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PUBLIC-TO-PRIVATE TRANSACTIONS: LBOs, MBOs, MBIs AND IBOs

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Public-to-Private Transactions: LBOs, MBOs, MBIs and IBOs

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Abstract: This paper shows that a vibrant and economically important public-to-private market has re-emerged in the US, UK and Continental Europe, since the second half of the 1990s. The paper shows recent trends and investigates the motives for public-to-private and LBO transactions. The reasons for the potential sources of shareholder wealth effects during the transaction period are examined: a distinction is made between tax benefits, incentive realignment, transaction costs savings, stakeholder expropriation, takeover defenses and corporate undervaluation. The paper also attempts to relate these value drivers to the post-transaction value and to the duration of the private status. Finally, the paper draws some conclusions about whether or not public-to-private transactions are useful devices for corporate restructuring.

Keywords: Public-to-private transactions, Going-private deals, Management buyouts, Leveraged buyouts, Management buyins.
JEL codes: G3, G32, G34, G38.

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Abstract: This paper shows that a vibrant and economically important public-to-private market has re-emerged in the US, UK and Continental Europe, since the second half of the 1990s. The paper shows recent trends and investigates the motives for public-to-private and LBO transactions. The reasons for the potential sources of shareholder wealth effects during the transaction period are examined: a distinction is made between tax benefits, incentive realignment, transaction costs savings, stakeholder expropriation, takeover defenses and corporate undervaluation. The paper also attempts to relate these value drivers to the post-transaction value and to the duration of the private status. Finally, the paper draws some conclusions about whether or not public-to-private transactions are useful devices for corporate restructuring.

1. Introduction

The public corporation is often believed to have important advantages over its private counterpart. A stock market listing allows firms to raise funds in public capital markets, increases the share liquidity for investors, allows founders and entrepreneurs to diversify their wealth and facilitates the use of options in remuneration packages. Also, the higher degree of visibility and media exposure of public firms can be an effective tool in the marketing of the company. On the more personal level, founders and managers of public corporations generally enjoy more prestige. However, the publicly quoted company with dispersed ownership may suffer from a high degree of managerial discretion resulting from a lack of monitoring which may lead to 'empire building' at the detriment of shareholder value. One way of refocusing the firm on shareholder value is the leveraged buyout (LBO), once known as bootstrapping acquisitions (Gilhully (1999)). LBOs grew dramatically in the US and subsequently in the UK during the 1980s. Between 1979 and 1989, the market capitalization of public-to-private transactions in the US alone was in excess of $250 billion (Opler and Titman (1993)). This public-to-private trend was not just limited to the smaller public companies for instance, in 1989, the LBO-boutique Kohlberg, Kravis and Roberts took over and delisted RJR Nabisco in a deal valued at $25 billion. Apparently, executives, financiers and investors see the private firm as a strong alternative to the public corporation such that some even predicted the "eclipse of the public corporation" (Jensen (1989: 61)).

Economists investigate the sources of the high premiums that are paid to take a company private. While the critics of going-private transactions have continuously emphasized tax advantages and the expropriation of non-equity stakeholders as the main sources of wealth gains from going private, systematic research on public-to-private transactions does not agree. Other potential sources of wealth gains are stronger incentive alignment with a focus on performance and value, the reduction in wasting corporate

resources, and the improved monitoring capabilities embedded in the governance structure of an LBO. In addition, going private eliminates the costs associated with maintaining a stock market listing, but may also be motivated by a defensive strategy against hostile takeovers. Finally, going private may simply constitute a higher-valued allocation of resources.

The year 1997 marked the start of a new wave of public-to-private transactions in the US, UK and Continental Europe. The strong increase in the number of deals and in average deal value and the fact that past LBO research was limited in scope (given the focus on the US and on the 1980s) call for further research. To facilitate the development of a new research agenda, this paper documents recent trends, and analyses the motives to take public firms private. In addition, this paper examines whether the post-transaction value creation as well as the duration of private status can be explained by above mentioned potential value drivers. Finally, the paper draws some conclusions about whether or not public-to-private transactions lead to superior organization forms compared to public firms, or whether going private is a shock therapy to restructure firms with a return to public ownership as an inevitable consequence.

The paper is organized as follows. Section 2 briefly dwells on the different types of leveraged buyouts and going-private transactions, and continues by discussing how the two LBO waves came about. Section 3 discusses the theoretical considerations underlying the sources of wealth gains from going private deals. Section 4 focuses on the four main strands of the literature and on which of the eight motives are upheld in each strand. Section 5 lines out a future research agenda.

2. Leveraged buyout waves

2.1 Definitions

When a listed company is acquired and subsequently delisted, the transaction is referred to as a public-to-private or a going-private transaction.[1] Virtually all such transactions are financed by borrowing substantially beyond the industry average; hence they are called leveraged buyouts (LBOs). In fact, LBOs comprise not only public-to-private transactions but also private firms that are bought out and experience an increase in leverage. However, throughout the paper, we use the terms LBO and public-to-private transaction interchangeably because, in the empirical US and UK literature, LBOs are usually confined to going-private transactions. We will state explicitly when a cited paper refers to the wider definition of LBOs.

[1] The European Private Equity and Venture Capital Association (EVCA) defines public-to-private transactions as follows: 'a transaction involving an offer for the entire share capital of a listed target company by a new company – Newco – and the subsequent re-registration of that listed target company as a private company. The shareholders of Newco usually comprise members of the target company's management and private equity providers. Additional financing for the offer is normally provided by other debt providers.'

To date, management-led transactions comprise the majority of public-to-private activity. When the incumbent management team takes over the firm (frequently backed by private equity investors), the LBO is called a management buyout or MBO. When an outside management team acquires the firm and takes it private, we refer to this transaction as a management buyin (MBI). The fact that an outside management team does not have the same level of private information as the incumbent managers in MBOs, makes MBIs a completely different type of deal. An outside management team will generally target firms where the incumbent management cannot or does not want to realize the full potential of corporate value, which entails that MBIs are more frequently hostile transactions (Robbie and Wright (1995)). When the new owners of a delisted firm are solely institutional investors or private equity firms, one tends to refer to these transactions as institutional buyouts (IBOs) which are sometimes also called Bought Deals or Finance Purchases.[2] In some IBOs, the continuing effort of the management team is central to the success of the offer, while in other cases the management team is removed. For the typical IBO in which management stays on, it is customary to reward managerial performance with equity stakes in the new private firm via so-called equity ratchets[3] (Wright, Thompson, Chiplin and Robbie (1991)). In terms of equity ownership, what separates MBOs from IBOs is whether the management team gained its equity interest through being part of the bidding group (in case of an MBO) or as a component of a remuneration package (in case of an IBO). As the incumbent management in an IBO does not negotiate on behalf of the bidding group, IBOs do not spark the same controversy as MBOs.[4]

As the private equity investors who participated in a public-to-private transaction frequently want to exit some time after the firm has been taken private, a secondary initial public offering (SIPO) is performed. Such firms that reobtain public status are called reverse LBO (reLBOs).

2.2 International trends and regulatory changes

The LBO evolution in the US

The US economy of the 1980s was characterized by a large number of (hostile) corporate takeovers and restructuring. Mitchell and Mulherin (1996) argue that 57% of US quoted firms were takeover targets or were restructured between 1982 and 1989. As some mergers failed and substantial excess capacity was created, the M&A wave also triggered a substantial increase in LBO and MBO activity. These going private transactions facilitated the reduction in excess capacity that 'complacent corporate America' was

[2] In addition, private equity professionals also tend to distinguish the buyin-management buyout (BIMBO) when the bidding group comprises both members of the incumbent management team as a new team of managers.
[3] This is an incentive device that enables management in a post-buyout firm to increase its equity holdings upon meeting specified performance targets.
[4] Schadler and Karns (1990) point out the conflicts of interest of the incumbent managers in an MBO.

unable to solve itself (Jensen (1991)). Also, Shleifer and Vishny (1990) argue that LBOs enabled the deconglomeration of the large corporate groups created in the 1960s and 1970s. Furthermore, the 1980s brought about the financial innovations that enabled the creation of LBOs and MBOs as an organizational form to catalyze corporate restructuring. In the first half of the 1980s they performed this role so well, that Jensen (1989) even predicted the eclipse of the public corporation. However, the culmination of the LBO wave in the latter half of the 1980s was associated with many bankruptcies and evoked fierce public and political resistance (Shleifer and Vishny (1991)). The resulting anti-takeover legislation, political pressure against high leverage, a credit crunch and a crisis in the high yield bond market made an end to the public-to-private takeover wave of the 1980s. Although favorable conditions (with the exception of anti-takeover measures) were restored in the early 1990s, going-private activity did not take off. Kaplan (1997) and Holmstrom and Kaplan (2001) argued that the 1980-style deals are not necessary anymore, as the focus on shareholder value had been institutionalized by corporations since. Only since 1997, a steep rise in US going-private activity occurred with a total value of USD 65 billion (1997-2002) although this LBO wave does not surpass[5] – in value terms – the peak of the end of the 1980s (see figure 1). The reason for the increase at the end of the 1990s results from the fact that small companies experience strong adverse effects from their low trading volumes and the threat to be delisted by Nasdaq. More importantly though, the implementation of the Sarbanes-Oxley Act on corporate governance seems to increase the costs of a listing substantially. The extra burden is a fixed cost that falls disproportionally on the smaller quoted companies (Kuhn Capital (2003)). Consequently, this rise in the costs of a stock listing (and the decreasing advantage of being public) seems a good reason for small companies to go private.

[Insert figure 1 about here]

UK trends

The phenomenon of public-to-private transactions quickly traversed the Atlantic, with the first UK MBO (Haden Maclellan Holdings Plc) being undertaken in 1985. Although smaller in scale, the activity in the UK going-private market kept pace with that of the US and the first wave also peaked in 1989. Public controversy[6] about the increased hostility in going-private transactions that year induced the Takeover

[5] A tempering effect on the LBO activity arises from the fact that market conditions for especially IT companies have looked dim over recent years, which makes the sale of public equity too costly a source of funds.

[6] Part of the controversy came from two hostile MBIs in 1989, which were among the first acts of hostility in the UK public-to-private market. In particular, it was the £ 629 million Magnet Plc deal, that was unacceptable to investors. Institutional investors took the lead in the public protest against the MBO attempt of the Magnet management team, which was accused of depriving shareholders of the chance to invest in the long term

Panel[7] to adopt new rules regulating the behavior and procedures in going-private transactions (Wright, Thompson, Chiplin and Robbie (1991)). The drop in deals after 1989 made it seem as if the going-private transaction had already outlived its short life. As in the US, financial backers were not prepared to take risks from 1991 until 1996, which resulted in a dormant public-to-private market. Nevertheless, figure 2 shows that a new wave of going-private transactions started in 1997. Over the period 1997-2003, 211 public-to-private deals were completed with a total value of GBP 30 billion.

[Insert figure 2 about here]

Explanations for the second going-private wave at the end of the 1990s generally emphasize the increased confidence of private equity and debt financiers on important issues such as access to key information, due diligence, management support, target shareholder support (e.g. through irrevocable undertakings) and the expectation that 100% of the shares can be acquired (e.g. through squeeze-out provisions) (Ashurst, Morris and Crisp (2002)). Also, innovative techniques such as inducement fees and 'hard' exclusivity agreements have facilitated the reduction of risks in going-private transactions (Davis and Day (1998)). However, a much more important reason why especially small firms turned to private equity seems to be the disregard for such companies by institutional investors. The consolidation in the fund management industry, which has increased institutions' focus on large, liquid stocks, is frequently mentioned as a reason for this institutional disinterest in small companies (Financial Times, Sept. 17, 1999). For example, upon going private, Mr. Ainscough, CEO of Wainhomes Plc, said: "We feel unloved and unwanted. There has been a lack of investor appetite for small company shares over the last two or three years. This made it difficult to fund expansions and acquisitions through the issue of new shares, which is one of the main reasons for going public in the first place"(Financial Times, March 4, 1999). The lack of liquidity and the need for expansion capital as a consequence of the cut-off of institutional equity finance, drove small companies right into the arms of private equity firms to obtain funding (Financial Times, June 11, 2003). The year 2000 was the year of the largest UK public-to-private deal ever, when MEPC Plc. went private through a £3.5 billion IBO. Since then, the activity in the market for public-to-private transactions slowed somewhat down, which can partly be explained by the burst of the technology bubble and a general decline in share prices, and by worries about the feasibility of exit strategies by means of a secondary initial public offering (IPO) in periods of bearish equity markets (Financial Times, June 11, 2003). To date, the UK public-to-private activity remains still high with about 30 deals yearly.

