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Working paper 12-06

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Delistings in Europe and the Costs of Governance[1]

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28 September 2006

We analyze delistings from European stock exchanges 1995-2005 as a function of market conditions, firm effects and governance regulation. We find that investor protection and corporate governance quality reduce the likelihood of going private, bankrupt or liquidated, but increase the likelihood of exit by merger or acquisition. Taking into consideration that corporate governance policy may be endogenously determined, the estimated policy effects turn out to be highly sensitive to model specification, but our best estimates produce qualitatively similar results. We conclude that the evidence is most consistent with efficient regulation: better protection of minority investors and higher corporate governance quality stimulates the market for corporate control (M&A) and reduces the incentive to go private. However, going private transactions have increased significantly while governance standards have been improved over the past decade, and we would not ignore the possibility that more regulation would lead to more delistings. For example, we find indications that the adoption of corporate governance codes and changes in the level of corporate governance indices increase the propensity to go private. It seems likely that increasing investor protection will at some point add more costs than benefits to companies and investors. Governments should therefore consider both costs and benefits of further regulation.

Key words: Delisting, public listing, mergers, acquisitions, bankruptcy, liquidation, going private, private equity, investor protection.

1. Introduction

Recent years have produced a wave of corporate governance regulation. An example from the US is the Sarbanes-Oxley act and codes of best practice on both NASDAQ and NYSE. Commentators argue that the administrative costs of these initiatives have spurred delistings from American exchanges (Block, 2004, Engel et al., 2004, Leuz et al., 2004, Kamar et al., 2006, Marosi and Massoud, 2004) and have led international companies to list elsewhere, e.g. in London.[4] European corporate governance has also become increasingly regulated with directives and recommendations from the EU Commission, changes in national company law and codes of best practice. Pagano and Volpin (2005c) document a general international increase in the level of minority investor protection.

The influential "law and finance" approach championed by La Porta, de Silanes, Shleifer and Vishny (1997, 1998, 1999, 2000a, 2000b) and Djankov, La Porta, de Silanes, and Shleifer (2005) emphasizes the role of the law in protecting minority investors. The general implication of this demand-side approach is that stronger minority investor protection is preferable as it tends to produce larger stock markets, more investments, better allocation of capital and higher economic growth (Beck et al., 2000, 2001, 2003, Beck and Levine, 2004, Djankov et al., 2005). Among several other issues this raises the question of whether stock markets and economic growth can be increased indefinitely by increasing investor protection or whether there is a limit to how much minority investors should be protected. If there is such an upper limit, how close are we to reaching it in real economic terms? Could it be that very strong protection of minority investor protection, such as comprehensive disclosure requirements, strong legal responsibility of non-executive directors, strict limitations on board composition etc., would increase the cost of governance to a point where transaction costs exceed benefits to investors? This could then lead to lower stock prices, fewer initial public offerings (IPOs) and more delistings. More generally, while the Law and Finance approach emphasizes the demand side of corporate governance (i.e. the relationship with outside investors), there is also a "supply side" i.e. the costs to the companies and incumbent owners, which should be included in an overall assessment of corporate governance systems.

The costs of governance would for example include elements of auditing costs, disclosure costs, legal assistance, compensation premiums for non-executive and executive directors, strategic distortion of decision making and several other costs drivers. These costs are difficult to estimate with any degree of precision; however an indirect test examining the effects of corporate governance regulations on delistings could be conducted. The underlying idea of the test is that companies will choose to leave stock exchanges if the governance costs come to exceed the benefits of being listed. There has in fact been a wave of delistings from European stock exchanges post 2000 which coincides with a number of new governance initiatives, e.g. the spread of codes to continental Europe. Because of mergers, acquisitions, going private transactions, bankruptcy and

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[4] The recent going dark literature in the US has analyzed the impact of the Sarbanes-Oxley act on the decision to deregister (go dark). Marosi and Massoud (2004) find that higher audit costs induced by the Sarbanes-Oxley act have had a significant impact on the the decision to delist. Engel et al. (2004) also find a significant effect of the Sarbanes-Oxley act on firms' going private decision, particularly for small firms. Further Kamar et al. (2006) and also Block (2004) finds support of the result that small firms tend to exit due to Sarbanes-Oxley. In contrast, Leuz et al. (2004) find that cost savings alone are unlikely to matter for the decision to delist, but may push more poorly performing firms to go dark. Note, however, that there is a difference between going private and going dark. When a firm goes private it becomes fully private whereas stocks of a firm going dark can still be traded in over-the-counter market. Another advantage of using European data is that firms are more likely to delist as part of restructuring in the US.

liquidation we estimate that 3577 firms or roughly 28.4% of the population of listed European firms ceased to be quoted over the period 1995-2005.

In this paper, we examine delistings in Europe during this period and to what extent they can be attributed to regulation, industry effects and firm specific factors. Taking into consideration that governance regulation may not be exogenous and stable over time (Rajan and Zingales, 2003, Pagano and Volpin 2001, 2005, Perotti and von Thadden, 2005, Roe, 2006) we also provide instrumental variable estimates of determinants and effects of corporate governance regulation. Using multinomial logistic regressions, we find that investor protection and corporate governance quality reduce the likelihood of going private, bankrupt or liquidated, but increase the likelihood of exit by merger or acquisition (M&A). However, adoption of corporate governance codes and changes in the level of corporate governance indices increase the propensity to go private. Moreover the results are sensitive to estimation technique. When taking into consideration that corporate governance quality may be endogenously determined we find that the results are highly sensitive to model specification. However, our best instrumental variable estimates indicate that corporate governance indices have a positive effect on the frequency of M&A and a negative effect on going private frequencies.

Mergers and acquisitions are essential features of corporate governance in countries with well-developed stock markets. A strong market for corporate control may be a competitive advantage for these countries so M&A can to some extent be regarded as a sign of vitality (Pagano and Volpin, 2005a). Even a high number of bankruptcies can be a positive indicator, i.e. a sign of entrepreneurship or intense competition. So delistings as such do not constitute a problem, although for a stock market to remain strong, these delistings must be balanced by IPOs.

In contrast, going private can be regarded as a sign that the buyers find it more valuable to operate the company as a private entity, i.e. without disclosure, investor meetings, corporate governance regulations and other listing costs, as well as avoiding the costs of separating ownership and control. The buyers may be outsiders, e.g. private equity funds, or insiders (incumbent managers or majority owners) who find it easier to manage their company without minority investors. In either case, companies vote with their feet when going private and voluntarily forego the advantages of being listed. While these transactions may be motivated by other firm specific and macroeconomic factors (which need to be controlled for) we therefore pay special attention to them. We note, however, that higher fixed costs of listing also make it more attractive for companies to exit by M&A and may even increase bankruptcy rates.

2. Theory

Delistings from a stock exchange can take place in different ways. A company may be acquired 100% by another company or merged with it. It may be acquired 100% by new owners (e.g. a private equity fund) and delisted. It may go bankrupt or be liquidated by the incumbent owners. In rare cases it may even be involuntarily delisted by the stock exchange because of failure to comply with the listing standards. These types of delistings are to some extent determined by different causal mechanisms, but there are also some common drivers. For example, as mentioned, higher listing costs ceteris paribus provide an incentive for firms to escape these costs by merger,

acquisition or by going private. Moreover, inefficient firms may be more likely to be delisted, either because they go bankrupt, or because they form a more natural target for restructuring by a private equity fund, or because they are cheaper and therefore more affordable acquisition targets for other firms.

Here, we first discuss the possible impact of political determinants of delistings, particularly variation in the protection of minority investors. We then review firm specific determinants of delisting by type – i.e. going private, merger/acquisition, and bankruptcy/liquidation.

Political determinants of delistings

Until recently, research in international corporate governance emphasized that national corporate governance systems are stable and historically determined by legal origin (La Porta et al., 1998), cultural and ideological differences between countries (Roe, 2003) or demography (Alesina and Glaeser, 2004). This would seem to imply a non-significant or weak relationship between investor protection and delisting frequencies because the rules have not changed much since the company went public. Countries with better investor may have a higher absolute number of IPOs or delistings, but delisting frequencies should not be affected. We believe business-as-usual to be a good first cut characterization of European company law over the period 1995-2005, but we also note that some countries (Eastern Europe, Italy) experienced dramatic changes, and that certain types of regulation (codes, securities law, disclosure, accounting standards) changed significantly not least because of EU initiatives.

Moreover, structural differences in corporate governance may be revealed when they are exposed to exogenous shocks. In retrospect, the most significant change over the period is probably the surprising growth of the European integration. For example, the Euro, EU enlargement and a series of EU directives have brought about a significant increase in the internationalization of European stock markets over the period (e.g. Stultz, 2005). This led to increasing competition to attract international investors, which manifested itself for example in a rapid spread of corporate governance codes.

Secondly, whether corporate governance policies do change over time (Roe, 2006) or whether they are exposed by external shocks, they may have both positive and negative effects on stock market size (Rajan and Zingales, 2003). Well-intended regulation by benevolent policymakers may increase investor protection, lower discount rates, raise stock prices and market values and thereby make it more attractive to list or stay listed and less attractive to delist. But regulation may also impair stock market development (Rajan and Zingales, 2003), which recent research has tried to explain by interest group politics and the way they are shaped by constitutions (Pagano and Volpin 2001, 2005, Perotti and von Thadden, 2005). Interest group politics will only rarely lead to socially optimal regulation.

The political economy view of governance invites questions concerning the effects of corporate governance regulation across shareholder and stakeholder groups. In particular, corporate governance regulation arguably influences the balance of power between minority shareholders and controlling owners. Strong protection of minority investors may reduce the control premia and private benefits of dominant owners. We hypothesize that this will lead to different effects on M&A and going private decisions.

