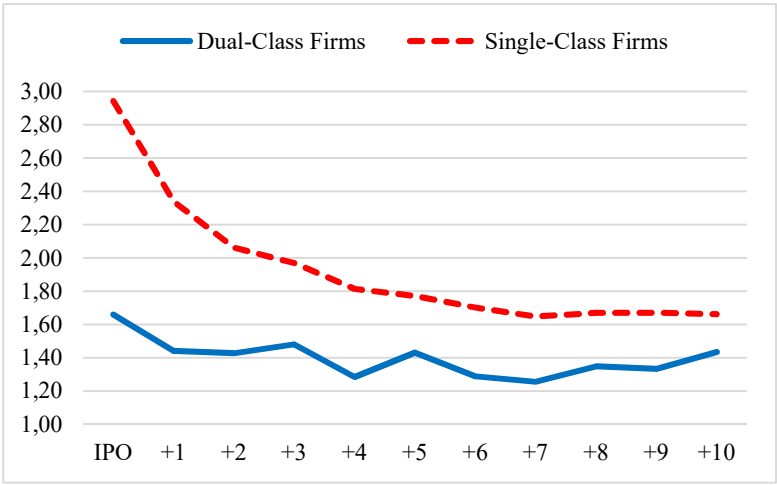
Panel C - Southern Europe

Variable	IPO	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10
Dual-Class Tobin's Q	1.47	1.47	1.59	1.51	1.54	1.30	1.21	1.17	1.12	1.16	1.08
n	*73*	*68*	*65*	*64*	*58*	*57*	*54*	*50*	*45*	*44*	*41*
Single-Class Tobin's Q	2.38	2.05	1.77	1.61	1.54	1.53	1.54	1.49	1.40	1.41	1.32
n	*1311*	*1218*	*1088*	*965*	*873*	*790*	*719*	*647*	*604*	*551*	*469*
Difference	-0.91	-0.58	-0.18	-0.10	0.00	-0.23	-0.33	-0.32	-0.28	-0.25	-0.23
Dual-Class RoA	-0.15%	1.11%	1.74%	0.96%	1.28%	0.65%	0.26%	-0.11%	0.36%	0.82%	0.87%
n	*73*	*68*	*65*	*64*	*58*	*57*	*54*	*50*	*45*	*44*	*41*
Single-Class RoA	1.35%	1.28%	1.49%	1.53%	-0.14%	0.74%	0.84%	1.45%	1.09%	1.88%	1.23%
n	*1311*	*1218*	*1088*	*965*	*873*	*790*	*719*	*647*	*604*	*551*	*469*
Difference	-0.02	0.02	0.03	0.02	0.01	0.00	-0.01	-0.02	-0.01	-0.01	0.00



Panel D - UK

Variable	IPO	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10
Dual-Class Tobin's Q	1.66	1.44	1.43	1.48	1.29	1.43	1.29	1.26	1.35	1.33	1.44
n	*55*	*51*	*48*	*42*	*38*	*34*	*30*	*29*	*22*	*18*	*14*
Single-Class Tobin's Q	2.94	2.34	2.06	1.97	1.81	1.77	1.70	1.65	1.67	1.67	1.66
n	*1347*	*1220*	*1054*	*854*	*706*	*626*	*554*	*473*	*419*	*363*	*292*
Difference	-1.28	-0.90	-0.64	-0.49	-0.53	-0.34	-0.41	-0.39	-0.32	-0.34	-0.23
Dual-Class RoA	-0.49%	-0.32%	2.62%	2.60%	3.03%	2.71%	3.72%	2.29%	5.28%	5.38%	5.06%
n	*55*	*51*	*48*	*42*	*38*	*34*	*30*	*29*	*22*	*18*	*14*
Single-Class RoA	6.04%	8.80%	9.81%	8.70%	6.44%	6.49%	5.69%	2.58%	3.61%	3.53%	1.36%
n	*1347*	*1220*	*1054*	*854*	*706*	*626*	*554*	*473*	*419*	*363*	*292*
Difference	0.06	0.08	0.12	0.11	0.09	0.09	0.09	0.05	0.09	0.09	0.06



Notes: The table and figure present the Tobin's Q and Return on Assets in years relative to the IPO for the full sample by single- and dual-class firms (column 1). Column 2 shows the development for Tobin's Q. The sample includes publicly listed firms from 13 European countries between 1994 and 2016, which we clustered into five regions.