[7] The Panel on Takeovers and Mergers ("the Takeover Panel") is the regulatory body which administers the City Code on Takeovers and Mergers ("The Code"). Its primary objective is to ensure equality of treatment and opportunity for all shareholders in takeover bids (see www.thetakeoverpanel.org.uk).

Continental Europe

Figure 3 shows how the market for public-to-privates in Continental Europe has evolved over the last 20 years. Clearly, as in the UK, Continental Europe's going-private activity in the 1990s was substantially stronger compared to the first LBO wave of the late 1980s. Over the period 1997-2003, the total value of LBO activity amounts to Euro 28 billion.

[Insert figure 3 about here]

Expectedly, both the number of deals and the value of LBO activity of the Continental European market are lagging that of the UK for the following reasons. First, the European financial infrastructure to undertake public-to-privates is different from that in the UK. The Centre for Management Buyout Research (CMBOR, 2002) reports that only few private equity houses would consider undertaking a potentially risky and costly public-to-private transaction in Continental Europe. Second, culture may also play a major role in the functioning and sophistication of European financial markets. For example, German managers generally try to avoid the 'hassle associated with a quotation', while Swiss and Italian companies that do obtain a listing are generally too proud of it to even rationally consider going private (CMBOR (2002)). Third, some private equity investors have doubts about the possibility of exiting their investments through a flotation or a trade sale in bearish markets (CMBOR (2002)). Fourth, the legal and fiscal regulation in Europe is traditionally not as favorable to going-private transactions as in the UK. Consequently, there is more uncertainty about being able to successfully complete public-to-private transactions. For example, the high percentage of tendered shares necessary to take a corporation private is an obstacle in many European countries (CMBOR (2002)), while UK private equity investors avidly make use of squeeze out provisions[8]. However, running up to a pan-European merger law, many individual countries have recently implemented changes that can provide a stimulus to the public-to-private market. The transparency, shareholder protection, takeover rules and development of risk capital as provided for in Italy's recent Company Law reform will allow for more flexibility in structuring private equity deals and provide more reassurance to Italian going-private transactions (Ulissi (2000), Lovells (2003)). The Italian government passed new legislation in January 2003 allowing bidders to use the target company's assets to secure their debt (Muller and Panunzi (2003)); previously bootstrap acquisitions were illegal in Italy. The new Dutch Fiscal Unity law of January 1, 2003, enables acquisition vehicles of private equity investors to allocate the losses of high interest payments from acquisition-related leverage to the operations of the target. This makes it more attractive to take a company private through an LBO or MBO. The new German Takeover Act provides a

[8] Section 429 of the UK Companies Act prescribes that when 90% of the shares to which the takeover relates are acquired, the rest can be compulsory acquired.

set of mandatory[9] rules that govern the time schedule of a going-private bid, foresee in an equal treatment of all shareholders of the same class, limit prolonged resistance by the target managing board, and introduce a squeeze-out rule at 95% of the equity. Also, the German tax reform eliminates the corporate capital gains tax on the disposal of shares, which is expected to facilitate the sale of blocks of shares of listed firms to private equity investors (Ashurst et al. (2003)). On January 2, 2003, the French minister of economy declared that the French usury law[10] does not apply to corporate bonds, high yield issues, or debt instruments (Fried and Frank (2003)). This has eliminated the need for French borrowers in LBO transactions to set up new companies in jurisdictions other than the French. Also, since 2002 the possibility of conditional bids for quoted companies have been expanded. Now, bids can also be made conditional on clearance decisions from the UK, EU member states and the US (Lovells (2003)).

3. What motivates public-to-private transactions?

Essentially, there are several sources of wealth gains that may motivate the going-private decision. These are: tax savings, the reduction of agency costs (due to incentive realignment, control concentration or free cash flow reasons), wealth transfers from e.g. bondholders or employees to shareholders, transaction costs reduction, takeover defenses and corporate undervaluation. In this section, we will detail these motives and relate whether these reasons have been sustained in earlier research.

3.1 Tax benefit hypothesis

As the vast majority of public-to-private transactions take place with a substantial increase in leverage, the increase in interest deductions may constitute an important source of wealth gains. Tax deductibility of the interest on the new loans constitutes a major tax shield increasing the pre-transaction (or pre-recapitalization) value. Clearly, the extent to which tax benefits can play a role in the wealth gains in going-private transactions depends on the fiscal regime and the marginal tax rates a company is subject to. For the period 1980 to 1986, Kaplan (1989b) estimates the tax benefits of US public-to-private transactions to be between 21% and 72% of the premium paid to shareholders to take the company private.[11] Kaplan (1989b: 613) adds that 'a public company arguably could obtain many of the tax benefits without going private'.

[9] Before the act was implemented, the adoption of takeover rules by the companies was voluntary rather than mandatory.

[10] The French usury law required (prior to January 2, 2003) lenders to disclose the effective global rate of a facility in place. This rate reflects the actual cost of borrowing for the borrower. If this rate exceeds the average interest rate on investments with similar risk by a third, it is a usurious rate, and a penalty will follow to at least repay the interest paid in excess by the borrower (see Lovells (2003)).

[11] These calculations assume that the debt is repaid in 8 years, that the buyout company can generate sufficient taxable income, that the marginal tax rate is applied (excluding ESOP tax deductions) and that asset step-ups are effectuated. (Other sources that could generate extra taxes for the treasury as result of a leveraged going-private transaction are mentioned in Jensen, Kaplan and Stiglin (1989)).

Lowenstein (1985: 759) is critical to LBOs and calls for a restriction of the tax benefits (the 'truffles from the tax man'), judging that tax-related benefits 'are so large as to dispense the need to create the other, real gains', a claim supported by Frankfurter and Gunay (1993).

In short, the tax benefit hypothesis states that the wealth gains from going private are largely the result of tax benefits associated with the financial structure underlying the transaction.

Still, in spite of the apparent advantages of high leverage in LBOs, it is questionable whether it constitutes a true motive to go private. Indeed, in a competitive market for corporate control, the predictable and obtainable tax benefits will be appropriated by pre-buyout investors, leaving no tax-related incentives for the post-buyout investors to take a company private.

3.2 Agency costs-related hypotheses

From the basics of agency theory, three important hypotheses are underlying the motives of public-to-private transactions, their wealth effect and duration: the incentive realignment hypothesis, the control hypothesis and the free cash flow hypothesis.

Incentive realignment hypothesis

More than two centuries ago, Adam Smith (1776) commented on the divergence of interests between managers and stockholders in a joint stock company. Berle and Means (1932) describe this separation of ownership and control in the typical 20th corporation and express their fears of corporate plundering induced by the divergence of interests between managers and shareholders. These insights are formalized by Jensen and Meckling (1976). When the manager-entrepreneur of a firm is also the sole residual claimant, (s)he extracts pecuniary rents and non-pecuniary[12] benefits, with the optimum mix being a deliberation of the marginal costs and marginal utility associated with the increase of a type of benefit. When the manager sells off a portion of the residual claims to outsiders, the marginal costs of non-pecuniary benefits decrease as (s)he will bear only a fraction of those costs. Consequently, the manager increases his (or her) private benefits (a behavioral pattern called 'shirking') which decreases the firm's value. The need to realign incentives of managers with those of shareholders is frequently mentioned as a potentially important factor in going-private transactions. For instance, Kaplan (1989a) reports a median

[12] These non-pecuniary (also called non-marketable perquisites or private benefits) are not transferable and are investor specific. Possible benefits could be the reputation or 'psychic' value of being in control (Aghion and Bolton (1992), salary, and the value expropriated from shareholders (Dyck and Zingales (2003)).

increase in equity ownership of 4.41% for the two top officers, and of 9.96% for the other managers in MBOs.

The incentive realignment hypothesis states that the wealth gains from going private are largely the result of a reunification of ownership and control.

The effects of the incentive realignment hypothesis at higher levels of managerial ownership are heavily contested because entrenchment effects are rendering management - even in the wake of poor performance - immune to board restructuring and may delay corporate restructuring (Franks, Mayer and Renneboog (2001)). LBOs provide an attractive setting to reinvestigate the influence of high managerial control.

It should also be noted that the positive causal relation from managerial ownership to the firm's market value or performance at modest (unentrenched) levels of managerial control, as predicted by the incentive realignment hypothesis and widely supported by the (older) literature[13], is not undisputed. One of the first to argue that the ownership structure of the firm "emerges as an endogenous outcome of competitive selection in which various cost advantages and disadvantages are balanced to arrive at an equilibrium organization of the firm" was Demsetz (1983:384). He concludes that no relation between ownership structure and profitability is expected, directly contradicting Jensen and Meckling's (1976) predictions. Demsetz and Lehn (1985) and Demsetz and Villalonga (2001) provide empirical evidence supporting Demsetz' claims. More recently, studies using more sophisticated econometric techniques (see e.g. Himmelberg et al. (1999), Palia (2001)) have also cast doubt on the causality mentioned above.

It is important to note however, that the incentive realignment hypothesis fails to account for the reverse LBOs or secondary IPOs (Palepu (1990) and Kieschnick (1989)). Consequently, the incentive realignment theory does not give a complete explanation for the value creation in buyouts.

Control hypothesis

Grossman and Hart (1980) describe the free-rider problem on monitoring managerial actions as faced by public corporations with a dispersed shareholder structure. The investment in monitoring by one shareholder becomes a public good for all shareholders. Consequently, individual shareholders owning small equity stakes may underinvest in monitoring activities.

[13] Increasing managerial ownership leads to increasing corporate performance or value e.g. Morck, Shleifer and Visny (1988) and McConnell and Servaes (1990). Still, at high levels of managerial ownership, a negative relation is observed as the negative effects of managerial entrenchment are dominating.

Going-private transactions essentially constitute a reunification of ownership and control. After an IBO, the post-transaction equity ownership resides in fewer hands and the investors will have stronger incentives and more information to actively invest in monitoring management (Maug (1998) and Admati, Pleiderer and Zechner(1994)), thereby "protecting their reputation as efficient promoters" (Weston, Chung and Siu (1998: 328)). DeAngelo, DeAngelo and Rice (1984) observe that third party investors often acquire a significant stake in the equity of a new, private company and judging from the viability and success of buyout specialists, they argue that these third party investors may have a comparative advantage in the monitoring task. Irrespective of the identity of the actual equity investors, substantially higher ownership concentration implies that the main source of wealth gains from going-privates is a reduction in agency costs. This reduction is realized by improved monitoring through increased availability and accuracy of information on managerial performance and shareholder activism.

The control hypothesis suggests that the wealth gains from going private are largely the result of increased quality of control.

Free cash flow hypothesis

Jensen (1986: 323) defines free cash flow as "cash flow in excess of that required to fund all projects that have positive net present value (NPV) when discounted at a relevant cost of capital". Using empirical results on executive remuneration and corporate performance documented by Murphy (1985), he argues that managers have incentives to retain resources and grow the firm beyond its optimal size - the so-called "empire building" - which is in direct conflict with the interests of the shareholders. This problem is most severe in cash generating industries with low growth prospects, as exemplified by the US oil industry in the late 1970s. By exchanging debt for equity, managers credibly "bond their promise" to pay out future cash flows rather than retaining them to be subsequently invested in negative NPV projects. The risk of default attached to the capital restructuring via LBOs serves as a motivating factor to make the firm more efficient. Jensen (1986:325) states that "many of the benefits in going-private and leveraged buyout transactions seem to be due to the control function of debt". In the carrot-and-stick theory by Lowenstein (1985), the carrot represents the increased managerial share ownership allowing managers to reap more of the benefits from their efforts. The stick appears when firms borrow heavily in order to effectuate this incentive alignment, which "forces the managers to efficiently run the company to avoid default" (Cotter and Peck (2001:102)).

Thus, the free cash flow hypothesis suggests that the wealth gains from going private are largely the result of the elimination of free cash flow problems.

However, relying on debt to motivate managers may bring about significant agency costs of debt as debt gives managers the incentive to substitute low-risk assets for high-risk assets (the asset-substitution problem).