The propensity to engage in M&A is likely to increase with better minority investor protection, since the private benefits of dominants owners will be lower, and since minority investors will be willing to pay a higher price for the same reason (La Porta et al., 2000). Moreover, increased fixed costs of governance make it more attractive for listed companies to merge. Following Pagano and Volpin (2005a) we therefore expect a positive effect of high governance standards on delisting by mergers and acquisitions.

With regard to going private we distinguish between two different hypotheses. According to **the efficiency hypothesis** new regulation is enacted to improve the functioning of stock markets and is therefore likely to have a positive effect on company performance and stock prices, which will strengthen the incentives to list and remain listed. On the contrary, according to the **overregulation hypothesis**, regulation is a result of rent seeking by powerful economic constituencies, which seek to further their own interests, for example in the last decade institutional investors and their service providers (investment banks, auditing firms). If the costs of new regulation to protect minority investors exceed the benefits in terms of lower costs of capital, companies will tend to go private, for example because incumbent majority shareholders buy out minority investors or because private equity funds will find it profitable to bid for companies with dispersed ownership.

Finally, bankruptcy/liquidation is arguably less likely in countries with high corporate governance standards where well-performing firms are less likely to be capital- and cash-rationed, while bad performance is presumably more likely to be detected and corrected before the firm fails. In particular, higher transparency should make it easier for banks and other lenders to avoid bad loans. We recognize that the absolute number of bankruptcies may well be higher in countries with higher investor protection, but our hypothesis concerns frequencies.

Going private

Several firm specific factors are believed to influence the propensity to go private (for a survey see Renneboog and Simons, 2005).

Jensen (1986, 1989) proposed that going private transactions (e.g. leverage) can be regarded as an efficient response to agency problems in publicly listed companies. For example, private equity funds can target companies which – for whatever reason – deviate substantially from shareholder value maximization. This type of transaction could be directed at companies with weak owners (**low ownership concentration**) that suffer from owner-manager agency problems which going private transactions address by a "reunification of ownership and control" (Renneboog and Simons, 2005). For example, companies with high **equity to assets** ratios could benefit from financial leverage. Inefficiency – and scope for value creation by restructuring - could be found among companies that have many **employees** or low rates of **asset turnover** compared to industry benchmarks. Finally, going private may be a particularly apt solution to agency problems in companies with substantial **free cash flow** (Jensen, 1986) which is not paid out as **dividends**. Jensen also emphasized that industries with stable free cash flows are particularly suited for financial leverage.

However, not all going private transactions involve leveraged buy-outs and private equity funds do not always target companies with dispersed ownership. We conjecture that the opposite may also

apply: private equity may occasionally add value in companies with **high ownership concentration and/or a weak equity base** which may be capital-rationed or overly risk averse. Moreover, controlling owners (e.g. founding families) may take companies private because they are disappointed by high listing costs, low liquidity and undervaluation. This is particularly relevant if the founding families have a strong preference for control, for example private benefits which do not all come at the expense of minority shareholders.

Moreover, according to what Renneboog and Simons (2005) refer to as the wealth transfer hypothesis the gains from going private transactions arise from a zero sum game with incumbent stakeholders whose wealth is being expropriated (e.g. Shleifer and Summers 1988). This could mean that companies with high debt/equity ratios are more likely to go private because a substantial part of the cost is paid by increasing risk among incumbent debtholders (e.g. Marais, Schipper and Smith, 1989, for the case of bondholders). The incumbent shareholders may also be expropriated by the incumbent management (Lowenstein, 1985, Harlow and Howe, 1993) or controlling owners: Low **dividends** and low **reported earnings per share** could signal that managers or controlling owners try to depress prices prior to delisting. **Taxation benefits** can be a cause of delistings (Kaplan, 1989) if buyouts involve substituting debt for equity which many private equity funds presumably do. The value of the tax shield should be a function of tax and interest rates, and changes in the tax shield would be expected to influence the decision to delist.

Finally, going private can be influenced by stock prices (e.g. under/overvaluation of a company's shares relative to fundamentals). High stock prices relative to fundamentals or prospects mean that it is relatively less attractive to take over a company. According to the undervaluation hypothesis high stock prices and by implication high firm value (q) should therefore be associated with a lower propensity to go private (Palepu, 1986). We also note that correctly highly valued companies have better growth prospects and may therefore find it profitable to remain listed to finance further expansion. Moreover, we conjecture that **market timing** – e.g. perceived high or low stock prices in general - seems to be an element in the decision to delist similarly to what Baker and Wurgler (2002) and others found for the IPO decision. To potential buyers taking a company private now seems more attractive if stock prices are low relative to what they may be in the future.

M&A

The extensive literature on M&A identifies several determinants of delistings by acquisition or merger (Dietrich and Sorensen, 1984, Palepu, 1986, Cudd and Duggal, 2000). **Firm size** could have a negative effect on the likelihood of becoming a target for merger or acquisition, if it is easier to finance small transactions and if acquisition costs are smaller for small firms (Dietrich and Sorensen, 1984). However, fixed transaction costs of acquisition imply that unit costs are lower when large firms are acquired. In fact the merger activities in the 1980s compared to those of other periods were mainly characterized by the large size of targets (Barnes, 2000). **Managerial inefficiency** could show up in bad company performance making the firm a more likely target for acquisition because of liquidity problems or dissatisfaction among the incumbent owners (Palepu, 1986). The new owner could replace inefficient management and increase earnings in the long run. If agency problems – e.g. growth maximization - are more severe in large firms (Nuttal, 1999), this would make it more attractive to take over large firms, particularly those with agency problems because of **low ownership concentration**. **Financial Leverage** is important according to the

failing firms' hypothesis which regards merger or acquisition as a civilized alternative to bankruptcy (Dewey, 1961). Leverage (loss of equity dues to past bad performance) may also signal inefficient management. Nuttal (1999) finds that that avoiding bankruptcy or financial distress is an important motive to sell. **Industry shocks** (like deregulation or new technology) can necessitate horizontal mergers to restructure an industry. Andrade, Mitchell and Stafford (2001) and Mitchell and Mulherin (1996) find that merger activity in 1990s in the U.S. clustered by industry. **Undervaluation** (low Market-to-Book or Price-Earnings ratio) implies that targets are less expensive and so more attractive to buy (Dietrich and Sorensen, 1984, Palepu, 1986, Cudd and Duggal, 2000).

Bankruptcy and liquidation

Because they influence delisting frequencies relatively little we group bankruptcy and liquidation in one category although they are quite distinct. Liquidation – dissolution – of a company is often an orderly process in which creditors do not suffer losses, while bankruptcy involves failure. Insolvency implies that a company cannot repay its debt due to a lack of liquidity (Altman, 1968, 1993, Brealey and Myers, 2004). This may or may not ultimately lead to bankruptcy. Accounting ratios for profitability, liquidity and solvency have been proposed as useful measures for predicting whether firms are likely to default or go bankrupt (Altman, 1993): Net working capital to total assets (liquidity), equity to total liabilities (solvency) and asset turnover, i.e. sales to assets, (to measure efficiency of management). Like acquisition by a private equity fund or another firm bankruptcies may also be the result of poorly managed companies.

3. The data

Our dataset consists of all listed European companies over the period 1995-2005 downloaded from Thomson Financial, including both companies that are listed in any given year and companies that are not, but were listed at some point during the period. We do not have full coverage, for example we miss data from countries like Iceland, Switzerland, Russia and other members of the former Soviet Union, but we do have a fairly comprehensive sample. We have yearly observations of the standard accounting and market variables, for example company size in terms of assets or turnover, market value, firm value (q), return on assets (ROA), debt, cash flow, sales growth, ownership concentration, main industry, country of origin etc. as well as the nature of the delisting (merger, acquisition, bankruptcy etc.). We correct for extreme observations by truncation (e.g. ROA < -100% is registered as ROA=-100%). By country of incorporation we link to country information on tax rates[5] and World Bank corporate governance ratings, for which we have time series information. We can also link to structural variables like legal origin, investor protection (anti-director rights), self-dealing indices etc.

Based on the information from Thomson Financial we can distinguish between five causes of delisting - merger, acquisition, bankruptcy, liquidation or going private. We classify the cause of delisting as merger if a firm is delisted because of merger with another firm. A firm is denoted as acquired if it is taken over by another firm. Going private firms are categorized as such if they are taken over and delisted by a non-firm, for instance an individual or a private equity fund. Finally,

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[5] Tax rates are collected from OECD.

we have direct information on whether a firm delists due to a bankruptcy or liquidation. A potential problem with this classification is overlap between groups due to misspecifications. For example it may be difficult to distinguish between an acquisition and a going private transaction in private equity buyouts where private equity funds set up a holding company (controlled by the fund) which buys the target firm. We checked for this and other measurement problems in the Danish data (where we have good secondary information) and found only two misspecifications where going private firms were grouped as acquired. In the present study we combine the 5 different cause-types of delisting into 3 groups: merger and acquisition, going private and bankruptcy and liquidation.

Every second year since 1996 the World Bank has published a set of six different country level governance indicators for 209 countries; see Kaufman et al. (2005). The six governance indicators are: i) Voice and accountability, ii) Political instability and violence, iii) Government effectiveness, iv) Regulatory quality, v) Rule of law, and vi) Control of corruption. The governance indicators are constructed through 37 different data sources with more than 300 different underlying variables. More specifically, the main data sources covers information gathered from surveys of firms and individuals perception of governance, as well as assessments by commercial risk rating agencies. Basically, the advantage of this approach is that the World Bank governance indicators are more informative about unobserved governance characteristics than other comparable data sources. Moreover, these estimates are to our knowledge the only country-level governance indicators that vary over time. The governance indicators are measured in units ranging from -2.5 to 2.5, where higher values correspond to better governance. Since our focus is Europe we decide only to use the governance indicators which we find most important for our sample of (developed) countries. Thus we define a new World Bank governance indicator which is the sum of three indicators: voice and accountability, regulatory quality, and rule of law, i.e. our measure ranges from -7.5 to 7.5. We assume unchanged index values for years with no index values reported (1997, 1999, 2001, 2003).

