MARIEKE VAN DER POEL

Empirical Essays in Corporate Finance and Financial Reporting

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Marieke van der Poel

ERASMUS UNIVERSITEIT ROTTERDAM

Empirical Essays in
Corporate Finance and Financial Reporting

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ondernemingsfinanciering en externe verslaggeving

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Voorwoord

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Chapter 1

Introduction

This thesis consists of four studies in the areas of corporate finance and financial reporting. The first study in the area of corporate finance analyzes the impact of CEOs' background characteristics on their divestment decisions. The subsequent corporate finance study examines a firm's selection procedure of financial advisors when making a cross-border acquisition. In the area of financial reporting, the first study focuses on a firm's voluntary disclosure decision in terms of management earnings forecasts. The final chapter investigates analysts' preferences for firms' corporate financial reporting practices. The remainder of this chapter discusses the motivation and main results for the two corporate finance studies (Section 1.1) and the two financial reporting studies (Section 1.2).

1.1 Corporate finance

Chapter 2 empirically investigates the impact of CEOs' background characteristics on corporate decisions. Though managers' characteristics play an important role in the areas of investment, financial, and organizational practices (Bertrand and Schoar, 2003), relatively few behavioral corporate finance studies examine the CEO's perspective (Baker, Ruback, and Wurgler, 2004). We focus on CEOs of multi-segment firms and examine whether familiarity with their firm's business segments makes them less likely to divest assets from these segments relative to non-familiar segments. CEOs classify segments as being familiar based on their previous working experience. We provide three arguments for the familiarity effect. First, CEOs' more comprehensive and deeper knowledge of their familiar segments makes them less likely to divest assets from these segments. Second, CEOs' greater familiarity with a segment enhances their illusion of having control over exogenous events, leading to an overestimation of the familiar segment's returns and an underestimation of its risks. Third, CEOs can entrench themselves by increasing the proportion of assets that are complementary to their skills, and hence divest from their non-familiar segments.

The chapter further argues that divestiture decisions are part of a negotiation process between CEOs and segment managers in an internal capital market. Empire-building tendencies provide segment managers incentives to bargain against divestitures from their segments. They derive their bargaining power from their private information and human capital. Since managers of non-familiar segments have the strongest bargaining power at the beginning of a CEO's tenure, we expect that CEOs mainly exhibit a familiarity effect later during their tenure.

The analysis among divestments from 1,182 business segments in the period 1996 to 2004 shows that longer-tenured CEOs divest assets about half as often from familiar segments as from non-familiar segments. The evidence supports both rational and non-rational bases for the familiarity effect in the form of superior knowledge and illusion of control. The chapter also confirms that the divestiture decision is a political process between a CEO and his segment managers, where segment managers with greater bargaining power manage to hold on to their assets. The results on an event study suggest that the familiarity effect can be costly, as the highest abnormal returns are generated by longer-tenured CEOs who are willing to divest from their familiar segments.

Chapter 3 of the thesis examines firms' selection procedure of financial advisors when making acquisitions. The selection of a financial advisor is an important determinant of the value created in cross-border deals, particularly in the case acquirers need the experience and skills of their advisors to navigate the foreign, economic, and regulatory practices and conditions. We consider three steps in the decision process. Firms first decide whether or not to hire an advisor. If they hire an advisor, they then decide on the advisor nation, i.e., firms can choose between advisors from the target, the acquirer or a third country. Finally, depending on the choice of advisor nation, firms decide on the experience of the advisor, i.e., whether the advisor has global and/or target country experience.

In this third chapter, we empirically examine 3,537 cross-border transactions across 92 target and 46 acquirer nations between 1995 and 2005. The results indicate that the decisions to hire an advisor are similar to previous studies on domestic acquisitions. Both target- and acquirer-nation characteristics, such as formalism, financial sophistication, investor protection, and openness to foreign acquisitions, influence the acquirer's choice of advisor nationality. Global- and target-country experience of an advisor serves as a substitute for the acquirer's own cross-border acquisition experience, but advisors from either the target or acquirer country – even when less experienced – create most value.