3.3 Wealth transfer hypothesis

There are three main mechanisms through which a firm can transfer wealth from bondholders to stockholders: (i) by an unexpected increase in the risk of investment projects or (ii) via (large increases in) dividend payments, or (iii) by an unexpected issue of debt of higher or equal seniority. All these elements can effectuate wealth expropriation of specific stakeholders. In a going-private transaction, especially the third mechanism can lead to substantial bondholder wealth expropriation.[14]

The bondholder wealth transfer hypothesis suggests that wealth gains from going private are largely the result of the expropriation of pre-transaction bondholders.

Still, this concept of a systematic reduction in the value of debt may be one-sided in the context of LBOs; one needs to balance this argument with the potential favorable effects of other, going-private related factors. Firstly, the value of the claims of other types of stakeholders (such as pensioners benefiting from corporate pension plans, employees benefiting from stock options, or the fiscal authorities) may decline, thus offsetting the negative impact of increases in financial leverage (Marais, Schipper and Smith (1989)). Secondly, the incentive effects of high leverage and control concentration in the post-transaction firm may have a positive impact on the cash flow stream and consequently lead to more protection of the fixed payments to pre-transaction debtholders. Thirdly, a buyout attempt by insiders may convey a favorable signal to financial markets about future returns, hereby raising expectations of the capability to service debt payments. Fourthly, the pre-transaction securities can be treated in a variety of ways during the transaction process: some are redeemed for cash, others converted into other securities or renegotiated.

[Insert Table 1 about here]

[14] Allowing systematic risk to vary in a manner consistent with the Black-Scholes-Merton option model framework, Weinstein (1983) presents a more formal bond beta model. The sensitivity of bond returns to the capital structure confirms the conjectured increase in risk for bondholders in case of an unexpected increase in leverage. This finding is empirically confirmed by Masulis (1980), who documents negative bondholder returns in debt-for-equity exchange offers. The bondholder wealth transfer hypothesis then dictates that this increases risk, leads to debtholder wealth losses and constitutes a wealth transfer to equityholders.

In line with the theoretical controversy and measurement problems of going-private losses to the bondholders, the empirical research does not provide convincing evidence of wealth expropriation for most categories of bondholders (see table 1). Travlos and Cornett (1993) find a statistically significant bondholder loss of 1.08%, but this results is based on a sample of only 10 public-to-private transactions. Marais al. (1989) do not find negative abnormal bond returns for their sample of US firms that went private over 1974-85. What they do find, however, is that going-private transactions are followed by 'pervasive' debt downgradings by Moody's, which reflects a systematic increase in perceived default risk. Still, this effect is not incorporated in the bond prices. Amihud (1989) and Weinstein (1983) confirm the rating downgrades and the lack of bond price effects.

In contrast, Asquith and Wizman (1990) report significant losses of 1.1% for unprotected corporate bonds around the buy-out. Bonds protected by covenant against leverage increases or against reductions in net worth through mergers experience abnormal gains. Correspondingly, Cook, Easterwood and Martin (1992) find that bondholder losses are sensitive to the presence of restrictive covenants. They find an average loss of 3% in 29 MBOs from 1981-89, with a range of returns of –16.9% to 11.5%. Warga and Welch (1993) confirm significant bondholder wealth losses for successful LBOs in the 1985-1989 period.

These results show that bondholders with covenants offering low protection against corporate restructuring lose some percentage of their investment. However, this type of wealth expropriation does not necessarily mean that it is a driving factor in the decision to go private, or that it is reflected in the premium paid to pre-buyout shareholders. Amihud (1989) explains that the bonds that did suffer losses may not have been contractually well protected, and that the wealth transfer therefore does not represent a loss for bondholders, but a recuperation of greater protection granted to bondholders than originally contracted for.

Other wealth transfers

The empirical literature has paid much less attention to wealth transfers other than those related to bondholders. Shleifer and Summers (1988) pose that new investors in hostile takeovers can break the implicit contracts between the firm and stakeholders (in particular the employees by reducing employment and wages). Nevertheless, Weston et al. (1998) note that such hostility against employees is not observed in public-to-private transactions. The only comprehensive study of stakeholder expropriation is Marais et al. (1989). Lowenstein (1985) adds tax-related benefits to the list of wealth transfers, arguing that they constitute a public subsidy to firms in older, less efficient, capital-intensive industries that engage in going-private transactions.

The wealth transfer hypothesis suggests that wealth gains from going private are also largely the result of the expropriation of pre-transaction stakeholders like employees.

3.4 Transaction costs hypothesis

DeAngelo et al. (1984) remark that the costs of maintaining a stock exchange listing are very high. From the proxy statements of, for example, Barbara Lynn Stores Inc., they infer that the costs of public ownership, registration, listing and other stockholder servicing costs, are about $100,000 per annum. Perpetuity-capitalized at a 10% discount rate, this implies a one million dollar value increase from going private. Other US estimates of servicing costs mentioned in their paper range from $30,000 to $200,000, excluding management time. However, depending on the size of the company, Benoit (1999) reports that for UK quoted firms, the fees paid to stockbrokers, registrars, lawyers, merchant bankers and financial PR companies, as well as the exchange fee and the auditing, printing and distribution of accounts, can even amount to £250,000. Some UK CEOs estimate that these costs may even be higher: Roy Hill, CEO of Liberfabrica, just after being bought by a trade buyer in 1999, estimates these costs at £400,000, while Jurek Piasecki, CEO of Goldsmiths, 3 months after going private in 1999 put City-associated costs at £500,000. An even higher estimate comes from the executive chairman of Wainhomes, who, upon the announcement of taking the company private, estimated the costs of maintaining a quote at £ 1 million.[15]

In short, the transaction costs hypothesis suggests that the wealth gains from going private are largely the result of the elimination of the costs associated with a listing on the stock exchange.

3.5 Takeover defense hypothesis

Lowenstein (1985:743) reports that some corporations have gone private via an MBO "as a final defensive measure against a hostile shareholder or tender offer", an observation which supports the theoretical arguments set out by Michel and Shaked (1986). Afraid of losing their jobs when the hostile suitor takes control[16], management may decide to take the company private.

Stulz (1988) constructs a model in which pressures from the market for corporate control interact with managerial ownership and finds a curvilinear relationship with firm value. The high levels of equity ownership of firms where management is entrenched, make it unlikely that these firms are taken over by outside parties (see Jensen and Ruback (1983)). However, maintaining this control over the company can put management in the predicament of having too much of their personal wealth invested in the firm

[15] All UK numbers are quoted in The Financial Times of August 31, 1999.
[16] Franks and Mayer (1996) show that over a period of 2 years subsequent to a takeover in the UK, virtually all board members of the target firm left the merged firm.

(Halpern, Kieschnick and Rotenberg (1999) and Hubbard and Palia (1995)). In an attempt to reduce the non-diversifiable risk of this investment, entrenched managers will impose considerable costs on the outside shareholders[17] (May (1995)).

In short, the takeover defense hypothesis suggests that the wealth gains from going private are the result of the management team willing to buy out the other shareholders in order to stay in control.

3.6 Undervaluation hypothesis

As a firm can be viewed as a portfolio of projects, there may be asymmetric information between the management and outsiders about the maximum value that can be realized with the existing assets. It is possible that the management, which has superior inside information and knows the true distribution of future returns, realizes that the share price is undervalued in relation to the true potential of the firm. Lowenstein (1985) argues that when the management is the acquiring party, it may employ specific accounting and finance techniques to depress the pre-announcement share price (see also Schadler and Karns (1990)). By manipulating dividends, refusing to meet with security analysts or even deliberately depressing earnings, managers can use the information asymmetry to their advantage prior to an MBO. DeAngelo (1986) finds no evidence of systematic manipulation of pre-buyout accounting data by incumbent management. Both Harlow and Howe (1993) and Kaestner and Liu (1996) find that MBOs are preceded by significant abnormal buying of company shares by insiders, whereas outsider-induced buyouts are not. They interpret this finding as a confirmation that pre-buyout insider trading is associated with private managerial information. Alternatively, it is possible that specialized outsiders (like institutions or private equity investors) realize that a firm has substantial unrealized lock-up value which incites them to buy a toehold stake which may be followed by a management or institutional buy-in.

The undervaluation hypothesis suggests that the wealth gains from going private result from developing an alternative higher-valued use for the firm's assets.

4. Four strands in the empirical public-to-private literature

The collective literature on public-to-private transactions and leveraged buyouts can generally be classified into four strands, with each strand corresponding to a phase in the buyout process. Figure 4

[17] The risk-reducing actions of entrenched managers could result in higher-than-optimal levels of diversification, lower leverage and lower riskiness of accepted investment projects (May (1995)). Evidence on the costs imposed by a large blockholder can be estimated by assessing the market's reaction to the sudden drop of a blockholder (Slovin and Sushka (1993) and Johnson, Magee, Nagarjan, and Newman (1985)).

presents this classification and depicts the research methods generally used to study each phase of the going-private process. The literature related to the phase of *intent* describes the characteristics of firms prior to their decision to go private and compares these characteristics to those of firms which remain publicly quoted. A discriminant analysis or hazard analysis is usually employed to measure the likelihood that a firm will go private. A (tender) offer for the shares outstanding terminates the phase of intent. The second strand of the empirical literature measures the *impact* of such an offer and is estimated by analyzing the immediate stock price reaction (cumulative abnormal return) or the premium paid to pre-transaction shareholders. Once a company is taken private, the literature on the *process* phase investigates the post-buyout process of wealth creation, by means of quantitative or case study methodologies. If, and when, a firm decides to end its private status through an exit (e.g. via a secondary initial public offering or SIPO), hazard or duration analysis can be performed to examine the longevity of private ownership and its determinants. This constitutes the fourth strand of literature, here defined as the *duration* literature. We examine which of the 8 hypotheses of section 3 are upheld in each of the 4 strands of the literature.

[Insert Figure 4 about here]

4.1 First Strand: Intent

In this section, we provide an overview of the pre-transaction characteristics of firms going private (see table 2) and highlight the main motives in LBO and MBO transactions. Maupin, Bidwell and Ortegren (1984) examine whether it is possible to separate ex ante those firms that that engage in an MBO and those that remain public. First, their discriminant analysis shows that the 63 formerly listed companies are systematically associated with high managerial shareholdings prior to the public-to-private transaction (which took place in 1972-83). This is somewhat inconsistent with the incentive realignment hypothesis as one would expect that in firms with stronger managerial ownership the agency costs of equity are smaller and that there are hence smaller gains from going private). Secondly, formerly quoted firms have a more stable cash flow stream than their counterparts that remained public. Thirdly, a systematically lower price-to-book ratio in the buyout sample suggests that the undervaluation hypothesis may be a prime motivation for going private. Finally, a significantly higher dividend yield for the buy-out firms confirms the concentration of going-private transactions in mature industries but casts doubt on the free cash flow hypothesis.

[Insert Table 2 about here]

For a sample of 102 MBOs over the period 1981-85, Kieschnick (1989) finds strong support for the undervaluation hypothesis, while the data corroborate neither the free cash flow nor the transaction cost

hypotheses. Judging that tax benefits could be retrieved by any potential buyer, he discards taxation as a factor driving MBOs. In contrast, Lehn and Poulsen (1989) find opposite results for a sample of US going-private transactions over largely the same period (1980-87)[18]: they support the free cash flow hypothesis. In addition, takeover speculation and the presence of competing bidders are significantly positively related to the likelihood of going private. This endorses the takeover defense hypothesis. Furthermore, as outsiders are not expected to possess the same level of superior (private) information as insiders, the authors interpret this finding as unsupportive of the undervaluation hypothesis.

Several studies re-examine Lehn and Poulsen's (1989) dataset while performing a more sophisticated analysis. For instance, Kieschnick (1998) documents that, accounting for the influence of the Lehn and Poulsen sampling procedure on the control sample, for outliers and for misspecified variables, the data fail to support the free cash flow hypothesis. He claims that the potential for tax bill reductions and firm size are the significant variables, as is the earlier takeover interest.

Ippolito and James (1992) observe that there is a significant increase in pension terminations following public-to-private transactions. This termination rate more than doubles for the sample firms around and after the going-private announcement, relative to firms that remain publicly quoted. Yet, the data do not provide sufficient evidence to support the wealth transfer hypothesis as described by Shleifer and Summers (1988). Likewise, the results remain inconclusive about the efficiency-improving role of going private.