Since we would like to analyze changes in the population and their determinants we loose one year (1995). To ensure completeness of the dataset we also drop 2005 for the sample to avoid registering a delisted company as listed because it reports late in the year. The observation period 1996-2004 both contains bull and bear years, e.g. the stock market bubble of the 1990s, the decline 2000-2003 and the partial recovery 2004-2005. In terms of corporate governance the period is characterized by rapid growth in government regulation, EU directives, new national laws and best practices codes, most of which started in the UK and spread subsequently to the rest of Europe. It can perhaps be characterized as the heyday of corporate governance and provides an excellent period for studying the effects of these new initiatives on the incentives to list and delist.

The first major finding in this data set is the magnitude of the changes. We register a total of 12612 companies listed at European exchanges during the period, of which an astounding 3577 or 28.4 percent have been delisted. Obviously firm dynamics are very important, and the studies, which abstract from them by balanced panels or cross sections, miss an important part of the action.

Figure 1 shows the number of listed firms, delistings and IPOs over the period 1996-2004.

// Figure 1//

We observe a steady growth in the number of listed firms up to the year 2001, reflecting more listings than IPOs, a drop in 2002-2003 because of fewer newlists and more delistings with a pick up in numbers in 2004. The trend follows market trends (average firm value) with a lag: The number of listed firms increases when stock prices (and firm value) increase and decrease when then stock prices decrease.

Figure 2 shows the incidence of delistings by type and industry over the 1996-2004 period as a percentage of the total number listed firms within the industry over the period.

// Figure 2 //

M&A frequencies vary from 5% to 25% with particularly high rates (> 20%) in industries like food, wood products, paper, publishing, rubber and plastic, transportation, energy and retailing, which is consistent with industrial restructuring as an important motive. Going private frequencies vary between 7% and 24% with particularly high rates in textiles and wood products. We see some covariation across industries (e.g. a relatively high going private frequency in wood products, paper, rubber and plastic, and transportation), which is consistent with some common drivers (e.g. restructuring potential), but the picture is not uniform. For example there are relatively few going private transactions in the publishing and energy industries.

Figure 3 shows the incidence of delistings by countries.

// Figure 3//

We observe a high incidence of M&A in Finland, France, Ireland, UK, Italy, the Netherlands and Norway, 3 of which (UK, Finland, the Netherlands) are on the top 5 in Europe measured by the World Bank Governance Index (see table 4). In contrast, we observe particularly high going private frequencies in Austria, Spain and Portugal, which tend to be mid-level in terms of corporate governance rating.

Finally, figure 4 tracks the evolution of delistings by type over time.

/ Figure 4 //

We note a wave of M&A during the bull market up to 2000, after which the number of transactions dropped in bear market, but picked up again in 2003. In contrast, there is a strong increase in the frequency of going private transactions over time, although with a drop in 2004. The frequency of bankruptcies and liquidations peaked when the bull market burst in 2000-2001, but stayed at a low level during the whole period.

Tables 1 and 2 show descriptive statistics by type of delisting and a correlation matrix.

// Table 1. Descriptive Statistics//

We observe that going private transactions tend to be preceded by significantly higher rates of ownership concentration (56%) against 44% average for firms that continue as listed. This is consistent with a build up of insider ownership prior to the transaction, but not with addressing

agency problems of dispersed ownership as a dominant motive for going private. Bankruptcy candidates tend to have lower ownership concentration, which is consistent with less risk aversion for more dispersed ownership.

In terms of size (sales or assets), M&A targets are typically larger than firms that continue to be listed which is a surprise since size has historically been regarded as a takeover deterrent. In contrast firms that go private are typically smaller than the M&A candidates. And the subsequently bankrupted or liquidated firms are smaller still.

Sales per employee are lower among the firms that remain listed than among which are subsequently merged/acquired or go private, but higher than companies to later go into bankruptcy/liquidation. This does not support the hypothesis that exiting firms tend to be less productive.

In terms of capital structure, firms going private or targeted for M&A have slightly lower equity/assets ratios than firms that continue as listed. This is more consistent with expropriation of existing debtors than with efficiency gains of post transaction leveraging. However, average equity rates for firms that subsequently enter into M&A are quite high. In contrast, firms that subsequently go into liquidation or bankruptcy tend to have lower equity rates as might be expected.

Growth rates (sales growth) tend to be highest among the firms which continue to be listed, slightly lower for M&A firms and lowest for firms that go private. It seems understandable that high growth firms would want to remain listed to finance their expansion more easily. In contrast low-growth firms will benefit less from being listed. Within the bankruptcy and liquidation groups there is a big difference between bankrupted firms which have very high prior growth rates and liquidated firms which have zero growth rates, but the number of observations is small for both groups.

Accounting profitability tends to be higher among merged and acquired firms than among firms that remain listed, but lower for firms going private. In other worlds, the failing firms hypothesis is more convincing for private equity transactions than for mergers and acquisitions. Surprisingly, firms going private tend to have negative ROA while negative ROA is expected for bankrupted and liquidated firms. Apparently firms that go private tend to be low performers.

Firm value, q,[6] is higher for firms that remain listed, which makes sense, since they are more expensive to buy or have better growth prospects, but the differences between delisted firms are small.

Average firm value for other firms does not vary much between exiting firms and firms that remain listed or by type of delisting. But the average firm value is slightly lower for going private firms compared to M&A firms.

Cash flow to sales is high for listed and acquired firms, somewhat lower for firms going private and negative for bankrupted and liquidated firms. Again firms going private tend to be low performers, while acquisition targets tend to be high performers.

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[6] Firm value, q, is defined as the sum of market value and debt to total assets.

Being newly listed (within the period 1996-2004) makes the firm a less likely M&A target, but a more likely target for going private or into bankruptcy/liquidation.

There seems to be little systematic difference in the World Bank governance index or changes in it across ownership types.

Summing up, companies being delisted by merger or acquisition tend to be attractive in the sense that they tend to be large and to have large cash flows, accounting returns and growth rates compared to firms that remain listed. In contrast, the firms going private or into bankruptcy/liquidation are relatively unattractive measured on the same variables. Dewey's classical failing firms hypothesis therefore appears to be supported for going private transactions.

For further analysis, table 2 presents a correlation matrix.

// Table 2. Correlation matrix //

For overall delistings we observe many significant, but small correlations with our explanatory variables (near zero). Delisted firms are slightly larger, have more concentrated ownership and higher sales per employee, but to do worse in terms solidity (equity share), sales growth, return on assets, cash flow and firm value.

The correlation analysis tends to confirm the impression that M&A targets are attractive, while firms going private are poor performers. Firms that are subsequently acquired or merged tend to be larger, have more concentrated ownership, be more profitable, be lower valued, have higher cash flows, and to be listed in countries with better corporate governance, but to grow slower than other firms. Firms that later go private tend to be smaller, have more concentrated ownership and to underperform in terms of sales growth, firm value, cash flows and accounting profitability.

The correlations between explanatory variables tend to be low so multicollinearity is less of a problem. However, cash flow to sales is highly correlated with return on assets so it may be difficult to disentangle the effects of these two variables.

4. Results

Table 3 shows our base case model. We estimate determinants of delisting using logistic regression and determinants of delisting by type using multinomial logistic regression taking into consideration clustering of residuals by firm. We control for fixed industry and country effects[7].

// Table 3. Multinomial regressions //

We first review the impact of our political variables and then comment on the effects of firm specific variables.

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[7] Our results are robust if we drop the Eastern European countries in the sample.

Political determinants

In addition to the restricted World Bank governance index we include code adoption[8] and changes in the index as policy measures. We find that the World Bank index has a positive effect on the probability of exit by M&A, but a negative effect on both going private and bankruptcy/liquidation. In the politics of governance discussion, these results are consistent with the efficient regulation hypothesis in the sense that higher investor protection leads to higher frequencies of M&A and lower frequencies of going private. However we also find some evidence consistent with the overregulation hypothesis – for example increases in the corporate governance index appear to have a negative effect on M&A and a positive effect on going private. Moreover, the adoption of a corporate governance code appears to lead to more going private transactions.

These findings are obviously far from conclusive. For example there are many dimensions of corporate governance policy and it is unclear whether they are all adequately captured by our policy variables. Sensitivity checks using the anti-self dealing index or the revised anti-director index (Djankov et al., 2005) as policy variables found positive effects on M&A, negative effects on Bankruptcy/Liquidation and insignificant effects on going private. Moreover, theoretically corporate governance policy may be an endogenous variable which needs to be taken into account when the estimating its effects. We address these issues later in the paper after reviewing the impact of firm specific effects.

M&A

We find that the probability of delisting by merger or acquisition decreases with firm value (q), firm growth (sales), and being a recently listed firm. It increases with firm size, ownership concentration, sales per employee, return on assets, market price level (average q) and the World Bank indicator of corporate governance quality. In contrast we find insignificant effects of cash flow to sales and equity share (% of assets).

High firm value (q) indicates that buying the company is relatively more expensive, or that it has good growth prospects and therefore can benefit more from being listed in terms of new financing so this is what we would expect. High growth indicates needs for external finance which makes it more attractive to stay listed, so a negative effect is in line with expectations. A smaller takeover frequency among recently listed companies may reflect a selection bias: owners of the same firms recently have chosen to list them rather than selling to other companies. The lower takeover frequency in this group may therefore be attributable to a number of unobserved factors like the need for external capital over and above current sales growth, possible synergies, management succession issues etc. which are still to some extent valid.