Table 6: Firm performance and valuation effects of dual-class shares

Panel A: Regional and country-specific results - Full Sample

		Dual-Class Shares (DCS) Coefficients				
		I	**II**	**III**	**IV**	**V**
Dependent variable:	*n*	Tobin's Q	Return on Assets	Return on Equity	Return on Sales	Return on Invest-ment
Denmark	3,980	**-0.245****	0.005	0.001	0.131	0.007
		[-2.12]	[0.55]	[0.05]	[1.39]	[0.38]
Finland	2,837	**-0.227*****	0.003	0.006	**0.083****	0.006
		[-3.87]	[0.54]	[0.28]	**[1.99]**	[0.46]
Norway	4,131	0.055	**-0.029****	**-0.084****	-0.163	**-0.055****
		[0.73]	**[-2.35]**	**[-2.11]**	[-1.18]	**[-2.19]**
Sweden	7,605	-0.046	0.01	0.006	0.143	0.013
		[-0.66]	[1.05]	[0.22]	[1.04]	[0.73]
Nordic Countries	18,533	**-0.119*****	0.008	0.008	**0.156****	0.011
		[-2.69]	[1.62]	[0.54]	**[2.08]**	[1.07]
Austria	1,900	0.091	0.005	**0.051****	0.062	0.018
		[0.81]	[0.97]	**[2.11]**	[0.52]	[1.64]
Belgium	2,822	0.057	-0.007	0.003	-0.156	-0.004
		[0.76]	[-1.11]	[0.13]	[-1.27]	[-0.37]
Germany	16,499	-0.004	**0.007***	0.012	-0.109	0.011
		[-0.05]	**[1.69]**	[0.63]	[-1.24]	[0.98]
Switzerland	5,089	-0.045	-0.006	**-0.050*****	-0.031	**-0.017***
		[-0.77]	[-1.15]	**[-2.59]**	[-0.47]	**[-1.78]**
Central Europe	26,310	-0.018	0.002	0	-0.058	0.003
		[-0.39]	[0.70]	[0.02]	[-1.18]	[0.51]
France	16,193	**0.159****	0.001	0.022	-0.027	-0.003
		[2.28]	[0.17]	[1.14]	[-0.68]	[-0.23]
Italy	5,600	0.029	**-0.013*****	**-0.066****	-0.042	**-0.043*****
		[0.56]	**[-2.64]**	**[-2.44]**	[-0.81]	**[-2.87]**
Portugal	1,384	0.036	**-0.012****	-0.027	-0.026	**-0.036***
		[0.37]	**[-2.03]**	[-0.84]	[-0.62]	**[-1.85]**
Spain	3,541	-0.249	-0.007	**0.086***	-0.477	0.011
		[-1.44]	[-0.80]	**[1.95]**	[-1.30]	[0.64]
Southern Europe	26,718	0.052	**-0.006****	-0.012	-0.02	**-0.019****
		[1.43]	**[-2.32]**	[-0.82]	[-0.59]	**[-2.34]**
UK	31,344	0.016	-0.004	-0.028	-0.008	-0.014
		[0.26]	[-0.48]	[-1.10]	[-0.10]	[-0.88]
Controls		yes	yes	yes	yes	yes
Count., Ind., Year FE		no/yes	no/yes	no/yes	no/yes	no/yes