Opler and Titman (1993) remark that little attention has been paid to the role of financial distress in the decision to go private. Using a sample of going-private transactions that spans the 1980s, they find strong significant evidence that the costs of potential financial distress deter firms from going private in a leveraged transaction. This leads them to conclude that "debt financing is crucial for realizing the gains from going private", while discarding the idea that this is due to the tax benefits of debt usage. The authors also find strong support for the free cash flow hypothesis. Weir et al. (2005) investigate whether or not those US conclusions are also valid for the UK. They find no evidence that potential financial distress deters public-to-private transactions. On the contrary, firms that go private have more assets in collateralized form that firms that remain public. The also examine the role of private equity provides and state that these investors are more interested in participating in diversified firms with higher growth prespects.

Firms that went private can be classified into two different groups based on pre-transaction managerial ownership. Halpern, Kieschnick and Rotenberg (1999) find that firms with low pre-transaction

[18] Both studies prefer a maximum-likelihood logit framework as discriminant analysis estimators are not consistent when the data do not follow a multivariate normal distribution.

managerial shareholdings experience more prior takeover interest and exhibit lower leverage than their counterparts that remain public. In contrast, firms with high pre-transaction managerial control concentration have higher levels of leverage and poorer ex ante stock price performance than the matched firms that remain listed. The results show a positive relation between the propensity to go private and the managerial shareholdings for firms with higher levels of director ownership, which is inconsistent with the incentive realignment hypothesis. For either subgroup, they refute the free cash flow as a determinant for going private. In a recent study of 21 reverse LBOs, Kosedag and Lane (2002) find no support for the free cash flow hypothesis either. However, the likelihood of going private is positively related to the potential for tax savings.

Finally, Weir, Laing and Wright (2003 and 2004) provide the first systematic UK studies into the likelihood of going private. They examine incentive effects, monitoring mechanisms and the role of the takeover threat by the market for corporate control for a sample of 95 public-to-private transactions completed between 1998 and 2000, and compare these transactions to a control sample created on the basis of choice-based sampling for size and industry. They show that the pressure from the market for corporate control is not a factor in the decision to go private. Furthermore, no evidence is found supportive of the free cash flow hypothesis or accounting underperformance, although the buyout firms do exhibit lower growth opportunities. Contrary to US evidence, the potential for tax savings does not seem to play a role in the choice to go private. Weir et al. (2004) also document that some specific corporate control variables determine the going-private decision; like strong leadership (proxied by the combination the positions of CEO and chairman) and concentrated institutional shareholdings.

To conclude, there is no unambiguous support for any specific hypothesis. Table 2 shows that the tax hypothesis is well supported in the US literature. However, the fact that firms with greater tax shields are more likely to go private does not necessarily mean that it is an important determinant. The reason is that, as it is straightforward to estimate the tax benefits of an LBO, the pre-transaction shareholders are able to fully appropriate this tax benefit. It is therefore not a motive for the parties initiating the LBO or MBO. Whereas the free cash flow and undervaluation hypotheses are only sporadically supported, the US going-private decisions in the 1980s frequently are motivated by anti-takeover defense strategies.

4.2 Second Strand: Impact

If leveraged and management buyouts are associated with value creation then who is the receiver of these benefits? The wealth effects of going-private transactions have been empirically investigated for several groups of stakeholders, though the majority of the empirical literature has focused on those of the

pre-buyout shareholders. The impact of the announcement of a going-private transaction on stockholder wealth is either estimated by event studies or by the premium offered.

Shareholder wealth effects and their measurement

Abnormal returns are calculated to measure the informational effect of an event on the market value of a firm. Table 3 present the results of event studies in going-private research. The principal period of study has been the 1980s, and virtually all samples cover the US. The typical abnormal return at the announcement of an MBO or LBO appears to be around 20% (see table 3), with most of the buyout information generally incorporated in the share price from one day before until one day after the event date. This 20% abnormal return seems to be rather low compared to the 25%-30% range for tender offers and mergers.[19]

[Insert Table 3 about here]

An alternative methodology to measure the wealth effect calculates the real premium paid in the transaction. Instead of comparing the realized returns to estimated benchmark returns, this methodology measures the premium as a difference in the firm value in the beginning and the end of the transaction. In the case of LBOs/MBOs this is the difference between the last price traded before the de-listing and the pre-announcement price of the firm. This means that the premiums are measured over the full period of the going-private transaction. As Table 4 shows, the average premiums vary around 45%.

[Insert Table 4 about here]

The two approaches described above lead to different estimates of the shareholder wealth effect occurring in the going-private transactions. Several explanations are offered in the literature to account for the difference. Firstly, event study returns are corrected for the expected returns, whereas the reported average premiums generally are not. However, this difference can hardly explain the deviation of almost 25%. Secondly, according to DeAngelo et al. (1984) the difference can also be attributed to the fact that abnormal returns, as a measure of the market expectation about the future profits from the buyout, include the probability that a bid fails, while the premium does not incorporate this probability. They show that an offer withdrawal is a realistic threat by estimating the two-day abnormal loss at 8.88% (significant at the 1% level). Marais et al. (1989) confirm these results. This discrepancy renders the two methods of calculating the impact on shareholder wealth incomparable for going-private transactions.

[19] For the bid premiums in domestic and cross-border acquisitions in the UK and Continental Europe, see Goergen and Renneboog (2004)

Incentive realignment, free cash flow, tax benefits and transaction costs

The first systematic study of the cross-sectional variation of shareholder wealth effects in going-private transactions was performed by DeAngelo et al. (1984). They report that the average cumulative abnormal returns (CAARs) around the announcement depends on the managerial equity share prior to the public-to-private transaction. In transactions when the pre-buyout management stake is at least 50%, the CAARs are 20% higher than in transactions with the management owning less. However, they do not find significant difference in the premiums offered to these two groups of companies. This implies a larger probability of success for firms with strong initial managerial control (more than 50%). Abnormal returns occurring at the announcement of the buyout also depend on the post-transaction ownership of the manager. DeAngelo et al. show that the market reaction to the MBO is higher when the management becomes the sole owner than when control is shared with a third party. However, such an acquisition of full control by the manager is associated with lower offered premiums.

Lehn and Poulsen (1989) cross-sectionally analyze the average premiums by regressing them against a set of explanatory variables that proxy for free cash flows, growth prospects, size and potential tax savings. They find that the premiums depend on the level of free cash flows. When partitioning the sample based on managerial ownership, the free cash flow variable proves insignificant for higher-than-median holdings. This is consistent with the free cash flow hypothesis, as the agency costs are higher in the firms with low levels of managerial ownership. The potential for tax savings is not a significant determinant in the cross-sectional variation of premiums. Kieschnick (1998) revisits the Lehn and Poulsen sample, and reaches opposite conclusions after accounting for outliers and redefining the variables. His results are not supportive of the free cash flow hypothesis, but sustain that potential tax savings and firm size have a positive impact on the wealth gains in LBOs.

Travlos and Cornett (1993) jointly test the hypotheses about taxation, bondholder wealth transfers, asymmetric information and agency costs in a cross-sectional analysis. In addition, they are the first to test the hypothesis of transaction costs savings by employing annual costs of listing according to NYSE and AMEX fee schedules (scaled by the market value of equity), but conclude that this hypothesis is not upheld. The industry-adjusted Price-Earnings ratio is deemed to be an inverse proxy for agency costs and proves to be a statistically significant variable negatively influencing abnormal returns. Consistent with DeAngelo et al. (1984), the authors find that the stock price reaction to MBO announcements is significantly higher than for third-party transactions (MBIs and IBOs).

With respect to the effects of managerial ownership, Frankfurter and Gunay (1992) demonstrate that the incentive realignment hypothesis is corroborated. The level of insiders' net divestment is found to

be a significantly positive determinant of abnormal returns. This confirms that the incentive realignment hypothesis does not hold for pre-transaction firms with large managerial ownership. Halpern et al. (1999) confirm the latter finding. They cross-sectionally analyze the buyout premiums and reveal a U-shaped relation between managerial equity ownership and buyout premium for poorly performing firms. This evidence shows that for firms where managers already own a large stake in the company's equity, the reunification of ownership and control is not the prime motive to go private.

Finally, Kaplan (1989b) argues that tax benefits constitute an important source of wealth gains in going-private transactions. His models show that 76% of the total tax shield is paid out as a premium to those investors selling out. This supports his claim that predictable potential tax benefits are appropriable by pre-transaction investors in a competitive market for corporate control.

Bondholder wealth transfers

On the bondholder wealth transfer hypothesis, Marais et al. (1989) report a non-significant correlation between pre-buyout debt ratios and abnormal returns. A significant positive relation would have confirmed that in firms with high pre-transaction debt ratios, the bondholder wealth transfer could contribute to the premiums paid to shareholders to take the firm private. Warga and Welch (1993) show that in going private transactions, an increase of one dollar in the firm market value of equity is associated with a five cents decrease in the overall value of debt. Likewise, Asquith and Wizman (1990) show that a bondholder wealth transfer to the shareholders exists but is small. Their estimate of abnormal losses to bondholders is only 3.2% of gains made by shareholders. This evidence confirms that the bondholder wealth transfer hypothesis cannot be rejected, but also that bondholder expropriation cannot be a principal source of wealth gains to shareholders in public-to-private transactions.

Undervaluation hypothesis

Harlow and Howe (1993) find that going-private premiums paid by third parties are on average 11% higher than the premiums paid by management teams, with the typical MBO premium being 39%. The correlation of these premiums with various measures of insider trading is only significant for the MBO subgroup. This suggests that insider net buying before an MBO conveys favorable information to the market and constitutes some support to the undervaluation hypothesis. Kaestner and Liu (1996) reach similar conclusions: MBO-related abnormal buying prior to the public-to-private announcement is not driven by free cash flows or past tax liabilities but by superior knowledge about the true value of the firm.

Goh, Gombola, Liu and Chou (2002) investigate analysts' earnings forecast revisions at the public-to-private announcement. They report a significant upward revision of earnings forecasts for institutional

buy-ins, but find that this phenomenon is significantly less pronounced for MBOs. They examine the undervaluation hypothesis by analyzing the effect of analysts' forecast revisions on abnormal returns at the announcement of a public-to-private transaction. Whereas they find no significant support for the free cash flow hypothesis or any effect induced by a change in leverage, the authors show that the informational value of analysts' forecast earnings has a significantly positive impact on the abnormal returns of the public-to-private announcement. As a going-private transaction also induces analysts to increase earnings forecasts for rivals, the authors conclude that going-private announcements indeed convey favorable information about future earnings. Contrarily, Lee (1992) reports that there are no sustained shareholder wealth increases from MBO announcements that are subsequently withdrawn. This result suggests that going-private announcements do *not* convey favorable information on future earnings.

Bidder Competition

Expectedly, the emergence of multiple bidders augments the premium paid to pre-transaction shareholders. For instance, Lowenstein (1985) calculates that the premiums paid to shareholders in MBO transactions involving 3 or more competing bidders were on average 19% higher than the premiums paid in cases with a single bidder. Amihud (1989) confirms his findings: 9 out of 15 of the largest biggest LBO transactions over the period 1983-86 received competing bids and the final premium paid was 52.2% compared to 30.7% for cases without bidder competition. Similarly, Easterwood, Singer, Seth and Lang (1994) show that the premium in a multiple bidder process is about 17% higher. Interestingly, they as well as Lee, Rosenstein, Nangan and Davidson (1992) document that conflicts of interest for bidding management teams in MBOs are alleviated by a more independent board. This evidence underlines the importance of the Cadbury (1992) recommendation to have a sufficient number of non-executive directors included in the board.

UK research

Renneboog, Simons and Wright (2004) calculate both the cumulative abnormal return and the average premium of 177 public-to-private transactions taking place in the UK during 1997-2003. They find that the selling pre-buyout shareholders receive a premium of 41% on average and that the announcement effect of the going-private deals amounts to 23%. They conclude that neither the post-transaction tax shield nor the pre-transaction free cash flow has any impact, but that the incentive realignment in the post-transaction period is significant determinant. They also show support for the transaction costs hypothesis: the savings realized by the direct and indirect costs of listing significantly contribute to the shareholder wealth effects from going private.