In contrast, positive effects of ROA and sales per employee indicate that profitable and relatively efficient firms are more likely to be merged or acquired. This is inconsistent with the failing firms hypothesis. The positive effects of size and ownership concentration are also unexpected. It may be that smaller firms have more takeover barriers, or there may be fixed acquisition costs which make

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[8] We define our code adoption measured as the number of corporate governance codes and code revisions adopted within a country using information from ECGI. This variable ranges from 0 to 7.

it relatively more cost efficient to take over large companies. While ownership concentration may in many cases prevent takeovers, firms with high levels of ownership concentration may simply be easier to acquire in friendly acquisitions which are known to account for the majority of M&A transactions.

The insignificant effect of cash flow seems inconsistent with the free cash flow hypothesis, but may in part be attributable to multicollinearity between cash flow and ROA. The insignificant effect of equity share may indicate that a weak equity base is not a dominant reason for putting a company up for sales or accepting a takeover bid.

Bankruptcy/liquidation

Relatively few companies exit by bankruptcy or liquidation and the two groups are not homogenous which implies that it may be difficult to find significant results, but we choose to estimate only one set of determinants for them given their limited numerical significance. Nevertheless, the results conform well to our a priori expectations. We find that bankrupted and liquidated companies are likely to have less concentrated ownership (particularly for the bankruptcy sub sample), which is consistent with a higher degree of risk aversion with ownership concentration. Furthermore, they tend to be less profitable (economically successful) and to have less equity, e.g. more debt. Finally – as expected - higher corporate governance standards are found to reduce the probability of bankruptcy and liquidation.

Going Private

The probability of going private is found to decrease with firm value, firm size, equity share, sales growth, market price level (average q), accounting profitability and corporate governance standards, but to increase with ownership concentration, and sales per employee.

As before, we interpret the negative effect of firm value as a price effect in accordance with expectations or as an indication that good growth prospects makes it more advantageous to remain listed. We would ceteris paribus expect high-growth firms to need more external finance and therefore to benefit more from remaining listed. The negative size effect is interesting compared to a positive effect on M&A, but large firms probably benefit more from listing and the ability to diversify risk.

A positive effect of ownership concentration implies that overcoming agency problems related to the separation of ownership and control is not a dominant motive for going private, but it may very well reflect that incumbent ownership with large ownership stakes choose to take their company private to preserve private benefits of control and to avoid the transaction costs of being listed. An alternative explanation is that it is easier to negotiate a take over of a company with concentrated ownership. Often the offer will come from one of the large owners, for example from families who regret having had their companies listed. It may also be that concentrated ownership implies risk aversion or management idiosyncrasies which can be overcome by private equity funds.

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The negative effect of accounting profitability provides support for the failing firm's hypothesis in the going private case. Private equity funds and other private owners may create value by restructuring inefficient companies after taking them private.

A negative effect of equity share indicates that debt-for-equity substitution is not a strong motive for going private. In contrast, the estimate is consistent with the debtholder expropriation hypothesis, i.e. that part of the gains of going private and increasing leverage are attributable to imposing higher risk on the old debtholders.

Stock market climate (average q in the country in the given year) has a significant negative impact on going private transactions. Apparently, buyers prefer not to take companies private when stock prices (and average values) are high. Compared to M&A by other companies going private transactions therefore appear to be counter-cyclical to market sentiments.

Cash flow and being a recently listed firm appear not to matter. The standard assumption that private equity funds target firms with high cash flows is therefore not supported.

Overall delisting determinants

Overall, we find that delisting is more likely for firms with concentrated ownership, large size, and larger sales per employee, but less likely for firms with a strong equity base, high growth, high accounting profitability, and for high market valuation. Moreover, corporate governance standards seem not to matter in aggregate, but as we have seen this reflect underlying differences in the determinants of M&A and going private transactions. Altogether, it would appear that delisted firms are on average low performers compared to firms that choose to remain listed.

Alternative policy measures

To further examine the political determinants of delisting we now consider alternative measures of corporate governance measures as explanatory variables. An overview of these measures by country along with delisting frequencies is given in table 4.

 // Table 4 //

The restricted World Bank corporate governance index (previously included in table 3) is our preferred measure because it varies over time and thus allows for changes in national corporate governance policies as well as for country differences. In column 1 we focus on the country differences by comparing means. We observe that the countries with the best corporate governance standards are Finland, the Netherlands, Denmark, and the UK (in that order) while companies with Eastern European countries (Czech Republic, Slovenia, Poland, Slovakia) have the lowest scores. Yearly M&A frequencies in the top countries range are slightly above 2% and somewhat lower (0-1%) among the lower ranking countries. Yearly going private frequencies range from 1-2% in the top group, but somewhat higher at the bottom (0-6%) of the scale. From this we would get the

impression (as also reported in table 3) that high governance standards tend to increase the probability of M&A, but to decrease the probability of going private.

Table 5 provides correlation coefficients with observations by country and year.

// Table 5 //

We observe that the overall delisting frequency is slightly negatively (insignificantly) correlated with the restricted World Bank governance index, which reflects the net effect of a positive correlation with M&A and a negative correlation with going private.

In contrast, code adoption is positively correlated with the delisting frequency for M&A and going private. It is positively correlated with the World Bank governance index, but not strongly.

The delisting frequency is strongly positively correlated with time; in particular there is a high correlation with the frequency of going private transactions. If time is regarded as a proxy for increasing corporate governance regulation, this could indicate support for the overregulation hypothesis. Since code adoption is strongly correlated with time, it may be difficult to separate it from the time trend.

The classical La Porta et al. investor protection indices as well as the subsequently developed anti-director index are highly internally correlated and all positively correlated with the delisting frequency. This is driven by a large, positive correlation with M&A activity (the correlations with going private and bankruptcy and liquidation are small). It is interesting to note that these measures are highly positively correlated with the World Bank index, but somewhat less strongly correlated with code adoption.

Altogether, delisting frequencies are positively correlated with measures of investor protection, primarily because of a strong association with M&A activity. This correlation is sufficiently strong to cause a negative relation between our measures and growth in the number of listed firms. While delistings per se are not a problem it would be problematic and dysfunctional if regulation pressure (however well-intended) leads to a depopulation of stock exchanges. We also note that all measures of investor protection are highly correlated with the available measures of regulatory costs.

In table 5 we also introduce a few variables which could be helpful in explaining differences in corporate governance policy (see below). For example, proportionality of the voting system has been suggested as an explanation of low investor protection (Pagano and Volpin, 2005b) and we do observe that this variable is negatively correlated with the Djankov et al. anti-director and anti self-dealing indices as well as with code adoption. However, it is not significantly correlated with the World Bank index, which remains our preferred corporate governance policy measure.

Moreover, openness of the economy (exports plus imports relative to GDP) has been argued to be positively correlated with corporate governance quality, because international competition makes it more important for companies to lower their costs of capital (Rajan and Zingales, 2003). And we do in fact observe that openness of the economy is positively correlated with the World Bank Corporate Governance index. Paradoxically, openness is also negatively correlated with proportionality of the voting system.

Finally, unionization could be an important determinant of political pressure to protect labor (Roe, 2003), perhaps at the costs of minority investors. We observe that unionization is in fact strongly positively correlated with the World Bank Governance Index, but strongly negatively correlated with the anti-director right indices proposed by Djankov et al. (2005). Interestingly, it is also positively correlated with proportionality of the voting system (which should also point in the direction of less investor protection according to Pagano and Volpin) and with openness of the economy (which should point in the other direction).

Endogenous politics

As mentioned, the politics of governance literature has emphasized that corporate governance policy may not be exogenously given. This implies that statistical estimates of the effects of these policies need to take into consideration how the policies are determined. In this section we attempt to take a step in this direction.

As for determinants of corporate governance policies, we identify 4 important variables.

1. Path dependency.
2. Openness of the economy
3. Proportionality
4. Unionization levels.

1. Path dependency. The importance of history in shaping corporate governance has been emphasized by Roe (1994) and Bebchuck and Roe (1999). Rent seeking and transaction costs can make corporate governance systems quite stable over time. We operationalize path dependency by modeling corporate governance policy as partly determined by historical corporate governance policies.

2. Openness of the economy – e.g. measured by exports plus imports relative to GDP - was suggested by Rajan and Zingales (2003) as a constraint on the political bargaining game between investors and employees. Evidently, openness is also to some extent shaped by policy (trade policy), but we would argue that there is also an exogenous element in openness related to the size of the economy: by necessity small countries must be more open (since they will find it more difficult to be self-sufficient with a broad range of products). Openness in turn implies stronger international competition and a stronger pressure to minimize the costs of capital. This would indicate that small nations will be more open and have better protection of minority investors.

3. Proportionality of the voting system may also influence the political bargaining game between investors and employees (Pagano and Volpin, 2005b). The argument here is that proportional voting pushes political parties to cater more to the preferences of social groups with homogeneous preferences (e.g. employees), while politicians in non-proportional voting systems have to do more to please the pivotal district dominated by residual groups (e.g. rentiers), which are not ideologically committed.

4. Unionization can be regarded as a proxy for social democracy. Roe (2003) suggested that concentrated ownership emerges as a counterweight to organized labor in social democratic countries[9]. For example, strong unions may have a vested interest in takeover defenses, which protect firms and their employees against takeovers contrary to the best interests of minority investors.

In principle, it should be possible to obtain better estimates of the effects of corporate governance policy on delistings by including these variables, particularly to the extent that they can be regarded as econometric instruments which influence policy without a direct influence on delisting frequencies. In practice, however, our endogenous policy models tend to be quite sensitive to specification. For example, when using the same control variables as in table 3 aggregated to country averages, we find a weak positive effect of corporate governance quality on going private frequency. Here, we assume that corporate governance quality is endogenous and shaped by past values of the same variable (path dependency), proportionality of the voting system and openness of the economy (exports + imports /GDP). However, when we include an additional instrument (unionization), we find that the positive effect is now insignificant. It is tempting to regard this as a better estimate of the true effect, but we cannot rule out that unionization has a direct positive effect of delistings (for example because private firms with concentrated ownership find it easier to negotiate with strong unions).