1.2   Financial reporting

Chapter 4 studies the impact of a cross listing in the US or UK on managers' forecast specificity choice and the *ex post* forecast errors of management earnings forecasts disclosed by Dutch firms. A relatively large number of Dutch firms have a cross listing in the US or UK. Such a cross listing can take the form of a listing on an exchange or a listing on the OTC market. An exchange listing in either country brings about greater legal exposure, while both types of cross listings bring about greater scrutiny by regulators, analysts, and investors. These implications allow us to investigate whether legal and reputational bonding, as proposed by Coffee Jr. (1999; 2002), have an impact on a firm's voluntary information disclosure.

The empirical results of 1,896 press releases that contain management earnings forecasts show that Dutch cross-listed firms disclose less precise forecasts than non-cross-listed firms. The analyses on the *ex post* realization of forecasts show that cross-listed firms disclose more accurate and less optimistic forecasts. These results hold for exchange listings as well as for OTC listings, indicating that a firm's legal exposure and reputation concerns have a strong impact on the content of voluntarily disclosed information.

Chapter 5 investigates analysts' preferences for firms' financial reporting practices by means of a survey among 306 sell-side analysts that follow US firms. We confront their views with the perceptions and actions of CFOs, as surveyed by Graham, Harvey, and Rajgopal (2005). Since analysts play a key role in a firm's reporting and disclosure practices (Brennan and Tamarowski, 2000; Graham, Harvey, and Rajgopal; 2005), this comparison provides more insight in the similarities and discrepancies between the demand side and supply side of corporate financial information.

Although the results show that analysts' views frequently correspond with that of CFOs, we also find some remarkable differences. Analysts tend to focus on long-term reporting strategies, while CFO's tend to make reporting decisions, and related investment and financing choices, with short-term consequences. Only 13% of the analysts recommend firms to make a moderate or large value sacrifice to get a smooth earnings path, while in the sample of CFOs of public firms, 61% assert to make such a sacrifice. At the same time, if a firm falls short of the desired earnings targets, CFOs do not consider to repurchase shares, while analysts regard a share repurchase as a value-enhancing signal.

Chapter 2

Does CEOs' familiarity with business segments affect their divestment decisions?[1]

2.1 Introduction

In this chapter, we study the impact of a CEO's relation with business segments to the fund allocation process in internal capital markets of multi-segment firms. Within the internal capital markets, CEOs face two related allocation decisions, the first of which is the positive allocation of funds in the form of capital budgeting and acquisitions. The second issue is the negative allocation in the form of divestments of assets from one or more business segments.

We concentrate on CEOs' divestment decisions and approach these decisions from the perspective of a political process. Most studies regard divestments mainly as economic decisions[2], but neglect the political process within the firm. Corporate divestment processes involve more intense politicking than investment processes, because for the segment managers, having to divest assets means losing assets that

[2] See Jain (1985), Hite, Owers, and Rogers (1987), Lang, Poulsen, and Stulz (1995), John and Ofek (1995), and Bates (2005).

they already own. Based on prospect theory (Kahneman and Tversky, 1979), an endowment effect prediction says that individuals place a higher value on something they own compared to the value of the same object that they do not own (Thaler, 1980; Kahneman, Knetsch, and Thaler, 1990).

We examine whether CEOs are less likely to divest assets from familiar segments relative to non-familiar segments. CEOs' familiarity with segments comes from their prior working experience in these or related segments. We provide three arguments for the familiarity effect. First, we argue that even when the objective of the CEOs is to maximize firm value, the CEOs' divestment decisions could show a familiarity effect, because CEOs have more comprehensive, deeper knowledge of familiar segments.

Second, a part of the greater knowledge of familiar segments is assumed knowledge. CEOs' greater familiarity with the segments makes them more prone to indulge in the behavior known as the illusion of control (Langer, 1975). The illusion that they have more control over exogenous events could lead CEOs to overestimate returns and to underestimate risk of the familiar segments.

Third, agency concerns may reinforce the CEOs' desires to be entrenched. To increase the proportion of assets that are complementary to their skills (Shleifer and Vishny, 1989), CEOs may be more likely to divest assets from non-familiar segments, i.e., segments in which they do not have working experience. This divestment strategy facilitates their entrenchment by making them less dispensable and thus more powerful within the firm.