Two studies of shareholder wealth effects employing non-US samples focus on divisional buyouts and their effects on parent shareholders. Bae and Jo (2002) argue that there are considerable differences between divisional and whole firm buyouts. It is expected that divisional buyouts suffer less from the absence of arm's length bargaining, because the parent company management negotiates with the divisional buyout team and therefore does not assume the conflict-prone role of managers in MBOs. For a sample of 65 MBO divestments over the period 1984-89, Briston, Saadouni, Mallin and Coutts (1992) find negative returns of -1.79% to parent shareholders (measured over a [-10,10] window and significant at the 1% level). Apparently, divisional managers still succeed in negotiating a relatively low price for the assets they buy from the parent company. This contradicts the findings of US divisional MBOs (Muscarella and Vetsuypens (1990)) in which the parent shareholders do not lose, on average.

[Insert Table 5 about here]

Table 5 summarizes this second strand of the literature. First, we conclude that the evidence on the undervaluation hypothesis is not clear-cut. Second, bondholder wealth transfers seem to exist but are only playing a very limited roll in the wealth gains of pre-buyout shareholders. Other wealth transfer (or expropriation) hypotheses have not been tested directly. Third, the evidence on agency-related hypothesis, more specifically the incentive realignment and free cash flow hypotheses, is mixed. There is evidence that the incentive realignment hypothesis is only valid for firms where pre-transaction managers hold small equity stakes. Fourth, the increased tax shields from going private are a source of wealth gains that are largely captured by the pre-buyout shareholders. Fifth, remarkable is that most of the evidence in this strand of the literature – with the exception of a paper on UK divisional buyouts and one on the second public-to-private wave - comes from the US. This calls for systematic research on this strand from other parts of the world.

4.3 Third Strand: Process

So far we have discussed the empirical results of the determinants of the firm-specific probability of going private, and how much acquirers generally pay in order to obtain the required proportion of shares to delist the company. After these two initial phases, the firm starts a new life away from public scrutiny and usually somewhat disappears from the public forum. Fox and Marcus (1992) remark that it is imperative that these firms do not vanish from the academic radar. After all, the scientific debate about the real role of leveraged going private transactions, being either more efficient organizational forms (Jensen (1989)) or simply vehicles to gain tax benefits (e.g. Lowenstein (1985)), cannot possibly be resolved

without detailed study of the post-transaction performance. After the acquiring party has paid a premium to take the company private, the process by which it recovers these out-of-pocket costs and puts the resources under its control to a more valuable use, can result in interesting insights into the real sources of wealth gains from buyouts. In this section, the most important papers from the large body of empirical work on the post-buyout wealth creation process are described.

Post-transaction performance of going-private firms

Kaplan (1989a) analyzes the post-transaction operating performance of 48 MBOs that took place during 1980-86. He finds that industry-adjusted operating income does not increase during the first two years subsequent to the buyout, but grows by 24.1% in the third year. When one controls these findings for divestitures, the bought-out firms even strongly outperform their public counterparts in every post-buyout year. Kaplan also documents that industry-adjusted capital expenditures fall significantly after the buyout, which is in line with the curbing of management's 'empire-building tendencies' provided that pre-buyout firms had large levels of free cash flows. However, in bought-out firms that do not generate high free cash flow, restricting capital expenditures may signal an underinvestment problem induced by the debt burden. Both Smith (1990) and Kaplan (1989a) show evidence that the post-buyout operating performance (median operating cash flow per employee and per dollar of asset value) increases more than the industry median from the prior before for two years after the transaction. Tighter working capital management seems to be a small contributing factor, while a reduction of spending on discretionary items or capital expenditures cannot explain the improved operating performance.

Muscarella and Vetsuypens (1990) perform a similar exercise for reverse LBOs both on the whole firm and on the divisional level. Restructuring activities explain the strong improvements in efficiency after an MBO. They argue that the premium is more likely to capture the efficiency improvements in divisional buyouts than in whole-firm buyouts. The reason is that there is less asymmetric information in relation to a divisional MBO than in a whole-firm going-private transaction because in the former case the negotiation management teams are both insiders. Efficiency gains reflect real operating gains; the accounting variables show that these improvements result mostly from cost cutting, and not from the generation of more revenues. Divisional buyouts indeed appear to have more pronounced efficiency gains, which implies more support for the undervaluation hypothesis for whole-firm MBOs. In contrast, neither Kaplan (1989a) nor Smith (1990) supports the undervaluation hypothesis. The former study observes that pre-MBO financial projections, upon which the offer price will be based, systematically overstate the future realizations. Smith (1990) observes that cash flows tend not to increase after a failed buyout proposal. Post-buyout cash-

generative characteristics of defensive and non-defensive transactions do not differ, which undermines the undervaluation hypothesis that MBOs are motivated by private information held by management.

The post-transaction situation for employees

The three papers discussed above also elaborate on the effects of a public-to-private transaction on the firm's employees. When controlling for reduced employment resulting from post-transaction divestitures, Kaplan (1989a) reports that median employment actually rises by 0.9%. Muscarella and Vetsuypens (1990) report that going-private transactions do not cause layoffs. These results are confirmed by Smith (1990) who also notes that the number of employees from the year before until the year after the MBO grows more slowly than the industry average. In another interesting study, Lichtenberg and Siegel (1990) investigate the consequences of MBOs on total factor productivity, by employing a sample of a thousand plants. Their main conclusion is that total factor productivity growth on the plant level increased by 8.3% above the industry mean over the three years following a going-private transaction. Also, MBOs experience higher mean productivity increases, while productivity increases for the fourth and fifth year after the deal are non-significant. Finally, the study documents that employment and compensation for blue-collar workers do not decline after a buyout, while white-collar workers do experience compensation and employment losses.

Organization and strategy in the post-transaction firm

Liebeskind, Wiersema and Hansen (1992) investigate the incentive realignment hypothesis by testing if and how corporate restructuring affects the firm and its post-transaction strategy. Using a sample of 33 of the largest LBOs (1980-84), and a matched control sample of companies that remain public, they find that managers of going-private firms resorted to more downsizing of their businesses and to expanding production lines less. However, the business mix of the corporate portfolios does not change. Apparently, the incentive realignment following the buyout induces managers to pursue a focus strategy and to forego excess growth.

Jones (1992) focuses on the use of accounting control systems in the new firm after going private. He finds that an improvement in operational efficiency was achieved through modifications of the organizational structure. Going private led to improved planning techniques that match the organizational context better. Zahra (1995) uses interview data to uncover the role of entrepreneurship in performance improvements in the post-buyout process. He confirms that, even with a high debt burden, innovation and risk taking is not stifled. Post-buyout performance improvements arise from an increased emphasis on commercialization and R&D alliances, as well as from an improved quality of the R&D function and

intensified venturing activities. Zahra (1995) claims that incentive realignment explains most of the performance improvement.

The evolution of post-buyout performance

Kaplan and Stein (1993) add an important nuance to the positive view sketched in the Kaplan (1989a) and Smith (1990) papers. They point out that US public-to-private transactions effectuated in the latter half of the decade were pricier and riskier, eroding the returns of taking a company private. Long and Ravenscraft (1993) confirm that the performance gains for LBOs and MBOs completed in the latter half of the 1980s decline, but performance and efficiency improvements remain substantial. For instance, Opler (1992) calculate that for the 20 largest transactions in the 1985-90 period, operating profits per dollar of sales rise by 11.6% on an industry-corrected basis. Per employee, this increase is even as high as 40.3%. In addition, leveraged going-private transactions do not seem to decrease spending on R&D.

The pre-buyout benchmark

So far, the results for post-transaction firms have all seemed to improve. However, Smart and Waldfogel (1994) and Palepu (1990) claim that earlier work mistakenly compares post-transaction performance to pre-transaction performance, arguing that it should really be compared to pre-transaction *expected* performance to ascertain whether performance improvements are attributable to LBOs. One could argue that these performance improvements would have happened anyway, and that the buyout is merely the result of undervaluation. Even after taking into account this different benchmark, Smart and Waldfogel (1994) still show strong operating performance improvements for going-private firms for the Kaplan (1989a) sample.

Case study results

Both Baker and Wruck (1989) and Yin (1989) use case studies to explore the organizational links between going private and performance improvements. Investigating the MBO at O.M. Scott & Sons Company, the former authors confirm the results of large sample studies that high leverage and managerial equity ownership lead to improved incentives and, subsequently, to improved performance. Of equal importance in terms of their contribution to performance however, are the restrictions imposed by debt covenants, the emphasis on managerial compensation (and its incentives), decentralization of decision making, and the relation Scott managers had with the third-party buyout team of Clayton & Dubilier partners. Baker and Wruck (1989) conclude that the performance improvements were related to some specific organizational characteristics of leveraged buyouts, and not just because these improvements were

not made before when the firm was still in public hands. Denis (1994) provides evidence that looks at least as convincing by comparing a leveraged recapitalization (Kroger Co.) with an LBO (Safeway Stores Inc.). He finds that, although both firms dramatically increase leverage, the improved managerial equity ownership, boardroom change, monitoring by an LBO specialist firm, and executive compensation associated with the LBO are responsible for the more productive cash generation in Safeway Stores. Still, Denis acknowledges that the leveraged recapitalization did generate performance improvements. This paper suggests an LBO is not only about leveraging up the businesses; it is a completely different organizational form with its own value improving characteristics. This implies that not all, but part of the gains from going private can be attributed to the new organizational form of an LBO.

Behavioral issues like the social and political consequences of changes in ownership on the motivation of managers are examined by Green (1992) in 8 case studies of UK divisional MBOs. Although managers seem to work harder and are more entrepreneurial in the investigated MBOs, the prospect of financial rewards did not appear to be the main motivator. Rather, contrary to beliefs commonly held by financial economists, it was the changed working conditions that allowed them to do their work more effectively. In fact, this finding casts doubt on the incentive realignment hypothesis, as it means that innovativeness drives ownership concentration, rather than the other way around. Indeed, Bruining and Wright (2002) find that management buyouts of non-listed firms occur mostly in firms where entrepreneurial opportunities exist. Clearly, these case studies conform the claim that MBOs are more than just a vehicle to improve efficiency in a mature-sector company (Wright, Hoskissen, Busenitz and Dial (2000)).

Specifically for management buyins of unquoted UK firms, Robbie and Wright (1995) find that all too often, MBI teams cannot adequately deal with problems that occur post-transaction. Such problems were not anticipated in the due diligence examination but substantially impede the execution of a new strategy. The evidence that there is a lack of accurate information turns out to be a major cause of problems in third-party transactions. The paper supports the incentive realignment and monitoring hypotheses.

Reverse LBOs

A substantial body of literature has focused on the phenomenon of reverse LBOs. DeGeorge and Zeckhauser (1993) model that asymmetric information, debt overhang and behavioral problems can create a pattern of superior performance before the reverse LBO (the private stage), and disappointing results afterwards (the public stage). Their empirical study of 21 reverse LBOs between 1983 and 1987 confirms their hypothesis. Holthausen and Larcker (1996) expand this study by analyzing the value drivers of the accounting performance for 90 reverse LBOs (1983-88). They find that, although leverage and insider

equity ownership are reduced in reverse LBOs, both remain high relative to the industry-adjusted numbers of quoted firms. Thus, they argue that reverse LBOs are in fact hybrid organizations because they retain some of the characteristics of an LBO after flotation. Their regression analysis strongly upholds the incentive realignment hypothesis. For at least four years after a secondary IPO, these firms outperform their industries on an accounting basis performance but experience a performance decline afterwards (which Bruton, Keels and Scifres (2002) confirm). Holthausen and Larcker (1996) speculate on the causes for this lagged effect of performance reduction: they believe that reverse LBOs gradually lose their typical LBO characteristics and evolve towards the typical firm of the industry. They also find that capital expenditures increase and R&D expenditures decrease after the IPO, but that reverse LBO firms seem to be more efficient with respect to working capital requirements. Like DeGeorge and Zeckhauser (1993) and Mian and Rosenfeld (1993), they do not find stock price underperformance, until at least four years after flotation. Apparently, reverse LBOs are rationally priced and do not suffer from long-term underperformance (Ritter (1991)). Fox and Marcus (1992) argue that the reverse LBO performance studies cannot to be used to make inferences about going private in general, as the studies use biased samples of the whole LBO population. Wright, Thompson, Robbie and Wong (1995)) agree with this criticism as those companies returning into public hands are likely to be the strongest performers.