If we remove two variables - the number of new listings and proportionality of the voting system - from this second model, we now estimate a significant (but weak) negative effect on going private transactions! In other words, we find the same effect as in the multinomial regression models that high corporate governance standards make it more attractive to remain listed. The rationale for including the number of newly listed companies is that there is greater uncertainty about the viability of newly listed companies (Fama, 2004). Delisting frequencies may therefore be artificially high in countries/time periods where there are many new listings (the dot.com bubble is a recent example). However, it is also possible that new listings are shaped by some of the same political factors as delistings (the attractiveness of being listed due e.g. to high corporate governance standards) and that controlling for attractiveness in this way will lead to an underestimate of the beneficial effects of corporate governance quality on delistings. In the same way, we could argue that a stronger tendency to pursue labor-friendly policies will have a direct effect on going private frequencies in many other ways than through a relatively lower emphasis on investor protection. For example privately held firms may find it easier to bargain and lay off employees because of more concentrated ownership and less disclosure. These advantages may be more valuable in countries with proportional voting and labor friendly policies.

Altogether, our econometric estimates are highly sensitive to model specification. The sensitivity of our estimates to model specification also raises the problem that further changes to the model – including the addition of omitted variables, of which there could be many – will again influence the results.

With this caveat tables 6 and 7 present our best estimates of the effect of various policy measures (the World Bank governance index, the revised anti-director index and the anti-self dealing index) treating the policy variables as endogenously determined. Quite few of the control variables from table 3 turn out to be significant when aggregated to country level which is not surprising.

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[9] Unionization data from Visser (2006).

Presumably it is the size, ownership structure, and profitability etc of the individual firm rather than those of other listed firms which drive delisting decisions. We drop control variables which are not significant when aggregated to the country level. The results for bankruptcy/liquidation were insignificant, possibly because of a limited number of observation or because the most relevant policy variable is bankruptcy law which we do not cover in this paper.

// Table 6 //

In table 6 model 1 we find that a higher World Bank Governance Index has a negative effect on the frequency of going private transaction when the index is instrumented by proportionality of the voting system, openness of the economy and unionization. This supports our previous finding that a higher quality of corporate governance increases the incentives to remain listed.

We control for country ROA average which turns out to have a significantly negative effect: there are fewer going private transactions when the average business is more profitable. This is in accordance with our previous findings that going private transactions tend to be directed at low performers. Moreover, we see more going private transactions in countries which had a high IPO frequency over the period. This could reflect higher uncertainty and information asymmetries for newly listed firms and possibly adverse selection problems (if some newly listed firms are lemons).

I models 2 and 3 we treat the anti self-dealing index and the revised anti-director index from Djankov et al. (2005) as endogenous with the same instruments and control variables. We find insignificant effects. This may reflect that these two indices are cross-sectional and do not take changes in company law into account and that they are less comprehensive than the World Bank index. It is also possible, of course, that stronger control of self-dealing and company directors increase transaction costs and reduce private benefits of control and thereby provide an incentive for delistings which counteracts the positive effects of better minority investor protection.

In models 4-6 we mix policy variables.

In model 4 we introduce code adoption as a control variable in equation 1. It turns out not to be significant which is understandable if the World Bank index is a more comprehensive measure which has already captured the effects from code adoption. If we introduce the anti-director rights or the anti self-dealing index in the same way they also turn out insignificant.

In model 5 we introduce the anti-director index and code adoption as control variables into equation 2 which estimates the (endogenous) effect of the anti self-dealing index. In the same way, in equation 6 we introduce the anti self dealing index and code adoption into equation 3 which models anti director rights as an endogenous policy variable. In both equations we find that the anti self-dealing index has a negative effect on going private transactions, while both code adoption and higher values of the anti-director index lead to more going private transactions. These combined estimates indicate that there are many dimensions of corporate governance policies and that the effects of individual policy measures depend on other policy variables. In principle, we should therefore estimate a multi-equation model with several endogenous policy variables to assess the effects of individual policy measures. However, the sensitivity of our results to model specification provides little reason for optimism concerning the prospects for identifying true policy effects in this way.

Overall, the results in table 6 indicate that general corporate governance policies (as measured by the World Bank index) lower the frequency of going private transactions. The effects of individual policy measures are more uncertain and may in some cases (code adoption, anti-director rights) lead to more delistings.

In table 7 we undertake the same exercise for M&A transactions.

// Table 7 //

Models 1 and 4 turned out to be insignificant using the Wald Chi-square test, and we therefore modified these models by including the lagged World Bank Governance index as an instrument. Moreover, the control variables are different from table 6 since the determinants of M&A differ from the determinants of going private transactions. We find more M&A in countries with larger average firm size – which could reflect both buyer and seller effects. In table 3 we found a positive size effect on targets, but large companies could also be more likely to buy other companies in the same country. Moreover higher firm value tends to have a positive effect on M&A frequencies. This could reflect that buyers tend to favor attractive companies with good growth prospects or that stock prices and firm value tends to rise prior to acquisition in anticipation of takeover premia. High average q could also indicate good economic results among prospective buyers which could stimulate their demand for acquisitions.

As for the policy effects, we note that all significant signs are positive which indicates that strong corporate governance policies – whether the anti-director index, the anti self-dealing index or the broader World Bank Governance index - tend to increase the frequency of M&A. This is of course in line with previous research (Pagano and Volpin, 2005a).

5. Discussion

Delistings are an important phenomenon. From 1995 to 2005 3577 firms or 28% of the population of listed European firms were delisted for one reason or another, primarily because of mergers and acquisitions, but increasingly also because of going private transactions. Along with IPOs delistings can be regarded as a measure of the attractiveness of being listed. For example, if new corporate governance regulation – e.g. investor protection or codes – increase bureaucracy and transaction costs without adding sufficient value to minority investors – it may be profitable to take companies private or to merge them to spread the fixed costs of governance over more units. This we would call the overregulation hypothesis. In contrast if the costs of corporate governance regulation are exceeded by increasing efficiency of listed companies, less expropriation of minority investors and greater transparency, companies and their owners will find it more attractive to remain listed. This we think of as the efficiency hypothesis.

Overall delisting frequencies are not correlated with our preferred measure of investor protection, the World Bank Governance index, but the probability of M&A is positively correlated with the index both at the firm and country level. In contrast, the probability of going private is negatively correlated with the World Bank Governance index both at the country and firm level. The positive association with M&A and the negative association with going private continue to hold after

controlling for relevant control variables in multinomial logistic regression. Thus, the basic statistics tend to support the efficiency hypothesis: investor protection improves the functioning of stock markets and therefore strengthens the market for corporate control and increases the incentive to remain listed.

Taking into consideration that investor protection may be an endogenous variable makes the relationship more ambiguous. Depending on model specification we can estimate positive, negative or insignificant effects of investor protection on the frequency of going private. It is not easy to identify proper economic instruments which influence investor protection without possibly also influencing the going private decision. Nevertheless our best estimates indicate that the World Bank Governance Index and the Djankov et al. (2005) self-dealing index have a negative effect on the frequency of going private transactions while all governance policy variables appear to have a positive effect on M&A.

However, there are indications that the negative effect of investor protection on going private transactions is not uniform. For example, the adoption of corporate governance codes - which is often motivated by investor protection – appears to have a positive effect on the probability of going private. Moreover, controlling for levels, increases in the World Bank governance index also seem to have a positive effect.

Overall, we believe that our findings are most consistent with the efficiency hypothesis. In Europe, in this period (1995-2005) higher investor protection improves the market for corporate control through more mergers and acquisitions while reducing the propensity to go private. However, we would not ignore the possibility that more regulation (e.g. stronger investor protection, more comprehensive codes) would lead to more delistings. It seems likely that increasing investor protection will at some point add more costs than benefits to companies and investors. Governments should therefore consider both costs and benefits of further regulation.