Panel B: Regional and country-specific results - Matched Sample

		Dual-Class Shares (DCS) Coefficients				
		I	**II**	**III**	**IV**	**V**
Dependent variable:	*n*	Tobin's Q	Return on Assets	Return on Equity	Return on Sales	Return on Invest-ment
Denmark	1,867	**-0.247***	0.015	0.02	0.139	0.017
		[-1.73]	[1.20]	[0.55]	[0.71]	[0.76]
Finland	1,604	**-0.267*****	-0.001	-0.02	0.08	-0.002
		[-3.48]	[-0.12]	[-0.76]	[1.31]	[-0.13]
Norway	1,030	-0.017	-0.011	-0.036	0.088	-0.013
		[-0.27]	[-1.19]	[-1.09]	[0.55]	[-0.62]
Sweden	4,211	**-0.199****	0.011	-0.011	0.231	-0.002
		[-2.01]	[0.85]	[-0.33]	[1.14]	[-0.10]
Nordic Countries	8,712	**-0.194*****	0.004	-0.013	**0.171***	-0.002
		[-3.77]	[0.56]	[-0.76]	**[1.80]**	[-0.20]
Austria	725	0.056	**0.013***	**0.111****	0.12	**0.042****
		[0.46]	**[1.97]**	**[2.38]**	[0.95]	**[2.27]**
Belgium	1,110	-0.012	0.003	0.018	0.026	0.016
		[-0.16]	[0.41]	[0.73]	[0.13]	[1.01]
Germany	4,722	-0.094	**0.009****	-0.002	-0.079	0.007
		[-1.11]	**[1.97]**	[-0.10]	[-0.83]	[0.62]
Switzerland	2,771	-0.103	-0.008	**-0.053*****	-0.043	**-0.018***
		[-1.31]	[-1.45]	**[-2.69]**	[-0.52]	**[-1.78]**
Central Europe	9,328	-0.087	0.005	-0.001	-0.027	0.007
		[-1.63]	[1.57]	[-0.09]	[-0.45]	[0.94]
France	3,668	-0.027	0.003	0.002	-0.003	-0.004
		[-0.35]	[0.58]	[0.12]	[-0.06]	[-0.30]
Italy	2,362	-0.035	**-0.018*****	**-0.084*****	**-0.127*****	**-0.050*****
		[-0.52]	**[-3.07]**	**[-2.98]**	**[-2.90]**	**[-2.88]**
Portugal	466	0.033	-0.007	-0.035	-0.01	-0.036
		[0.41]	[-0.96]	[-0.78]	[-0.23]	[-1.38]
Spain	907	-0.27	0	0.071	-0.385	0.019
		[-1.58]	[-0.04]	[1.56]	[-1.15]	[0.90]
Southern Europe	7,403	-0.056	**-0.005***	-0.021	-0.065	**-0.018****
		[-1.35]	**[-1.73]**	[-1.43]	[-1.59]	**[-2.01]**
UK	6,735	**-0.124****	**0.012***	0.02	**0.097****	0.022
		[-2.25]	**[1.84]**	[0.81]	**[2.06]**	[1.46]
Controls		yes	yes	yes	yes	yes
Count., Ind., Year FE		no/yes	no/yes	no/yes	no/yes	no/yes

Panel C: Full Sample - High Growth based on top tercile of firm-level sales growth

	I	II	III	IV	V	VI	VII	VIII
	Nordic Countries		**Central Europe**		**Southern Europe**		**UK**	
Dependent variable:	Tobin‘s Q	Return on Assets	Tobin‘s Q	Return on Assets	Tobin‘s Q	Return on Assets	Tobin‘s Q	Return on Assets
Dual-Class Shares (DCS)	**-0.128***** **[-3.18]**	0.007 [1.39]	-0.019 [-0.43]	**0.005*** **[1.88]**	**0.084**** **[2.57]**	-0.004 [-1.48]	0.048 [0.79]	0.005 [0.58]
High Growth	**0.228***** **[7.95]**	**0.030***** **[7.33]**	**0.177***** **[6.59]**	**0.038***** **[14.60]**	**0.174***** **[9.32]**	**0.018***** **[11.25]**	**0.175***** **[8.77]**	**0.036***** **[15.18]**
DCS * High Growth	**0.155**** **[2.44]**	**0.044***** **[6.82]**	**0.175***** **[2.73]**	**0.030***** **[7.71]**	**0.141**** **[2.05]**	**0.008*** **[1.79]**	**0.143*** **[1.66]**	**0.019**** **[1.99]**
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Country, Industry, Year FE	yes	yes	yes	yes	yes	yes	yes	yes
R^2	0.319	0.289	0.207	0.204	0.227	0.2	0.274	0.306
N	18,533	18,533	26,310	26,310	26,718	26,718	31,344	31,344

Panel D: Matched Sample - High Growth based on top tercile of firm-level sales growth

	I	II	III	IV	V	VI	VII	VIII
	Nordic Countries		**Central Europe**		**Southern Europe**		**UK**	
Dependent variable:	Tobin‘s Q	Return on Assets	Tobin‘s Q	Return on Assets	Tobin‘s Q	Return on Assets	Tobin‘s Q	Return on Assets
Dual-Class Shares (DCS)	**-0.184***** **[-3.86]**	0.002 [0.28]	-0.065 [-1.22]	**0.006*** **[1.90]**	-0.015 [-0.40]	-0.003 [-0.96]	-0.064 [-1.15]	**0.019**** **[2.54]**
High Growth	**0.306***** **[4.85]**	**0.024***** **[3.58]**	**0.259***** **[4.78]**	**0.028***** **[6.49]**	**0.178***** **[4.83]**	**0.017***** **[7.18]**	**0.232***** **[5.30]**	**0.031***** **[6.61]**
DCS * High Growth	**0.121*** **[1.92]**	**0.034***** **[4.98]**	**0.113*** **[1.72]**	**0.030***** **[7.68]**	0.028 [0.41]	**0.009**** **[2.15]**	0.017 [0.22]	**0.035***** **[4.33]**
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Country, Industry, Year FE	yes	yes	yes	yes	yes	yes	yes	yes
R^2	0.311	0.293	0.206	0.197	0.279	0.235	0.316	0.306
N	8,712	8,712	9,328	9,328	7,403	7,403	6,735	6,735