Financial distress

Although there are case studies on individual going-private firms in trouble (see e.g. Bruner and Eades (1992) and Wruck (1991)) as well as some large sample studies (e.g. Andrade and Kaplan (1998) and Easterwood (1998)), research directly testing the effects of recessionary conditions is scarce. Nevertheless, Wright, Wilson, Robbie and Ennew (1996) find that the probability of failure of buyouts and buyins of unquoted companies is reduced due to the existence of managerial incentive plans and well-timed corporate restructuring. Consistent with Brunner and Eades (1992), they find that excessive leverage is a strong predictor for failure when macro-economic conditions turn sour. Denis and Denis (1995) confirm that, for a sample of 29 leveraged recapitalizations completed between 1985 and 1988, regulatory developments as well as a recession (or industry-wide downturns) strongly negatively influence the survival probability.

[Insert Table 6 about here]

Table 6 summarizes the main results discussed in this section. We conclude that the empirical research has confirmed that the post-transaction performance improvements are in line with those anticipated at the announcement of a going-private transaction. The causes of the performance and efficiency improvements are primarily the organizational structure of the leveraged buyout (characterized

by high leverage and strong (managerial) ownership concentration). Almost unambiguously, the studies in this strand of the literature support the role of incentive realignment in the post-buyout value creating processes, while the employee wealth transfer hypothesis seems unanimously discarded. While the undervaluation hypothesis remains disputed, the free cash flow theory appears to find more support in this strand than in others. Nevertheless, the empirical work on post-buyout processes seems far from complete, and will require more studies of long-run performance.

4.4 Fourth strand: Duration

Jensen (1989) argues that LBO firms constitute a superior organizational form to publicly held firms, due to the better incentives they offer to managers and monitors. Management incentives relating pay to performance, decentralization of control, high leverage and other binding agreements, combined with reputational concerns of the LBO sponsors, reduce the agency cost problems inherent to the structure of the public corporation in low-growth industries. Rappaport (1990) contests Jensen's (1989) proclaimed superiority of the LBO organization to public corporations, arguing that the latter are 'vibrant, dynamic institutions - capable of long periods of underperformance, to be sure, but also fully capable of self-correction'. In short, Kaplan (1991) refers to Rappaport's (1990) view of 'going-private as a shock therapy'. After the necessary changes have been brought about under highly-leveraged private ownership, the costs of inflexibility, illiquidity and the need of risk diversification will exceed the benefits of the LBO as organizational form, with a return to public ownership as an inevitable consequence. Clearly, in this view, the time horizon associated with the role allocated to going private will generally be shorter than the 'significant period of time' Jensen (1989) deems necessary. Kaplan (1991) highlights the importance of evidence on LBO-duration in the discussion on the role of public-to-private transactions, the reasons why they occur and the sources of wealth gains that motivate going-private transactions. Therefore, this section will review the limited empirical work on the duration of private ownership after a leveraged going-private transaction.

US Evidence

The empirically correct way to verify the conjectured duration of leveraged buyouts should inhibit an analysis of the conditional probability of reversion to public ownership. Kaplan (1991) was the first to formally address the issue and finds that companies that return to public ownership do so after a median time in private status of only 2.63 years. For his sample of 183 large going-private transactions from 1979-86, he finds an unconditional median life of 6.82 years for whole-firm and divisional LBOs.

Using hazard functions, Kaplan (1991) observes constant duration dependence in years 2 through 5, and negative duration dependence[20] beyond this. This means that the likelihood of returning to public ownership is largest in years 2 to 5, while this likelihood decreases as time under private ownership increases beyond this period. This result leaves room for both the existence of Rappaport's (1990) arguments about the shock therapy of LBOs, as well as for Jensen's (1989) idea that firms that go private will remain private for longer periods of time due to the advantages of incentive realignment. Consistent with Kaplan (1991), Holthausen and Larcker (1996) confirm that LBOs reversing to public ownership retain some of the characteristics they exhibited under private ownership.

Van de Gucht and Moore (1998) also explore the longevity of LBOs, but do not unambiguously support Kaplan's (1991) results. Using a sample of 343 whole-firm and divisional buyouts from 1980-92, they confirm the results found by Kaplan (1991 and 1993) on the median conditional and unconditional duration of the private status. However, employing a split population hazard model that does not implicitly assume that all firms that went private eventually return to public ownership (as Kaplan (1991) does), they document a positive duration dependence until the seventh year, and negative dependence beyond that year. Divisional buyouts are found not to be significantly different from whole-firm going-private transactions in terms of their duration. Interestingly, the climate of the financial markets significantly influences the reversion moment.

UK evidence

Wright et al. (1995) investigate the duration that buyouts and buyins stay private for a sample of 182 UK firms for 1983-86. This sample includes public-to-private transactions as well as buyouts of non-quoted firms, and both divisional and whole-firm buyouts and buyins. This study shows that – in line with the US findings - the hazard coefficient increases strongly from approximately 3 to 6 years after the buyout, after which a negative duration dependence persists. Survivor analysis estimations show that size is a significantly negative determinant of longevity in buyouts.

Quantitative analysis is combined with three case studies in Wright, Robbie, Thompson and Starkey (1994) in order to investigate the influence of a whole array of management applications on the duration of a firm's private status. Their evidence suggests that ownership, financial and market-related factors are the prime factors explaining the duration of the buy-out. Third party financing institutions are associated with the propensity to exit fairly rapidly after a transaction, as these institutions desire a return within a pre-established time frame. If the management of the buy-out firm owns a relatively small fraction

[20] Duration dependence is extent to which the conditional hazard of the event of interest occurring is increasing or decreasing over time (for a general review see Kiefer (1988) or Heckman and Singer (1984)).

of the equity, it will be not able to extend the private status of the firm for long. Finally, the study documents that environmental dynamism and competitive pressure are important determinants of buyout longevity.

Support for the contradicting claims of both Rappaport (1990) and Jensen (1989) (an LBO is needed for a short time period as a shock therapy versus an LBO is an efficient organizational form even in the long run) is given by Halpern et al. (1999). The probability of remaining private is positively related to managerial shareholdings. A subsample of LBOs remains private only for a short time; these were usually – prior to the buyout - poorly performing firms with low managerial equity holdings. After restructuring the operations subsequent to the buyout, these firms regain a stock exchange quotation. Another subsample (firms with ex ante high managerial shareholdings) seems to consider that the private status is the efficient form of organization and remain delisted.

[Insert Table 7 about here]

Table 7 gives an overview of the main results of the papers discussed in this section and shows that there is a dichotomy among the firms that go private. Some firms seem to use the organizational form of a going-private transaction as a temporary shock therapy efficiently allowing corporate restructuring, while for others it constitutes a sustainable superior organizational form. The decision to organize a reverse LBO (or a secondary initial public offering) depends both on firm-specific characteristics and environmental factors.

5. Conclusion

On the whole, there has been little systematic research into the sources of wealth gains of this second wave of going-private transactions. Therefore, it is difficult to make objective statements on the efficiency and economic value of leveraged buyouts as change catalysts. Furthermore, most of what is currently known about going-private transactions has been empirically verified with US samples of the 1980s. It is unclear whether this US evidence on the sources of wealth gains from going private is generalizable to US LBOs of the 1990s. Furthermore, it is even more questionable whether the US findings can be extrapolated to the UK and Continental European waves of public-to-private transactions, considering the differences in corporate performance regulation.

Apart from the fact that results from the 1980s may no longer apply to the present situation, there are more compelling reasons why the lessons drawn from US LBO research cannot entirely be extrapolated to UK and Continental European public-to-private transactions. First, the nature and extent of debt financing in US public-to-private transactions differ substantially from those of UK/European deals (Toms

and Wright (2004)). Whereas US deals of the 1980s were primarily financed with junk bonds, mezzanine was and still is the standard in the UK and Continental Europe.[21] Since these two sources of funds have different characteristics (in terms of flexibility, interest rates, maturity, covenants and gearing levels), it is not unlikely that the financing choice will influence the incentive mechanisms in all phases of a going-private transaction. Also, the debt levels associated with UK transactions are generally lower than the gearing ratio in US deals. Second, tax motives have been proven to be an important source of wealth gains in US transactions in the 1980s. However, taxes cannot play such a large role under UK tax law, as dividends are untaxed. Third, in the US market for corporate control far more hostile approaches prevail. The UK going-private wave of the late 1990s exhibits a hostility rate of merely 7.3% (Renneboog, Simons and Wright (2004)). This discrepancy undoubtedly affects the bidding process for firms going private, and illustrates that the takeover defense hypothesis may logically not be expected to play as big a role in UK and Continental European deals. Fourth, venture capital and buyout markets in the UK have traditionally been more closely linked than those in the US. Thus, the UK going-private activity has focused on growth opportunities, whereas US LBOs have occurred more frequently in mature, cash-rich industries. Finally, the UK and Continental European markets for corporate control are organized and regulated completely differently than the US ones. Whereas US state regulation has effectively been able to stringently regulate unsolicited takeover activity, the UK system has preferred self-regulation, hereby favouring the unrestricted functioning of market forces (Miller (2000: 534)).[22]

These differences in corporate governance regulation will influence the sources of wealth creation through going-private transactions. Moreover, the subtle idiosyncrasies in financial practices and culture on either side of the Atlantic further reduce the generalizability of US-based results to the UK/Continental European situation. This implies that there is a strong need for systematic further multi-country research into the second leveraged buyout wave. First, future research should be directed towards analyses of the type of company that goes private. Second, future research should estimate and analyze the shareholder and bondholder wealth effects of public-to-private transactions and investigate why (if at all) these wealth effects differ by corporate governance regime. Third, the process of realization of wealth creation once the firm has been taken private should also attract research interest as little is known about that LBO stage. Finally, future research should address the duration and its determinants of the private status of formerly public firms. Special attention could then be given to international comparisons and the role of going private as a corporate restructuring device in a multi-country setting.

[21] Although recently a limited number of transactions in the UK have been financed with junk bonds.
[22] For an overview of the developments of European takeover regulation: see McCahery and Renneboog (2004) and Goergen, Martynova and Renneboog (2005).

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Figure 1: US public-to-private activity

This figure shows the number of public-to-private transactions (left hand scale) and the value in million USD (right hand scale). Source: Centre for Management Buyout Research / Barclays Private Equity/ Deloitte & Touche.

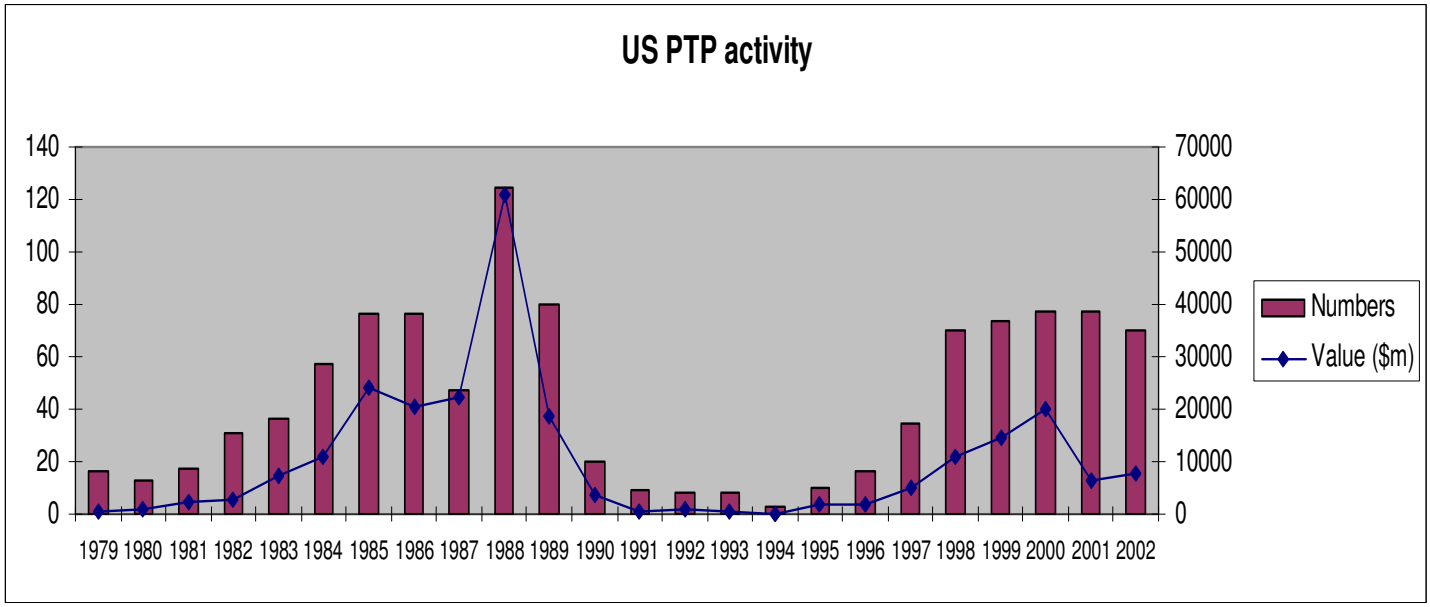

Figure 2: UK public-to-private activity

This figure shows the number of public-to-private transactions (left hand scale) and the value in million GBP (right hand scale). Source: Centre for Management Buyout Research / Barclays Private Equity/ Deloitte & Touche.