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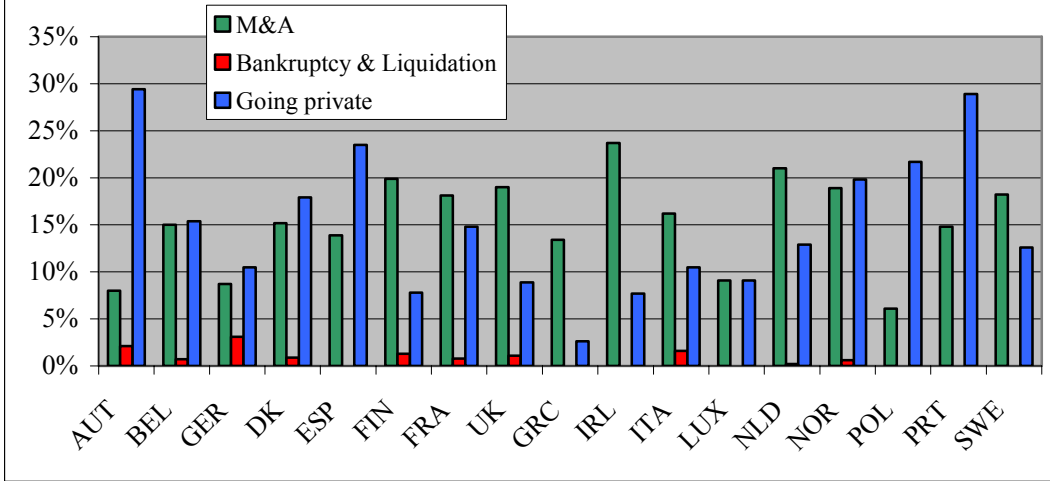
Figure 1: Listed firms, IPOs, Delistings, and Firm value (q), 1996-2004
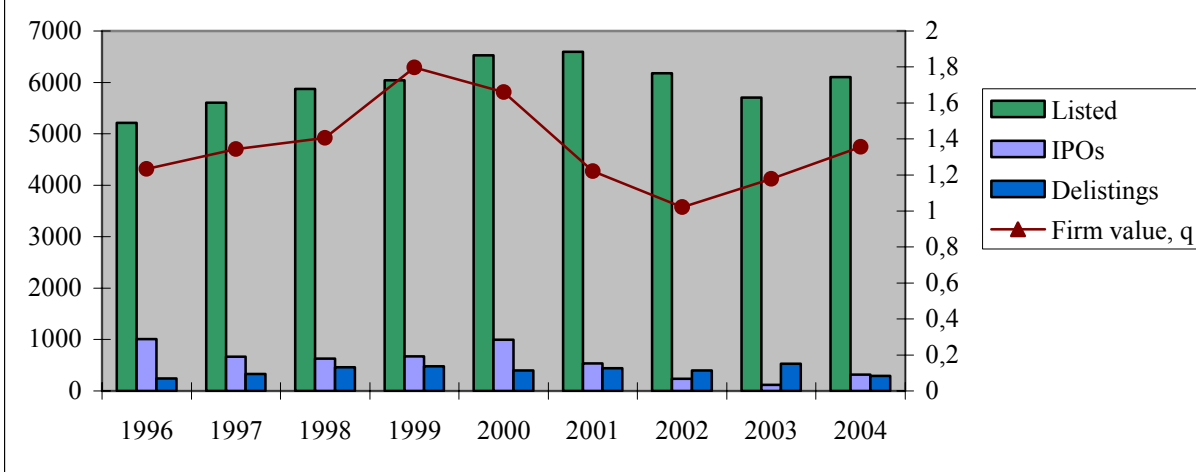
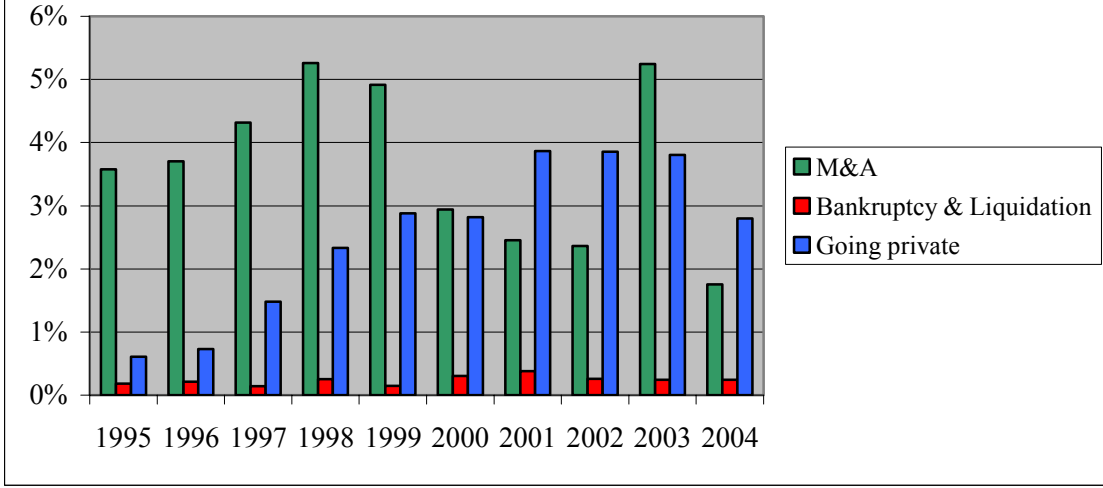**Figure 2: Delisting-frequency by type and industry**

Legend:
- M&A
- Bankruptcy & Liquidation
- Going private
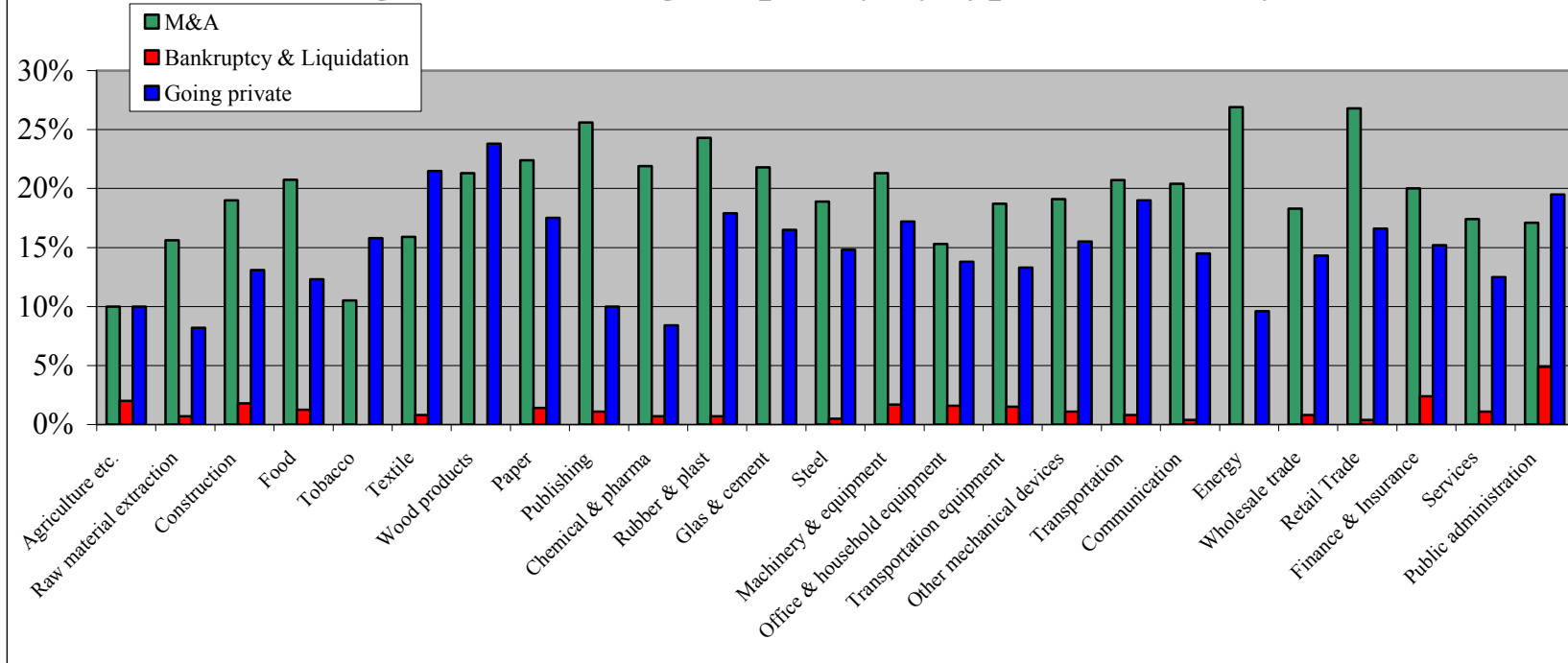
Figure 3: Delisting-frequencies by country

Legend:
- M&A
- Bankruptcy & Liquidation
- Going private

Figure 4: Delisting-frequency by type over time

Table 1
Descriptive statistics

	Overall average	Remaining Listed	M&A	Going private	Bankruptcy & Liquidation
Ownership concentration, %	44,9	44,3	46,1	55,8	39,9
Observations	40511	36446	1571	853	86
Std.deviation	28,139	27,525	29,119	30,514	26,547
Log of assets	5,153	5,114	5,698	4,553	4,229
Observations	64880	53477	1978	1324	125
Std.deviation	2,421	2,366	2,214	1,950	1,633
Sales per employees, per million dollars	0,519	0,491	0,690	1,062	0,186
Observations	54617	47683	1828	1098	80
Std.deviation	4,252	3,763	7,174	13,021	0,205
Equity to assets, %	39,2	40,6	38,6	30,1	27,5
Observations	61981	53437	1977	1324	125
Std.deviation	36,430	35,420	33,286	48,395	59,974
One-year growth in sales, %	12,7	13,3	8,7	5,9	7,4
Observations	56949	49814	1937	1271	123
Std.deviation	34,240	34,500	30,954	38,552	44,325
Return on assets, %	1,7	1,8	3,4	-4,1	-10,1
Observations	56690	49631	1935	1269	124
Std.deviation	19,766	19,806	15,673	24,274	26,389
Firm value, q	1,334	1,354	1,106	1,107	1,238
Observations	55320	50665	1961	1312	125
Std.deviation	1,498	1,526	1,083	1,276	1,773
Average (yearly) market firm value	1,343	1,340	1,408	1,271	1,304
Observations	65454	53798	1979	1326	125
Std.deviation	0,401	0,415	0,404	0,369	0,336
Cash flow to sales, %	7,105	7,195	8,807	0,917	-1,569
Observations	60380	52206	1939	1274	124
Std.deviation	30,900	30,987	25,930	37,883	47,739
New listings	0,370	0,414	0,309	0,544	0,552
Observations	65454	53798	1979	1326	125
Std.deviation	0,483	0,493	0,462	0,498	0,499
World Bank Governance index	4,498	4,477	4,643	4,416	4,545
Observations	59703	49490	1822	1299	117
Std.deviation	0,818	0,833	0,738	0,835	0,789
One-year change in World Bank Governance index	-0,044	-0,035	-0,046	-0,003	-0,018
Observations	52792	44173	1635	1261	106
Std.deviation	0,233	0,231	0,198	0,235	0,204
Code adoption	2,026	1,996	2,262	2,223	2,088
Observations	65454	53798	1979	1326	125
Std.deviation	1,856	1,835	1,811	1,868	1,884

Variable explanations: *Ownership concentration* is defined as the ratio between closelyheld shares and common shares traded. *Firm value* , q, is defined as market value plus debt to total assets. *The average (yearly) market firm value* is the yearly country average of all the firm-specific q's. *New listings* is a dummy variable which assigns a firm with the value one from the time of the IPO (within the period 1996-2004) and onwards. *The World Bank governance* variable is defined as the sum of three indicators: voice and accountability, regulatory quality, and rule of law. The *code adoption* is measured as the number of corporate governance initiatives within a country using information from ECGI.