Notes: The table presents results from OLS regressions on *Tobin's Q* and *Return on Assets* as the dependent variables. The sample includes publicly listed firms from 13 European countries between 1994 and 2016, which we clustered into five regions. We control for country, industry and year effects and report t-values based on robust standard errors clustered at firm-level in parentheses. *, **, *** indicate significance at the 0.10, 0.05, 0.01 level, respectively.

Table 7: The role of ownership in dual-class firms

Panel A: Full Sample - Founding Family Firm

	I	II	III	IV	V	VI	VII	VIII
	Nordic Countries		Central Europe		Southern Europe		UK	
Dependent variable:	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets
Single-Class Founding Family	0.017	**0.033****	-0.099	**0.018*****	-0.015	**0.024*****	0.082	**0.043*****
	[0.19]	**[2.08]**	[-1.60]	**[3.11]**	[-0.37]	**[7.00]**	[1.09]	**[4.61]**
Dual-Class Founding Family	0.481	0.025	-0.09	**0.018****	-0.066	0.009	**0.480*****	0.045
	[1.29]	[0.63]	[-0.66]	**[2.04]**	[-0.83]	[0.68]	**[5.74]**	[1.12]
Dual-Class Non-Founding Family	-0.049	0.01	0.182	0.001	0.105	-0.008	0.143	-0.011
	[-0.47]	[0.88]	[0.92]	[0.06]	[1.34]	[-1.25]	[1.14]	[-0.49]
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Count., Ind., Year FE	yes	yes	yes	yes	yes	yes	yes	yes
R^2	0.356	0.301	0.265	0.226	0.252	0.235	0.299	0.326
N	5,490	5,490	1,306	1,306	9,949	9,949	10,922	10,922

Panel A: Matched Sample - Founding Family Firm

	I	II	III	IV	V	VI	VII	VIII
	Nordic Countries		Central Europe		Southern Europe		UK	
Dependent variable:	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets
Single-Class Founding Family	**-0.255****	**0.049*****	-0.065	**0.027*****	0.035	**0.022*****	0.042	**0.047****
	[-2.25]	**[2.77]**	[-0.74]	**[2.99]**	[0.51]	**[3.85]**	[0.29]	**[2.27]**
Dual-Class Founding Family	0.312	0.02	-0.072	**0.015***	-0.095	0.01	**0.360***	**0.045*****
	[0.85]	[0.47]	[-0.52]	**[1.71]**	[-1.30]	[0.70]	**[1.95]**	**[3.93]**
Dual-Class Non-Founding Family	**-0.215****	0.018	0.168	0.004	0.023	-0.004	0.046	0.002
	[-1.99]	[1.20]	[0.78]	[0.42]	[0.28]	[-0.58]	[0.39]	[0.11]
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Count., Ind., Year FE	yes	yes	yes	yes	yes	yes	yes	yes
R^2	0.396	0.316	0.284	0.236	0.332	0.265	0.337	0.34
N	1,422	1,422	1,580	1,580	1,884	1,884	1,653	1,653

Panel B: Full Sample -Controlled by Individuals

	I	II	III	IV	V	VI	VII	VIII
	Nordic Countries		Central Europe		Southern Europe		UK	
Dependent variable:	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets
Single-Class Individual	**-0.160****	0.018	-0.016	0.009	-0.046	0.005	-0.043	0.017
	[-2.12]	[1.43]	[-0.27]	[1.33]	[-0.92]	[1.28]	[-0.56]	[1.64]
Dual-Class Individual	0.197	0.009	-0.074	-0.005	-0.068	-0.014	**-0.211***	**0.068****
	[0.86]	[0.49]	[-0.44]	[-0.26]	[-0.72]	[-1.05]	**[-1.75]**	**[2.37]**
Dual-Class Non-Individual	-0.002	0.011	0.129	0.004	0.089	**-0.010***	0.181	-0.011
	[-0.02]	[0.90]	[0.81]	[0.56]	[1.23]	**[-1.70]**	[1.45]	[-0.52]
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Count., Ind., Year FE	yes	yes	yes	yes	yes	yes	yes	yes
R^2	0.355	0.299	0.264	0.224	0.252	0.227	0.299	0.323
N	5,490	5,490	1,306	1,306	9,949	9,949	10,922	10,922