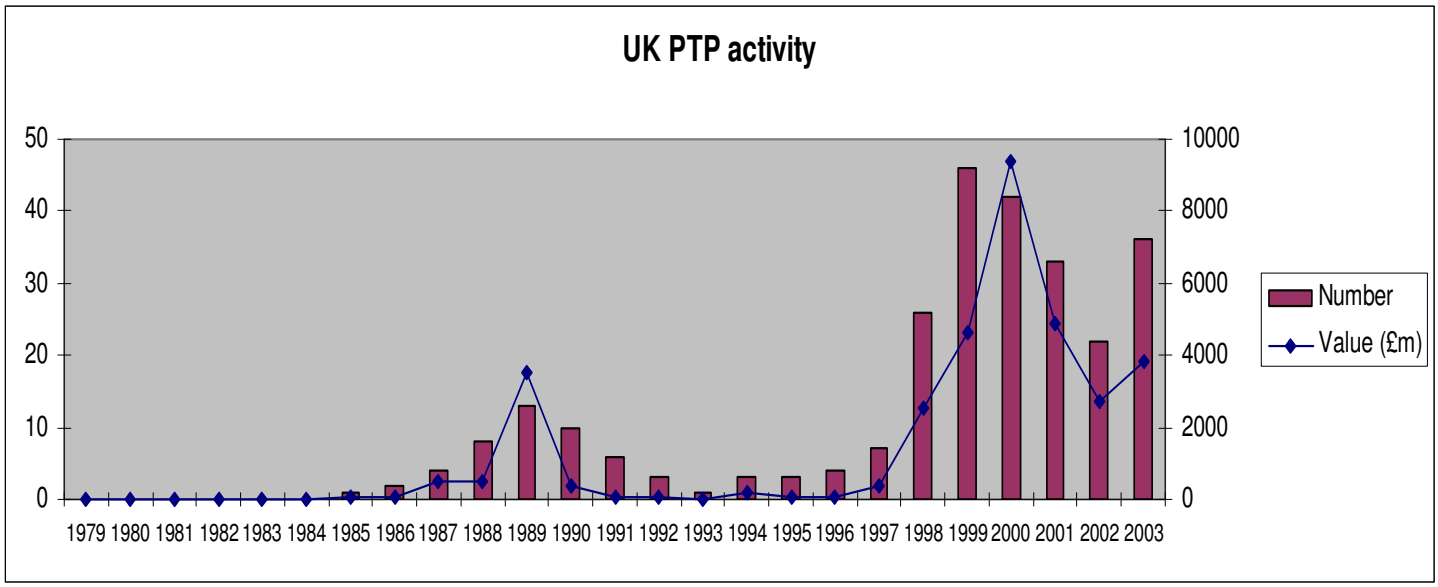

Figure 3: Continental European public-to-private activity

This figure shows the number of public-to-private transactions (left hand scale) and the value in million Euro (right hand scale). Source: Centre for Management Buyout Research / Barclays Private Equity/ Deloitte & Touche.

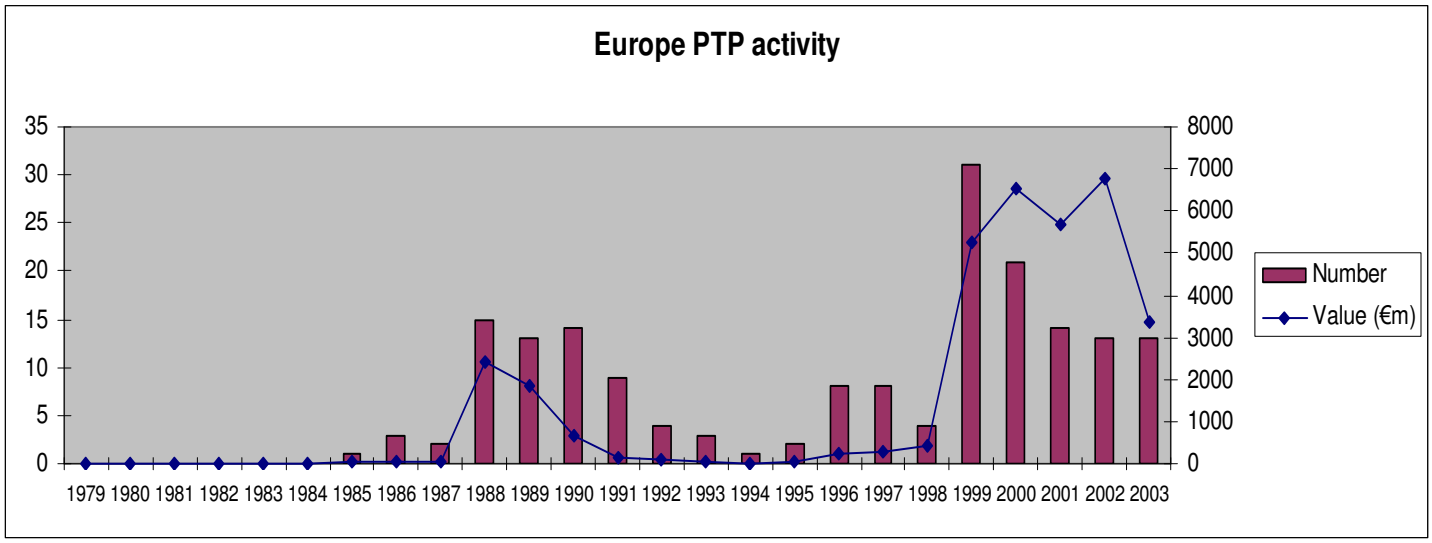

Figure 4: The theoretical framework on the public-to-private literature

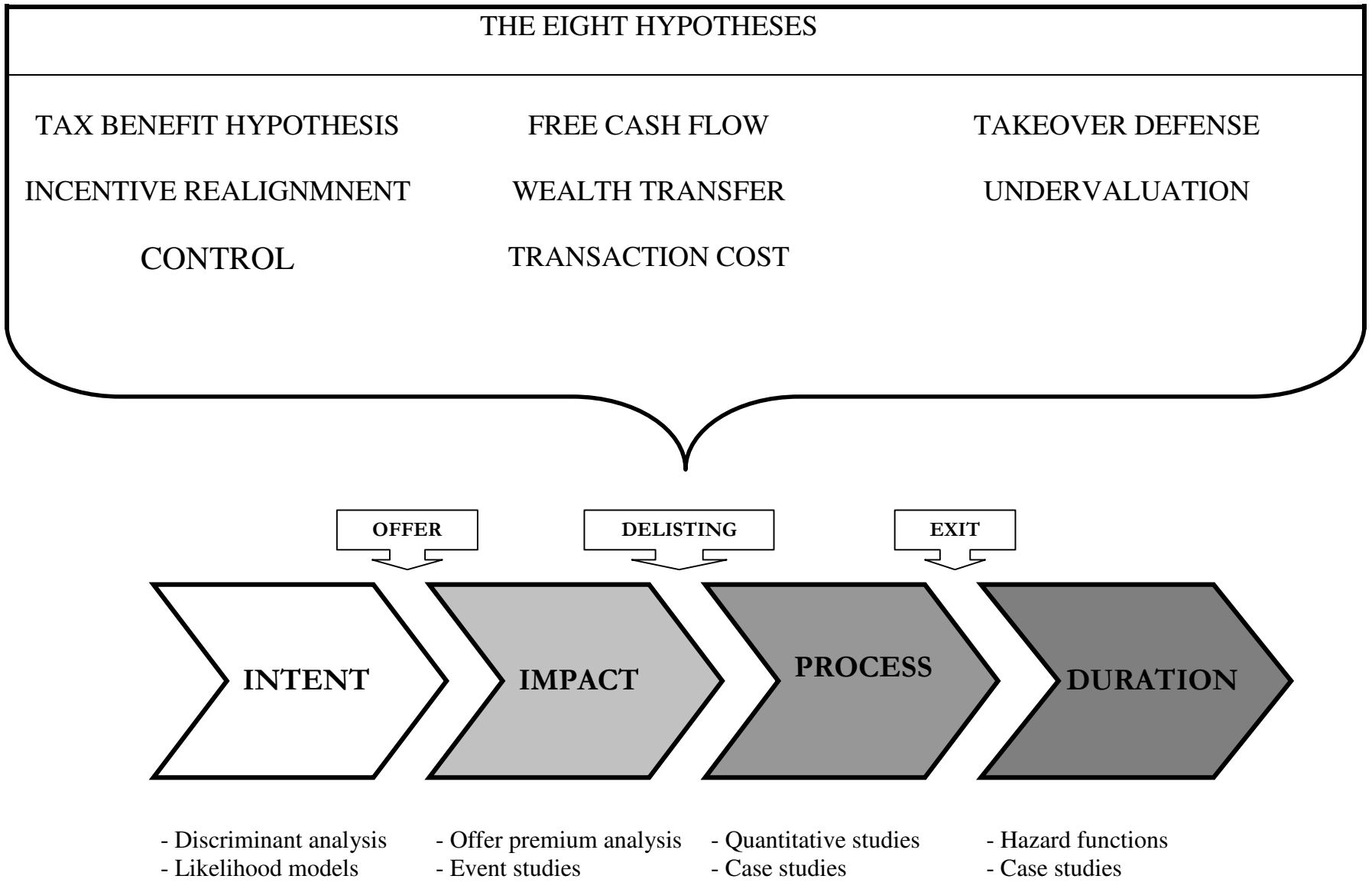

Table 1: The bondholder wealth effects in public-to-private transactions

This table shows the estimated bondholder losses of the total public debt. Losses are calculated using an event study methodology. The benchmark returns used in the market models is specified. N is the number of different bonds that were used in the analysis, although some were issued by the same company. ***, **, * s stand for significance at the 1, 5 and 10% level, respectively.