Table 2
Correlation matrix

	Delisting-dummy	M&A-dummy	Going private-dummy	Bankruptcy & Liquidation-dummy	Ownership concentration	Log of assets	Sales per employees	Equity to assets	Sales growth	Return on assets	Firm value, q	Average (yearly) market firm value	Cash flow to sales	Number of new listings	World Bank Governance index	One-year change in World Bank Governance index	Code adoption
Delisting-dummy	1																
M&A-dummy	0,7368*	1															
Going private-dummy	0,6239*	-0,0298*	1														
Bankruptcy & Liquidation-dummy	0,1876*	-0,0090*	-0,0076	1													
Ownership concentration	0,0438*	0,0116*	0,0604*	-0,0079	1												
Log of assets	0,0094*	0,0472*	-0,0371*	-0,0176*	-0,0660*	1											
Sales per employees	0,0175*	0,0080	0,0189*	-0,0030	0,0299*	0,0459*	1										
Equity to assets	-0,0384*	-0,0093*	-0,0441*	-0,0168*	-0,1021*	-0,1443*	0,0049	1									
Sales growth	-0,0399*	-0,0241*	-0,0314*	-0,0076	-0,0198*	-0,0326*	0,0138*	0,0484*	1								
Return on assets	-0,0217*	0,0166*	-0,0457*	-0,0287*	0,0184*	0,2012*	0,0338*	0,1081*	0,0691*	1							
Firm value, q	-0,0392*	-0,0303*	-0,0241*	-0,0033	-0,0396*	-0,2647*	-0,0151*	0,0605*	0,1689*	-0,0751*	1						
Average (yearly) market firm value	0,0032	0,0291*	-0,0281*	-0,0031	-0,2181*	-0,1057*	0,0005	0,0667*	0,1212*	0,0148*	0,2709*	1					
Cash flow to sales	-0,0138*	0,0105*	-0,0306*	-0,0132*	0,0474*	0,2630*	0,0525*	0,0840*	0,0295*	0,5582*	-0,1370*	-0,0387*	1				
Number of new listings	0,0090*	-0,0342*	0,0493*	0,0154*	0,0004	-0,2794*	-0,0155*	0,1245*	0,1016*	-0,1606*	0,1901*	-0,0348*	-0,1562*	1			
World Bank Governance index	0,0204*	0,0400*	-0,0160*	0,0050	-0,2983*	-0,0688*	-0,0011	0,0385*	-0,0260*	-0,0684*	0,0524*	0,2650*	-0,0932*	-0,1294*	1		
One-year change in World Bank Governance index	-0,0071	-0,0135*	0,0051	-0,0031	0,0249*	0,0091*	-0,0166*	0,0151*	-0,0365*	-0,0437*	-0,0348*	-0,1102*	-0,0188*	0,0223*	0,1085*	1	
Code adoption	0,0511*	0,0340*	0,0356*	0,0115*	-0,2500*	-0,1032*	-0,0165*	0,0551*	-0,0505*	-0,1172*	0,0329*	0,1480*	-0,1080*	0,0984*	0,1540*	-0,0956*	1

a. * corresponds to the 5% signifinance level.

b. <u>*Variable explanations:*</u> *Ownership concentration* is defined as the ratio between closelyheld shares and common shares traded. *Firm value*, q, is defined as market value plus debt to total assets. *The average (yearly) market firm value* is the yearly country average of all the firm-specific q's. *New listings* is a dummy variable which assigns a firm with the value one from the time of the IPO (within the period 1996-2004) and onwards. *The World Bank governance* variable is defined as the sum of three indicators: voice and accountability, regulatory quality, and rule of law. The *code adoption* is measured as the number of corporate governance initiatives within a country using information from ECGI.

Table 3
Determinants of Delisting - Multinomial regression

	(1)	(2)			(3)		
		Delisting due to:			Delisting due to:		
Explanatory variables	Delisted	M&A	Going private	Bankruptcy & Liquidation	M&A	Going private	Bankruptcy & Liquidation
Observations (firm-year)	29871	29909			26531		
Pseudo R2	0,0329	0,0658			0,0685		
Ownership concentration	1,3867 ***	1,3473 ***	1,9569 ***	-1,7124 **	1,2604 ***	1,9901 ***	-1,6902 **
	0,1135	0,1377	0,2049	0,6844	0,1459	0,2085	0,7630
Log of assets	0,0608 ***	0,1375 ***	-0,0777 ***	-0,1387	0,1379 ***	-0,0778 ***	-0,0541
	0,0133	0,0162	0,0226	0,0878	0,0174	0,0231	0,1030
Sales per employees	0,0153 ***	0,0141 ***	0,0189 ***	-2,8351 *	0,0077	0,0224 ***	-3,7795
	0,0041	0,0049	0,0044	1,6272	0,0088	0,0066	2,4091
Equity to assets	-0,0026 ***	0,0008	-0,0055 ***	-0,0122 ***	0,0006	-0,0051 ***	-0,0109 ***
	0,0007	0,0010	0,0010	0,0038	0,0010	0,0011	0,0038
Growth in sales	-0,0044 ***	-0,0051 ***	-0,0030 **	-0,0009	-0,0048 ***	-0,0030 **	0,0013
	0,0008	0,0010	0,0013	0,0052	0,0010	0,0014	0,0065
Return on assets	-0,0036 **	0,0045 *	-0,0110 ***	-0,0206 *	0,0043 *	-0,0105 ***	-0,0261 **
	0,0018	0,0024	0,0028	0,0122	0,0025	0,0028	0,0110
Firm value, q	-0,1441 ***	-0,1681 ***	-0,1642 ***	-0,0606	-0,1602 ***	-0,1660 ***	-0,1610
	0,0276	0,0374	0,0472	0,1374	0,0385	0,0480	0,2010
Average (yearly) market firm value	0,1404	0,4045 ***	-0,5109 **	-1,1643	0,5333 ***	-0,7084 ***	-0,1851
	0,1072	0,1341	0,2083	0,8677	0,1220	0,1945	0,5855
Cash flow to sales	-0,0012	-0,0017	-0,0003	-0,0029	-0,0013	-0,0005	0,0044
	0,0013	0,0015	0,0021	0,0107	0,0016	0,0022	0,0091
New listings	-0,0660	-0,1601 **	0,1291	-0,0750	-0,1981 **	0,0827	-0,0007
	0,0595	0,0762	0,1015	0,4312	0,0780	0,0974	0,4582
World Bank Governance index	0,0066	0,3893 **	-0,7026 ***	-2,3214 **	0,8745 ***	-0,7794 ***	-2,8753 ***
	0,1153	0,1731	0,1973	1,0061	0,1905	0,2328	1,1046
One-year change in World Bank Governance index					-0,6498 ***	0,5038 **	1,1068
					0,1789	0,2091	1,3539
Code adoption		-0,0540 *	0,0790 **	-0,4793 ***			
		0,0280	0,0371	0,1706			
Country dummy	YES	YES	YES	YES	YES	YES	YES
Industry dummy	YES	YES	YES	YES	YES	YES	YES

a. (1) is a logit regression where failure is delisting. (2) and (3) are multinomial logit regressions where failures (delisted) are either caused by a merger or acquisition, going private transaction, or bankruptcy and liquidation.

b. ***, **, * corresponds to the significance levels at respectively 1%, 5% and 10%.

c. *Variable explanations:* *Ownership concentration* is defined as the ratio between closelyheld shares and common shares traded. *Firm value*, q, is defined as market value plus debt to total assets. *The average (yearly) market firm value* is the yearly country average of all the firm-specific q's. *New listings* is a dummy variable which assigns a firm with the value one from the time of the IPO (within the period 1996-2004) and onwards. *The World Bank governance* variable is defined as the sum of three indicators: voice and accountability, regulatory quality, and rule of law. The *code adoption* is measured as the number of corporate governance initiatives within a country using information from ECGI.