Panel B: Matched Sample -Controlled by Individuals

	I	II	III	IV	V	VI	VII	VIII
	Nordic Countries		Central Europe		Southern Europe		UK	
Dependent variable:	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets
Single-Class Individual	-0.138	**0.047***	0.021	0.004	-0.04	0.012	0.051	0.014
	[-0.91]	**[1.92]**	[0.20]	[0.47]	[-0.67]	[1.52]	[0.26]	[0.49]
Dual-Class Individual	0.072	0.011	-0.037	-0.012	-0.137*	-0.012	-0.138	**0.072*****
	[0.28]	[0.56]	[-0.22]	[-0.65]	[-1.73]	[-1.04]	[-0.63]	**[2.87]**
Dual-Class Non-Individual	-0.153	0.017	0.118	0.004	-0.001	-0.005	0.083	0.002
	[-1.38]	[1.11]	[0.66]	[0.61]	[-0.02]	[-0.92]	[0.70]	[0.09]
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Count., Ind., Year FE	yes	yes	yes	yes	yes	yes	yes	yes
R^2	0.388	0.315	0.282	0.229	0.331	0.255	0.337	0.336
N	1,422	1,422	1,580	1,580	1,884	1,884	1,653	1,653

Panel C: Full Sample - Controlled by Others

	I	II	III	IV	V	VI	VII	VIII
	Nordic Countries		**Central Europe**		**Southern Europe**		**UK**	
Dependent variable:	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets
Single-Class Others	-0.017	0.004	0.042	-0.004	**0.071***	**-0.006***	**-0.168*****	0.003
	[-0.38]	[0.45]	[1.17]	[-0.89]	**[1.81]**	**[-1.81]**	**[-3.90]**	[0.51]
Dual-Class Others	-0.136	**0.034****	0.388	0.001	0.045	**-0.022*****	-0.107	0.04
	[-1.10]	**[2.01]**	[1.23]	[0.14]	[0.93]	**[-2.85]**	[-0.90]	[1.58]
Dual-Class Non-Others	0.074	0.002	-0.057	0.002	0.125	-0.007	0.192	-0.018
	[0.57]	[0.16]	[-0.68]	[0.22]	[1.28]	[-1.02]	[1.45]	[-0.74]
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Count., Ind., Year FE	yes	yes	yes	yes	yes	yes	yes	yes
R^2	0.355	0.3	0.266	0.224	0.253	0.227	0.301	0.323
N	5,490	5,490	1,306	1,306	9,949	9,949	10,922	10,922

Panel C: Matched Sample - Controlled by Others

	I	II	III	IV	V	VI	VII	VIII
	Nordic Countries		**Central Europe**		**Southern Europe**		**UK**	
Dependent variable:	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets
Single-Class Others	-0.074	-0.017	0	-0.011	0.065	-0.003	-0.144	-0.018
	[-0.85]	[-1.44]	[-0.00]	[-1.46]	[0.99]	[-0.63]	[-1.27]	[-1.13]
Dual-Class Others	**-0.305****	0.029	0.356	-0.002	-0.034	**-0.015***	-0.059	**0.038****
	[-2.21]	[1.57]	[1.12]	[-0.24]	[-0.54]	**[-1.86]**	[-0.40]	**[2.25]**
Dual-Class Non-Others	-0.092	0.003	-0.074	0.001	0.025	-0.004	0.077	-0.006
	[-0.74]	[0.17]	[-0.85]	[0.12]	[0.25]	[-0.61]	[0.59]	[-0.31]
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Count., Ind., Year FE	yes	yes	yes	yes	yes	yes	yes	yes
R^2	0.39	0.317	0.292	0.23	0.332	0.255	0.338	0.337
N	1,422	1,422	1,580	1,580	1,884	1,884	1,653	1,653