CEOs are not always able to exhibit their familiarity effect, since the divestment decisions are part of a negotiation process between CEOs and segment managers. Segment managers derive their bargaining power from their private information and their specific human capital in terms of expertise and internal political clout (Stein, 2003). Given these characteristics, bargaining power is likely to be stronger for segment managers of non-familiar segments. Their empire-building tendencies and loss aversion will cause them to use their power to prevent divestitures in their segment against newly appointed CEOs in their first two or three years. Later, CEOs have gained substantial knowledge from different sources of information and more political freedom to take actions that are not in accordance with their initial mandate (Hambrick and Fukutomi, 1991). As a result, the relative bargaining power of managers of non-familiar segments weakens and CEOs are more likely to make decisions in line with their own preferences. Thus, we expect CEOs to gain bargaining power and prevail with their familiarity bias later in their tenure.

To make the notion of familiarity operational, we develop a three-level proxy. The first level is direct working experience, which indicates that a CEO was previously employed within the segment. We refer to this segment as the CEO's home base.

CEOs are familiar with their home base because of their previous hands-on working experience and their acquaintance with the segment's personnel. We add two levels of familiarity that represent knowledge of a segment's industry only. The first of these is whether the CEOs have industry working experience with segments inside the firm that operate in the same two-digit SIC industry as the home-base segments. The second is based on outside industry experience, which indicates whether the CEOs have prior working experience at another company that operates in the same industry as a segment in the current firm. We consider outside industry experience as the weakest form of familiarity, compared to home-base and inside-industry experience.

We investigate the presence of familiarity bias by analyzing business segments of multi-segment firms that announce a divestment in the period from 1996 to 2004. Our sample consists of 338 multi-segment firm years, comprising 443 segments with divestments, and 739 segments that are fully retained. As the foundation for our empirical model we use that of Schlingemann, Stulz, and Walkling (2002). Their model explains the likelihood that a segment is divested based on economic motives. We extend their model to incorporate our various familiarity proxy variables.

Since the choice of which assets to divest is conditional on these firms' decision whether or not to divest assets, we analyze firms' divestment decisions in two stages. In the first stage, i.e., the decision to divest, we compare our sample of divesting firms with equally diversified but non-divesting firms. In the second stage, we input the resulting estimate of the probability to divest to the second stage analysis on which assets to divest.

Our results support both the existence of a familiarity effect and a moderating impact of the segment managers' bargaining power. In particular, the effect interacts with tenure, as only longer-tenured CEOs exhibit the familiarity effect. These CEOs divest assets about half as often from home-base segments as from non-familiar segments.

For a sub-sample of newer CEOs our findings are consistent with the results of Xuan (2006), who examines the change in fund allocation after a CEO change and finds that newly-hired CEOs increase the allocation of funds to non-familiar segments to induce cooperation from these segments' managers. In our case, newly-hired CEOs accept non-familiar segments' fund requests as these segment managers have stronger bargaining position that comes from their segment specific information and human capital. Nevertheless, once CEOs have gained sufficient bargaining power vis-à-vis the segment managers of non-familiar segments, these longer-tenured CEOs are more likely to divest assets from these segments and retain familiar segments.

We test alternate explanations for familiarity bias among longer-tenured CEOs. We fail to find statistical significance to support the entrenchment hypothesis, but our evidence is consistent with the knowledge explanations that can be derived from true

superior knowledge, and from assumed knowledge. Our findings remain robust after including additional control variables in the regression and they remain robust with different sub samples. We find evidence against self-selection as an alternative explanation for our results.

Finally, we conduct an event study around divestiture announcements. The results suggest that CEOs create shareholder value for both home-base and non-home-base divestitures, supporting the superior knowledge explanation. However, longer-tenured CEOs exhibiting a familiarity bias create less wealth gain to their shareholders. Their divestitures from non-home-base segments (i.e., familiarity effect) generate 1.7% lower abnormal returns than divestitures from home bases. This figure is significant as it allows us to add to the scarce quantitative evidence of the costs to shareholders from a behavioral bias committed by top management (Malmendier and Tate, 2007; Ben-David, Graham, and Harvey, 2007).