Table 4
Alternative measures of corporate governance and delisting frequencies on the country level

	Corporate Governance indices					Average yearly delistings frequencies		
	World Bank Governance Index Average, 1996-2004	Average change in World Bank Governance index, 1996-2004	Revised Anti-director rights index	Anti Self-dealing index	Year of 1st code adoption	M&A	Bankruptcy & Liquidation	Going Private
Finland	5,35	0,00	3,5	0,46	2003	2,2%	0,1%	0,9%
Netherlands	5,23	-0,12	2,0	0,21	1997	2,3%	0,0%	1,4%
Denmark	5,16	-0,04	4,0	0,47	2000	1,7%	0,1%	2,0%
Luxembourg	5,08	0,15	2,0	0,25	.	1,0%	0,0%	1,0%
United Kingdom	4,98	-0,11	5,0	0,93	1992	2,1%	0,1%	1,0%
Sweden	4,96	-0,07	3,5	0,34	2001	2,0%	0,0%	1,4%
Norway	4,94	-0,15	3,5	0,44	2004	2,1%	0,1%	2,2%
Ireland	4,75	-0,07	4,0	0,79	1999	2,6%	0,0%	0,9%
Austria	4,72	-0,13	2,5	0,21	2002	0,9%	0,2%	3,3%
Germany	4,64	-0,17	2,5	0,28	2000	1,0%	0,3%	1,2%
Belgium	4,03	-0,10	2,5	0,54	1998	1,7%	0,1%	1,7%
Portugal	3,84	-0,13	3,5	0,49	1999	1,6%	0,0%	3,2%
France	3,69	-0,21	4,5	0,85	1995	2,0%	0,1%	1,6%
Spain	3,67	-0,03	5,0	0,37	1998	1,5%	0,0%	2,6%
Hungary	2,99	0,23	2,0	0,20	2002	0,2%	0,0%	2,9%
Italy	2,90	-0,02	2,0	0,39	1999	1,8%	0,2%	1,2%
Greece	2,62	-0,01	2,0	0,23	1999	1,5%	0,0%	0,3%
Czech Republic	2,61	-0,05	4,0	0,34	2001	0,9%	0,4%	6,1%
Slovenia	2,61	0,23	.	.	2004	.	.	.
Poland	2,26	0,09	3,0	0,30	2002	0,7%	0,0%	2,4%
Slovakia	1,59	0,49	3,0	0,29	2002	0,5%	0,5%	4,5%

<u>*Variable explanations:*</u> *The World Bank governance index* is defined as the sum of voice&accountability, regulatory quality, and rule of law. *The revised anti-director rights index* and the *Anti Self-dealing index* comes from Djankov et al. (2005). *Year of 1st code adoption* comes from ECGI.

Table 5
Correlation matrix of Alternative policy variables

	Total delisting-frequency	M&A delisting-frequency	Going private delisting-frequency	Bankruptcy&Liquidation delisting-frequency	World Bank Governance index	One-year change in World Bank Governance index	Time	Proportionality index	Openness	Unionization	Code adoption	Anti-director rights index	Revised Anti-director rights index	Anti-selfdealing	Regulatory cost	Regulatory staff
Total delisting-frequency	1															
M&A delisting-frequency	0,3852*	1														
Going private delisting-frequency	0,8497*	-0,1433*	1													
Bankruptcy & Liquidation delisting-frequency	0,3174*	-0,0818	0,2591*	1												
World Bank Governance index	-0,0320	0,3586*	-0,2252*	-0,1276	1											
One-year change in World Bank Governance index	-0,0631	-0,1966*	0,0481	-0,0454	-0,0737	1										
Time	0,1924*	-0,1713*	0,3188*	-0,0157	0,0396	0,0042	1									
Proportionality index	-0,0417	-0,1364	0,0827	-0,0992	0,1413	0,0358	0	1								
Openness	-0,0524	0,1182	-0,1101	-0,1044	0,4982*	-0,0231	0,1225	0,4479*	1							
Unionization	-0,0896	0,0474	-0,1261	-0,1003	0,4525*	-0,0218	-0,1137	0,5568*	0,3567*	1						
Code adoption	0,1102	0,1003	0,0659	-0,0085	0,1233	-0,1111	0,5580*	-0,5435*	-0,0507	-0,3836*	1					
Anti-director rights index	0,2260*	0,2720*	0,0683	-0,1592	0,2799*	-0,0065	0	-0,4154*	-0,2226*	-0,0719	0,0964	1				
Revised Anti-director rights index	0,2487*	0,2657*	0,1187	0,0083	0,1537*	-0,0857	0	-0,5095*	-0,2070*	-0,0856	0,2935*	0,7823*	1			
Anti-selfdealing	0,1462*	0,4291*	-0,0861	-0,0169	0,2475*	-0,1198	0	-0,5605*	0,0742	-0,1516	0,4918*	0,5054*	0,7002*	1		
Regulatory cost	0,1483	0,3400*	-0,1061	-0,0663	0,3531*	-0,0025	0	-0,2104*	0,5573*	-0,0131	0,2481*	0,4016*	0,3148*	0,6552*	1	
Regulatory staff	0,1247	0,2460*	-0,0513	-0,0697	-0,0904	0,0248	0	0,1651*	0,2367*	-0,0603	0,0707	0,1337	-0,0764	0,3073*	0,5834*	1

a. * corresponds to the 5% siginifinance level.

b. _Variable explanations:_ The *delisting frequencies* are determined by country and year. *The World Bank governance index* is defined as the sum of voice&accountability, regulatory quality, and rule of law. The *proportionality index* is from Pagano and Volpin (2005). The *openness* data is collected from OECD. *Unionization* is country-specific and time-varying data from Visser (2006). The *code adoption* is measured as the number of corporate governance initiatives within a country using information from ECGI. The *anti-director rights index* comes from La Porta et al. (1998). *The revised anti-director rights index* as well as the *anti-selfdealing index* comes from Djankov et al. (2005). *Regulatory staff and costs* is from Jackson (2005).

Table 6

Determinants of Going Private frequency: Two stage least squares random effects instrumental variable regressions on going private frequencies (Instruments: Proportionality, Openness, Unionization)

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
Endogenous policy variable	*World Bank Governance index*	*Anti Self-dealing index*	*Revised Anti-director rights index*	*World Bank Governance index*	*Anti Self-dealing index*	*Revised Anti-director rights index*
World Bank Governance index	-0,014 *			-0,013 *		
	0,008			0,008		
Anti Self-dealing index		-0,001			-0,049 *	-0,056 **
		0,017			0,026	0,022
Anti-director rights index			0,004		0,008 *	0,011 *
			0,004		0,004	0,006
Code adoption				0,002	0,004 **	0,004 ***
				0,001	0,002	0,001
Return on assets (annual country average)	-0,002 ***	-0,002 ***	-0,002 ***	-0,001 **	-0,001 ***	-0,001
	0,001	0,000	0,000	0,001	0,001	0,001
New listing frequency (annual country average)	10,005 ***	9,871 ***	10,006 ***	10,273 ***	9,253 ***	9,220 ***
	2,622	2,162	2,126	2,613	2,069	2,049
Constant	0,085 **	0,019 **	0,006	0,078 *	0,012	0,001
	0,037	0,009	0,014	0,038	0,010	0,014
σu	0,011	0,009	0,009	0,011	0,008	0,007
σe	0,018	0,016	0,163	0,018	0,016	0,016
rho	0,262	0,240	0,220	0,264	0,187	0,164
R-square within countries	0,435	0,457	0,457	0,437	0,457	0,457
R-Square between countries	0,023	0,031	0,052	0,019	0,349	0,340
R-square overall	0,226	0,323	0,330	0,242	0,436	0,413
Countries	13	13	13	13	13	13
Observation (country years)	98	111	111	98	111	111
Wald Chisq (12)	52,29 ***	73,35 ***	73,06 ***	54,83 ***	82,82 ***	82,91 ***

a. ***, **, * corresponds to the significance levels at respectively 1%, 5% and 10%.

b. *Variable explanations:* *The World Bank governance index* variable is defined as the sum of three indicators: voice and accountability, regulatory quality, and rule of law. Moreover, *the Anti Self-dealing index* and *the revised anti-director rights index* is from Djankov et al. (2005). The *code adoption* is measured as the number of corporate governance initiatives within a country using information from ECGI. Finally, the instruments *proportionality, openness*, and *unionization* are respectively from Pagano and Volpin (2005b), OECD and Visser (2006).

Table 7

Determinants of M&A frequency: Two stage least squares random effects instrumental variable regressions on M&A frequencies (Instruments: Proportionality, Openness, Unionization)

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
Endogenous policy variable	*World Bank Governance index*	*Anti Self-dealing index*	*Revised Anti-director rights index*	*World Bank Governance index*	*Anti Self-dealing index*	*Revised Anti-director rights index*
World Bank Governance index	0,009 **			0,009 ***		
	0,004			0,003		
Anti Self-dealing index		0,047 ***			0,064 ***	0,051 ***
		0,013			0,024	0,019
Anti-director rights index			0,011 **			-0,001
			0,004			0,006
Code adoption				0,003 **	-0,002	-0,001
				0,002	0,002	0,001
Log of assets (annual country average)	0,008	0,012 ***	0,014 **	0,008 *	0,012 ***	0,011 **
	0,005	0,004	0,005	0,004	0,004	0,004
Average firm value (annual country average)	0,019 **	0,020 ***	0,021 ***	0,021 ***	0,019 ***	0,019 ***
	0,007	0,007	0,007	0,007	0,007	0,007
Constant	-0,073 *	-0,078 **	-0,102	-0,087 **	-0,085 ***	-0,067 *
	0,043	0,031	0,047	0,042	0,032	0,041
Additional instrument	Lagged World Bank Governance index	-	-	Lagged World Bank Governance index	-	-
σu	0,01	0,00	0,01	0,00	0,00	0,00
σe	0,03	0,02	0,02	0,03	0,02	0,02
rho	0,04	0,00	0,07	0,01	0,00	0,00
R-square within countries	0,06	0,06	0,06	0,04	0,06	0,05
R-Square between countries	0,20	0,72	0,26	0,39	0,70	0,71
R-square overall	0,08	0,21	0,10	0,13	0,20	0,21
Countries	13	13	13	13	13	13
Observation (country years)	85	111	111	85	111	111
Wald Chisq (12)	10,49 **	20,50 ***	10,82 ***	14,71 ***	23,2 ***	28,2 ***

a. ***, **, * corresponds to the significance levels at respectively 1%, 5% and 10%.

b. *Variable explanations:* The World Bank governance index variable is defined as the sum of three indicators: voice and accountability, regulatory quality, and rule of law. Moreover, *the Anti Self-dealing index* and *the revised anti-director rights index* is from Djankov et al. (2005). The *code adoption* is measured as the number of corporate governance initiatives within a country using information from ECGI. Finally, the instruments *proportionality, openness*, and *unionization* are respectively from Pagano and Volpin (2005b), OECD and Visser (2006).