Panel D: Full Sample - Widely-Held Firm

	I	II	III	IV	V	VI	VII	VIII
	Nordic Countries		**Central Europe**		**Southern Europe**		**UK**	
Dependent variable:	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets
Single-Class Widely-Held	0.048	**-0.019****	0.035	**-0.013*****	-0.001	**-0.025*****	**0.077***	**-0.028*****
	[1.02]	**[-2.43]**	[0.83]	**[-2.76]**	[-0.03]	**[-6.02]**	**[1.95]**	**[-5.09]**
Dual-Class Widely-Held	0.023	-0.019	-0.075	-0.018	0.283	-0.016	**0.263***	**-0.051****
	[0.15]	[-1.25]	[-0.65]	[-0.91]	[1.55]	[-1.42]	**[1.72]**	**[-2.00]**
Dual-Class Non-Widely-Held	0.077	0.017	0.178	0.001	-0.012	**-0.020*****	0.126	0.024
	[0.57]	[1.07]	[0.98]	[0.16]	[-0.27]	**[-2.93]**	[0.95]	[1.23]
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Count., Ind., Year FE	yes	yes	yes	yes	yes	yes	yes	yes
R^2	0.354	0.301	0.264	0.225	0.253	0.235	0.3	0.327
N	5,490	5,490	1,306	1,306	9,949	9,949	10,922	10,922

Panel D: Matched Sample - Widely-Held Firm

	I	II	III	IV	V	VI	VII	VIII
	Nordic Countries		**Central Europe**		**Southern Europe**		**UK**	
Dependent variable:	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets
Single-Class Widely-Held	**0.164***	-0.01	0.051	-0.011	-0.078	**-0.026*****	0.044	-0.018
	[1.79]	[-0.87]	[0.81]	[-1.20]	[-1.46]	**[-3.97]**	[0.53]	[-1.46]
Dual-Class Widely-Held	-0.063	-0.005	-0.111	-0.005	0.115	-0.012	0.107	-0.027
	[-0.45]	[-0.29]	[-0.86]	[-0.30]	[0.59]	[-1.29]	[0.71]	[-1.20]
Dual-Class Non-Widely-Held	0.006	0.022	0.179	-0.001	**-0.105****	**-0.017*****	0.106	**0.032****
	[0.04]	[1.35]	[0.86]	[-0.21]	**[-2.26]**	**[-2.60]**	[0.78]	**[2.32]**
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Count., Ind., Year FE	yes	yes	yes	yes	yes	yes	yes	yes
R^2	0.389	0.317	0.285	0.23	0.335	0.268	0.337	0.339
N	1,422	1,422	1,580	1,580	1,884	1,884	1,653	1,653

Notes: The table presents results from OLS regressions on *Tobin's Q* and *Return on Assets* as the dependent variables. 1) *Founding Family:* Ultimate owner is an individual person or a family that is the founder or related by blood or marriage to one of the founders. (2) *Firms controlled by individuals:* Ultimate owner is an individual person or a family that is neither related to the founders nor to any of their relatives. (3) *Firms controlled by others:* Ultimate owner is neither an individual person nor a family and is not related to the founders. (4) *Widely-held firms*: No ultimate owner holding at least 25% of the voting rights identified. The sample includes publicly listed firms from 13 European countries between 1994 and 2016, which we clustered into five regions. We control for country, industry and year effects and report t-values based on robust standard errors clustered at firm-level in parentheses. *, **, *** indicate significance at the 0.10, 0.05, 0.01 level, respectively.

Table 8: The interaction between dual-class shares and the corporate life cycle

Panel A: Full Sample

	I	II	III	IV	V	VI	VII	VIII
	Nordic Countries		**Central Europe**		**Southern Europe**		**UK**	
Dependent variable:	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets
Dual-Class Shares (DCS)	**-0.208***** **[-3.12]**	**0.008** **[1.04]**	**-0.108**** **[-2.08]**	**0.009*** **[1.92]**	0.012 [0.18]	-0.006 [-1.25]	-0.046 [-0.55]	-0.014 [-1.20]
Mature	**-0.219***** **[-5.21]**	0.005 [0.90]	**-0.084**** **[-2.58]**	**0.021***** **[6.49]**	**-0.221***** **[-8.43]**	0.001 [0.76]	**-0.306***** **[-11.80]**	**0.010***** **[3.14]**
DCS * Mature	**0.157**** **[2.21]**	-0.001 [-0.06]	**0.198**** **[2.54]**	**-0.015***** **[-2.82]**	0.094 [1.19]	-0.003 [-0.49]	0.03 [0.27]	0.02 [1.38]
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Country, Industry, Year FE	yes	yes	yes	yes	yes	yes	no/yes/yes	no/yes/yes
R^2	0.325	0.285	0.204	0.197	0.239	0.197	0.281	0.3
N	15,990	15,990	24,794	24,794	25,741	25,741	30,463	304,63