The chapter is organized as follows. Section 2.2 discusses the development of our hypotheses. Section 2.3 describes the data selection procedure and variables. We discuss the results in Section 2.4 and present additional evidence and robustness tests in Section 2.5. Section 2.6 concludes.

2.2   Hypotheses development

Here, we develop hypotheses on the motives and constraints that induce CEOs to exhibit a familiarity effect. We also provide a brief discussion of how our topic relates to the literature.

2.2.1   What are CEOs' motives to show a familiarity effect?

We provide three explanations for why CEOs would be less likely to divest assets from familiar segments: superior knowledge, assumed knowledge, and entrenchment.

The superior knowledge explanation could be derived from assuming that CEOs maximize shareholder value. CEOs have more comprehensive knowledge of familiar segments relative to non-familiar segments. In the period that the CEOs worked in the familiar segments, they came to know the values and growth opportunities of these segments' assets. They further established relationships with their personnel, both as conduit of information and for political support. These relationships can be valuable for CEOs, as they are aware some segment managers have empire-building tendencies and might have the incentive to communicate inaccurate information to receive a

more favorable budget.[3] This agency problem is especially severe between non-familiar segment managers and CEOs, as CEOs have the least segment-specific knowledge of non-familiar segments and do not have connections in these segments that are as well established as in the familiar segments.

Given CEOs' superior knowledge of familiar segments, they will associate familiar segments with risks for which the probability distribution is known, and non-familiar segments with uncertainty for which the probability distribution or the states are not known.[4] A greater discount for uncertainty leads to a lower present value for non-familiar segments. As a result, everything else equal, the higher valuation of familiar segments decreases the likelihood that CEOs choose these segments for divestment.

A second explanation for higher valuation of the familiar segments is a CEO's illusion of control, which leads an individual to overestimate the likelihood of a successful outcome of their decisions (Langer, 1975) and to be too optimistic about the likelihood of both positive and negative events (Weinstein, 1980). CEOs who regard themselves as having deeper knowledge of their familiar segments are more likely to assume they have true knowledge and commit illusion of control (Langer, 1975) regarding the familiar segment. Their presumption of true knowledge induces them to underestimate the familiar segments' risks and overestimate their future returns, leading to overvaluation. In addition, uncertainty leads to the focus on worst-case scenarios and therefore to pessimism about the unfamiliar (Cao, Han, Hirshleifer, and Zhang, 2007). Both optimism about familiar segments and pessimism about non-familiar segments predict a lower likelihood to divest from familiar segments

If we relax the assumption that CEOs aim to maximize firm value and instead allow them to maximize their own utility, then the CEOs might exhibit a familiarity bias that is based on agency theory. One way for CEOs to maximize their utility is by facilitating their entrenchment. CEOs can entrench themselves by investing in assets that are complementary to their skills, thus becoming more valuable to the shareholders and making it more costly to replace them (Shleifer and Vishny, 1989). CEOs can achieve the same end by divesting assets from non-familiar segments and increasing the share of familiar assets.

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[3] See Milgrom and Roberts (1988), Jensen (2003), and Wulf (2007).
[4] See Knight (1921) for the distinction between risk and uncertainty.

2.2.2   What are the constraints on CEOs that mitigate a familiarity effect?

CEOs have limited power over segment managers by giving them access to critical resources, such as the segment's funds and assets (Rajan and Zingales, 1998; Rajan, Servaes, and Zingales, 2000). Even though CEOs tend to favor familiar segments, the bargaining power of non-familiar-segment managers may deter CEOs from such behavior. Segment managers derive their bargaining power and incentive to resist divestitures from several sources. Private information on the segment's assets and specific human capital in the form of expertise and internal political clout provide segment managers bargaining power vis-à-vis the CEO (Stein, 2003). Since CEOs cannot completely contract their exact investment decisions, segment managers can choose investments that are more favorable for themselves than for the firm as a whole (Rajan, Servaes, and Zingales, 2000). Segment managers' empire-building tendencies give them the incentives to use their power to bargain for a greater share of the budget. Moreover, when CEOs plan to divest assets, the non-familiar-segment managers' loss aversion will make them reluctant to provide unbiased information on divestment opportunities.