Study	Sample period/ country	N	Deal Type	Event window	Loss/ Gain to bondholders	Benchmark
Marais, Schipper and Smith (1989)	1974-85 US	33	ALL	[-69,0] days	0.00%	Dow Jones Bond index
Asquith and Wizman (1990)	1980-88 US	199	ALL	[0,1] month	-1.1%**	Shearson-Lehman-Hutton bond index
Cook, Easterwood and Martin (1992)	1981-89 US	62	MBO	[0,1] month	-2.56%**	Shearson-Lehman-Hutton bond index
Travlos and Cornett (1993)	1975-83 US	10	ALL	[-1,0] days	-1.08%*	CRSP equally weighted index.
Warga and Welch (1993)	1985-1989 US	36	ALL	[-2,2] months	-5.00%**	Rating and maturity weighted Lehman Bond Index

Table 2: Summary of previous empirical results for the first strand of literature: Intent

This table shows the studies that refer to strand 1 of public-to-private research. Yes = supportive, No = unsupportive, Inconcl. = inconclusive. Transaction type refers to which types of deals were considered in the paper: ALL = all going private deals. MBO = MBO deals only

Study	Sample period/ country	N	Transaction type	Econometric technique	Tax	Incentive realignment	Control	Free cash flow	Wealth transfer	Transaction costs	Takeover defense	Under-valuation
Maupin, Bidwell and Ortegren (1984)	1972-83 US	63	MBO	Discriminant analysis	-	No	-	No	-	-	-	Yes
Lehn and Poulsen (1989)	1981-85 US	102	ALL	Logistic regressions	No	-	-	Yes	-	-	Yes	No
Kieschnick (1989)	1980-87 US	263	MBO	Logistic regressions	No	-	-	No	-	No	-	Yes
Kieschnick (1998)	1980-87 US	263	ALL	Logistic regressions	Yes	-	-	No	-	-	Yes	No
Ippolito and James (1992)	1980-87 US	169	ALL	Logistic regressions	-	-	-	Inconcl	Inconcl	-	-	-
Opler and Titman (1993)	1980-90 US	180	ALL	Logistic regressions	No	-	-	Yes	-	-	-	-
Halpern, Kieschnick and Rotenberg (1999)	1981-85 US	126	ALL	Multinomial Logistic regr.	Yes	No	-	No	-	-	Yes	-
Kosedag and Lane (2002)	1980-96 US	21	ALL	Logistic regressions	Yes	-	-	No	-	-	-	-
Weir, Laing and Wright (2003)	1998-00 UK	95	ALL	Logistic regressions	No	Yes	Yes	No	-	-	No	-
Weir, Laing and Wright (2003)	1998-00 UK	99	ALL	Logistic regressions	-	No	-	No	-	-	No	-
Weir, Laing, Wright and Burrows (2003)	1998-01 UK	117	ALL	Logistic regressions	-	Inconcl.	No	No	-	-	-	-

Table 3: Cumulative average abnormal returns in event studies of public-to-private transactions

This table shows all papers that estimate the shareholder wealth effects using event study analysis.
***, **, * stand for statistical significant at the 1, 5 and 10% level, respectively.
ALL = all going private deals. MBO = MBO deals only

Study	Sample eriod/ country	Type of Deal	Event window	Obs.	CAAR
DeAngelo, DeAngelo and Rice (1984)	1973-80 US	ALL	-1,0 days -10,10 days	72 72	22.27%*** 28.05%***
Torabzadeh and Bertin (1987)	1982-85 US	ALL	-1,0 months -1,1 months	48 48	18.64%*** 20.57%***
Lehn and Poulsen (1989)	1980-87 US	ALL	-1,1 days -10,10 days	244 244	16.30%*** 19.90%***
Amihud (1989)	1983-86 US	MBO	-20,0 days	15	19.60%***
Kaplan (1989a)	1980-85 US	MBO	-40,60 days	76	26.00%***
Marais, Schipper and Smith (1989)	1974-85 US	ALL	0,1 days -69,1 days	80 80	13.00%*** 22.00%***
Slovin, Sushka and Bendeck (1991)	1980-88 US	ALL	-1,0 days -15,15 days	128 128	17.35%*** 24.86%***
Lee (1992)	1973-89 US	MBO	-1,0 days -69, 0 days	114 114	14.90%*** 22.40%***
Frankfurter and Gunay (1992)	1979-84 US	MBO	-50,50 days -1,0 days	110 110	27.32%*** 17.24%***
Travlos and Cornett (1993)	1975-83 US	ALL	-1,0 days -10,10 days	56 56	16.20%*** 19.24%***
Lee, Rosenstein, Rangan and Davidson (1992)	1983-89 US	MBO	-1,0 days -5,0 days	50 50	17.84%*** 20.96%***
Van de Gucht and Moore (1998)	1980-92 US	ALL	-1, 1 days -10,10 days	187 187	15.60%*** 20.20%***
Goh, Gombola, Liu and Chou (2002)	1980-96 US	ALL	-20,1 days 0,1 days	323 323	21.31%*** 12.68%***
Renneboog, Simons and Wright (2004)	1997-03 UK	ALL	-1,0 days -5,5 days -40,40 days	177 177 177	22.68%*** 25.53%*** 29.28%***

Table 4: Premiums paid above market price to take a firm private

This table shows all papers that estimate the shareholder wealth effects of going private through premiums analysis. The results are not independent due to partially overlapping samples.
***, **, * stand for statistical significant at the 1, 5 and 10% level, respectively.
ALL = all going private deals. MBO = MBO deals only

Study	Sample period/ Country	Type of deal	Anticipation Window	Obs.	Mean Premium offered
DeAngelo, DeAngelo and Rice (1984)	1973-80 US	ALL	40 days	72	56.3%
Lowenstein (1985)	1979-84 US	MBO	30 days	28	56.0%
Lehn and Poulsen (1989)	1980-87 US	ALL	20 days	257	36.1%
Amihud (1989)	1983-86 US	MBO	20 days	15	42.9%
Kaplan (1989a, 1989b)	1980-85 US	MBO	2 months	76	42.3%
Asquith and Wizman (1990)	1980-88 US	ALL	1 day	47	37.9%
Harlow and Howe (1993)	1980-89 US	ALL	20 days	121	44.9%
Travlos and Cornett (1993)	1975-83 US	ALL	1 month	56	41.9%
Easterwood, Singer, Seth and Lang (1994)	1978-88 US	MBO	20 days	184	32.9%
Weir, Laing and Wright (2003)	1998-2000 UK	ALL	1 month	95	44.9%
Renneboog, Simons and Wright (2004)	1997-2003 UK	ALL	20 days	177	41.00%

Table 5: Summary of the second strand of the literature: Impact

This table shows the most important papers that deal with strand 2 of public-to-private research. Yes = supportive, No = unsupportive, Inconcl. = inconclusive. All estimated shareholder wealth effects from Table 3 and 4 are reproduced here. ***, **, * stand for statistically significant at the 1, 5 and 10% level, respectively.
ALL = all going private deals, MBO = MBO deals only, FCF = Free Cash Flow hypothesis, Bidder Comp. = Bidder competition.

Study	Sample period/ country	Obs.	Type of deal	Event window	CAAR	Anticipation Window	Premium	Tax	Incentive Realignm.	Control	FCF	Wealth transfer	Trans cost	Defen-sive	Under value	Bidder comp.
DeAngelo, DeAngelo and Rice (1984)	1973-80 US	72	ALL	-1,0 days -10,10 days	22.27%*** 28.05%***	40 days	56.3%	-	Inconcl.	Inconcl.	-	-	-	-	-	-
Lowenstein (1985)	1979-84	28	MBO	-	-	30 days	56.0%	-	-	-	-	-	-	-	-	Yes
Torabzadeh and Bertin (1987)	1982-85 US	48	ALL	-1,0 months -1,1 months	18.64%*** 20.57%***	-	-	-	-	-	-	-	-	-	-	-
Lehn and Poulsen (1989)	1980-87 US	244	ALL	-1,1 days -10,10 days	16.30%*** 19.90%***	20 days	36.1%	No	-	-	Yes	-	-	-	-	-
Amihud (1989)	1983-86 US	15	MBO	-20,0 days	19.60%***	20 days	42.9%	-	-	-	-	-	-	-	-	Yes
Kaplan (1989a , 1989b)	1980-85 US	76	MBO	-40,60 days	26.00%***	40 days	42.3%	Yes	-	-	-	-	-	-	-	-
Marais, Schipper and Smith (1989)	1974-85 US	80	ALL	0,1 days -69,1 days	13.00%*** 22.00%***	-	-	-	-	-	-	No	-	-	-	-
Asquith and Wizman (1990)	1980-88 US	47	ALL	-	-	1 day	37.9%	-	-	-	-	No	-	-	-	-
Lee (1992)	1973-89 US	114	MBO	-1,0 days -69, 0 days	14.90%*** 22.40%***	-	-	-	-	-	-	-	-	-	No	-
Lee, Rosenstein, Rangan and Davidson (1992)	1983-89 US	50	MBO	-1,0 days -5,0 days	17.84%*** 20.96%***	-	-	-	-	-	-	-	-	-	-	Yes
Frankfurter and Gunay (1992)	1979-84 US	110	MBO	-50,50 days -1,0 days	27.32%*** 17.24%***	-	-	Yes	No	-	Yes	-	-	-	-	-

Table 5 continuted

Travlos and Cornett (1993)	1975-83 US	56	ALL	-1,0 days -10,10 days	16.20%*** 19.24%***	1 month	41.9%	Inconcl.	Inconcl.	Inconcl	Inconcl.	No	No	-	Yes	-
Harlow and Howe (1993)	1980-89 US	121	ALL	-	-	20 days	44.9%	-	-	-	-	-	-	-	Yes	-
Easterwood, Singer, Seth and Lang (1994)	1978-88 US	184	MBO	-	-	20 days	32.9%	-	-	-	-	-	-	-	-	Yes
Halpern, Kieschnick and Rotenberg (1999)	1981-85 US	126	ALL	-	-	-	Not mentioned	No	No	-	No	-	-	-	-	Yes
Goh, Gombola, Liu and Chou (2002)	1980-96 US	323	ALL	-20,1 days 0,1 days	21.31%*** 12.68%***	-	-	-	-	-	-	-	-	-	Yes	-
Renneboog, Simons and Wright (2004)	1997-2003 UK	177	ALL	-1,0 days -5,5 days -40,40 days	22.68%*** 25.53%*** 29.28%***	20 days	41.00%	No	Yes	Yes	No	-	Yes	No	Yes	Yes

Table 6: Summary of the third strand of literature: Process

This table shows the most important papers that deal with strand 3 of the public-to-private research. Yes = supportive, No = unsupportive, Inconcl. = inconclusive. Type of deal ALL refers to all going private transactions, MBO and MBI stands for management buyout and management buyin transactions, respectively.

Authors	Sample period/ country	N	Transaction type	Tax	Incentive realignment	Control	Free cash flow	Wealth transfer	Transaction costs	Takeover defense	Under-valuation
Kaplan (1989a)	1980-85 US	76	MBO	-	Yes	-	-	No	-	-	No
Baker and Wruck (1989)	1986 US	1 case	MBO	-	Yes	Yes	Yes	No	-	-	No
Smith (1990)	1977-86 US	58	MBO	-	Yes	-	-	No	-	-	No
Muscarella and Vetsuypens (1990)	1973-85 US	151	MBO	-	Yes	Yes	-	No	-	-	Yes
Lichtenberg and Siegel (1990)	1981-86 US	244	ALL	-	-	Yes	-	No	-	-	-
Jones (1992)	1984-85 US	17	MBO	-	Yes	-	-	-	-	-	-
Opler (1992)	1985-89 US	45	ALL	Yes	Yes	-	-	-	-	-	Inconcl.
Liebeskind, Wiersema and Hansen (1992)	1980-84 US	33	ALL	-	Yes	-	-	-	-	-	-
Green (1992)	1980-84 UK	8 cases	MBO	-	No	-	-	-	-	-	-

Table 6 continued

Authors	Sample period/ Country	N	Transaction type	Tax	Incentive realignment	Control	Free cash flow	Wealth transfer	Transaction costs	Takeover defense	Under-valuation
Long and Ravenscraft (1993)	1978-89 US	48	ALL	Yes	-	-	Yes	-	-	-	-
Denis (1994)	1986 US	2 cases	LBO	-	Yes	Yes	Yes	-	-	-	No
Zahra (1995)	1992 US	47	ALL	-	Yes	-	-	-	-	-	-
Robbie and Wright (1995)	1987-89 UK	5 cases	MBI	-	Yes	Yes	-	-	-	-	Yes
Holthausen and Larcker (1996)	1983-88 US	90	ALL	-	Yes	-	No	-	-	-	-
Bruton, Keels and Scifres (2002)	1980-88 US	39	ALL	-	Yes	-	-	-	-	-	-

Table 7: Summary of previous empirical results for the fourth strand of literature: Duration

This table shows the most important papers that deal with strand 4 of public-to-private research. ALL stands for all going private transactions (LBOs, MBOs. MBIs, IBOs).

Authors	Sample period/ country	Type of deal	N	Main result of the study
Kaplan (1991)	1979-86 US	ALL	183	After year 5, the conditional probability of returning to public ownership decreases.
Van de Gucht and Moore (1998)	1980-92 US	ALL	343	Until year 7, the conditional probability of returning to public markets increases, while after seven years, it decreases. The timing of reversion is influenced by the financial markets' climate.
Wright, Robbie, Thompson and Starkey (1994)	1981-92 UK	ALL	2,023	Ownership, financial, and market-related factors determine the duration of the private status.
Wright, Thompson, Robbie and Wong (1995)	1983-86 UK	ALL	140	The conditional probability of reversion increases strongly between year 3 and year 6, and subsequently decreases.
Halpern, Kieschnick and Rotenberg (1999)	1981-85 US	ALL	126	Longevity of the private status is increasing in managerial equity stake.