Panel B: Matched Sample

	I	II	III	IV	V	VI	VII	VIII
	Nordic Countries		**Central Europe**		**Southern Europe**		**UK**	
Dependent variable:	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets	Tobin's Q	Return on Assets
Dual-Class Shares (DCS)	**-0.330***** **[-3.52]**	-0.007 [-0.72]	**-0.193***** **[-2.96]**	0.006 [0.91]	-0.088 [-1.14]	-0.006 [-0.95]	**-0.222***** **[-2.88]**	0.004 [0.34]
Mature	**-0.303***** **[-3.75]**	-0.012 [-1.46]	**-0.128***** **[-2.67]**	**0.012**** **[2.52]**	**-0.239***** **[-6.52]**	-0.002 [-0.49]	**-0.286***** **[-6.37]**	-0.002 [-0.30]
DCS * Mature	**0.197**** **[2.00]**	**0.020*** **[1.91]**	**0.218**** **[2.51]**	-0.006 [-0.87]	0.11 [1.25]	0 [0.00]	0.088 [0.86]	0.018 [1.31]
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Country, Industry, Year FE	yes	yes	yes	yes	yes	yes	no/yes/yes	no/yes/yes
R^2	0.335	0.286	0.201	0.195	0.3	0.231	0.318	0.304
N	6,767	6,767	8,101	81,01	6,821	6,821	6,308	6,308

Notes: The table presents results from OLS regressions on *Tobin's Q* and *Return on Assets* as the dependent variables. *Mature IPO* equals one if a firm's listing duration is above the median in the country where the firm is incorporated (Kim and Michaely, 2019; Kim et al., 2018). The sample includes publicly listed firms from 13 European countries between 1994 and 2016, which we clustered into five regions. We control for country, industry and year effects and report t-values based on robust standard errors clustered at firm-level in parentheses. *, **, *** indicate significance at the 0.10, 0.05, 0.01 level, respectively.

Table 9: Channels how dual-class shares impact the firm valuation and performance

Panel A: Full Sample

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
	Nordic Countries			**Central Europe**			**Southern Europe**			**UK**		
Dependent variable:	Operating Margin	Asset Turnover	ln(Labor Productivity)	Operating Margin	Asset Turnover	ln(Labor Productivity)	Operating Margin	Asset Turnover	ln(Labor Productivity)	Operating Margin	Asset Turnover	ln(Labor Productivity)
Dual-Class Shares (DCS)	**0.214****	-0.004	-0.067	0.033	0.021	**-0.100***	-0.025	**-0.108*****	**-0.345*****	-0.043	**-0.287*****	**-0.336*****
	[2.17]	[-0.10]	[-1.10]	[0.62]	[0.48]	**[-1.68]**	[-0.67]	**[-3.16]**	**[-4.83]**	[-0.32]	**[-3.98]**	**[-2.79]**
Mature	**0.273*****	-0.001	-0.046	**0.107*****	0.011	**-0.080****	-0.002	**-0.066*****	**-0.145*****	**0.216*****	-0.002	**-0.100*****
	[3.90]	[-0.02]	[-1.05]	**[2.85]**	[0.46]	**[-2.35]**	[-0.09]	**[-3.39]**	**[-4.16]**	**[5.46]**	[-0.09]	**[-3.44]**
DCS * Mature	-0.165	-0.027	-0.06	**-0.155****	-0.069	0.077	-0.001	**0.112*****	**0.169****	0.062	0.099	0.215
	[-1.60]	[-0.54]	[-0.87]	**[-2.51]**	[-1.28]	[1.04]	[-0.02]	**[2.67]**	**[1.97]**	[0.41]	[0.89]	[1.42]
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Country, Industry, Year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	no/yes/yes	no/yes/yes	no/yes/yes
R^2	0.206	0.418	0.293	0.16	0.358	0.332	0.218	0.396	0.281	0.32	0.333	0.287
N	15,437	14,382	13,539	23,137	22,393	20,288	24,537	2,2910	21,415	29,674	26,193	25,299

Panel B: Matched Sample

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
	Nordic Countries			**Central Europe**			**Southern Europe**			**UK**		
Dependent variable:	Operating Margin	Asset Turnover	ln(Labor Productivity)	Operating Margin	Asset Turnover	ln(Labor Productivity)	Operating Margin	Asset Turnover	ln(Labor Productivity)	Operating Margin	Asset Turnover	ln(Labor Productivity)
Dual-Class Shares (DCS)	0.142	-0.024	-0.049	-0.001	0.002	-0.057	-0.034	**-0.103****	**-0.290*****	0.069	**-0.315*****	**-0.389*****
	[1.06]	[-0.48]	[-0.64]	[-0.02]	[0.04]	[-0.84]	[-0.78]	**[-2.56]**	**[-4.02]**	[0.95]	**[-4.14]**	**[-3.15]**
Mature	0.143	**-0.085****	-0.018	0.047	0.018	-0.035	0.021	**-0.056****	**-0.129*****	0.075	**-0.085****	**-0.173*****
	[1.26]	**[-2.10]**	[-0.29]	[0.91]	[0.49]	[-0.70]	[0.88]	**[-2.14]**	**[-2.95]**	[1.25]	**[-2.32]**	**[-3.78]**
DCS * Mature	-0.004	0.069	-0.051	-0.082	-0.061	0.039	-0.037	**0.102****	0.132	-0.003	0.15	0.227
	[-0.03]	[1.21]	[-0.63]	[-1.16]	[-1.02]	[0.47]	[-0.78]	**[2.30]**	[1.53]	[-0.04]	[1.42]	[1.53]
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Country, Industry, Year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	no/yes/yes	no/yes/yes	no/yes/yes
R^2	0.212	0.423	0.305	0.162	0.423	0.349	0.235	0.458	0.307	0.312	0.36	0.355
N	6,626	6,311	6,066	7,519	7,383	6,912	6,490	6,139	5,938	6,168	5,427	5,323

Panel C: First quartile of sales growth

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI
Dependent variable:	**Nordic Countries**				**Central Europe**				**Southern Europe**				**UK**			
	CapEx		Employment Growth		CapEx		Employment Growth		CapEx		Employment Growth		CapEx		Employment Growth	
	Young	*Mature*	*Young*	*Mature*	*Young*	*Mature*	*Young*	*Mature*	*Young*	*Mature*	*Young*	*Mature*	*Young*	*Mature*	*Young*	*Mature*
Tobin's Q	0.002	0.002	**0.040*** **	**0.023** **	**0.003***	0	**0.018** **	0.006	0.001	0.003	**0.025*** **	0.008	**0.003*** **	**0.004*** **	**0.025*** **	**0.016*** **
	[1.17]	[1.06]	**[4.47]**	**[2.50]**	**[1.80]**	[-0.06]	**[2.45]**	[0.93]	[0.81]	[0.67]	**[3.50]**	[0.74]	**[3.57]**	**[4.93]**	**[5.30]**	**[2.85]**
DCS * Tobin's Q	-0.003	**-0.004*** **	-0.013	0.007	0.005	0	-0.014	0.005	-0.005	0.004	**-0.043** **	**-0.036** **	0.004	0.002	**-0.049** **	-0.019
	[-1.43]	**[-2.62]**	[-1.26]	[0.87]	[1.23]	[-0.10]	[-0.99]	[0.63]	[-1.27]	[1.17]	**[-2.02]**	**[-2.03]**	[0.74]	[0.52]	**[-2.08]**	[-1.21]
Cash Flow	**0.030*** **	**0.047*** **	0.037	0.083	**0.042*** **	**0.072*** **	**0.157*** **	**0.102***	**0.028***	**0.080*** **	**0.269*** **	**0.176** **	**0.022*** **	**0.059*** **	**0.103*** **	**0.123*** **
	[3.13]	**[5.76]**	[0.60]	[1.60]	**[4.62]**	**[5.90]**	**[3.19]**	**[1.82]**	**[1.80]**	**[4.99]**	**[4.62]**	**[2.10]**	**[3.09]**	**[9.17]**	**[2.91]**	**[3.48]**
Country, Industry, Year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
R^2	0.142	0.184	0.081	0.042	0.071	0.097	0.065	0.029	0.049	0.076	0.064	0.033	0.097	0.137	0.076	0.071
N	1,391	2,136	1,197	1,962	2,390	3,207	1,990	2,808	2,012	2,964	1,707	2,658	2,583	40,75	2,335	3,969

Notes: The table presents results from OLS regressions on *Operating Margin, Asset Turnover* and *Labor Productivity* (Panel A) as well as *CapEx* and *Employment Growth* (Panel B) as the dependent variables. *Mature* equals one if a firm's listing duration is above the median in the country where the firm is incorporated (Kim and Michaely, 2019; Kim et al., 2018). The sample includes publicly listed firms from 13 European countries between 1994 and 2016, which we clustered into five regions. We control for country, industry and year effects and report t-values based on robust standard errors clustered at firm-level in parentheses. *, **, *** indicate significance at the 0.10, 0.05, 0.01 level, respectively.