   We argue that the bargaining position of CEO relative to non-familiar segment managers changes over the course of a CEO's tenure. New CEOs initially lack specific knowledge of the non-familiar segments, which compel them to depend on the information provided by the non-familiar segment managers. As a result, they might have to give the non-familiar-segment managers benefit of the doubt, and not challenge their reasoning that assets not be divested. Alternatively, the segment managers might also view a more equitable treatment as an attempt by CEOs to induce cooperation and become allies, as in the bridge building hypothesis of Xuan (2006).

   Hambrick and Fukutomi (1991) argue that longer-tenured CEOs are likely to make decisions such that their background characteristics are increasingly associated with the characteristics of their firm. CEOs' familiarity effect could reflect such a decision. The authors also argue that within two or three years of tenure, CEOs have acquired considerable knowledge from different sources and gained more political leeway to deviate from their original mandate. In a similar vein, after this period, CEOs have gained more knowledge about non-familiar segments' assets, industry, and the source of its segment-managers' bargaining power. Note that their knowledge of non-familiar segments will never be as thorough as that of their home-base segments. CEOs' gain in knowledge reduces the relative bargaining power of non-familiar-segment managers, which in turn enable CEOs to challenge these segment

managers on divestment choice, and to prevail. Therefore, we expect that CEOs are better able to make decisions reflecting familiarity effect later in their tenure.

2.2.3   Relation to current literature

We describe an internal capital markets process in which CEOs negotiate with segment managers on the funds that can be allocated to these segments. Earlier studies on internal capital markets show that these markets differ from external capital markets in the sense that CEOs are the only providers of funds (Stein, 2003). Moreover, CEOs have total and unconditional control rights over the segment's physical assets (Gertner, Scharfstein, and Stein, 1994), i.e., making actual decisions on the investment and divestment activities within segments.

Other studies find that greater influence and political power of segment managers relative to their CEOs and other segment managers can distort capital budgeting decisions.[5] The study that has the most direct connection to ours is that of Xuan (2006). His results, from a sample of new CEOs, are consistent with his explanation that CEOs find it expedient to increase investments in non-familiar segments to create a perception of justice and to induce cooperation. In our case, since non-familiar segment managers have a better bargaining position due to their private information and human capital, newly-hired CEOs are less likely to challenge them, and these segments suffer fewer divestitures. Thus, our prediction for newly-hired CEOs parallels that of Xuan's prediction. However, in contrast to Xuan, we also analyze longer-tenured CEOs and predict a reversal, in which CEOs would exhibit a familiarity bias and be partial to familiar segments.

Another related paper is that of Landier, Nair, and Wulf (2007), who find empirical evidence that is consistent with the arguments that CEOs perceive their familiar segment's personnel as their dependable allies and are therefore less likely to divest assets from these segments. They suggest that, due to information constraints and social interactions, CEOs are less likely to dismiss people or divest divisions that are more proximate to their headquarters.

2.3   Data description and variables

In this section, we describe our sample. We also present our data, proxy for familiarity, and control variables.

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[5] See Rajan, Servaes, and Zingales (2000), Wulf (2007), and Xuan (2006).

2.3.1 The sample

We construct our initial sample from the Compustat Business Information File and the Securities Data Corporation (SDC) file. We select data for firms with at least two business (or operating) segments for our sample period, 1996-2004. As in Schlingemann, Stulz, and Walkling (2002), we select firms with sales of over $20 million or assets above $100 million, and we exclude American Depository Receipts (ADRs) and firms that are not incorporated in the US. We also omit firm years with segments that operate in regulated industries (SIC 4900 – 4999). Like Berger and Ofek (1995) and Schlingemann, Stulz, and Walkling, we require that the sum of segment sales does not deviate more than 1% from total firm sales. These selection criteria result in a sample of 5,251 firm years for 1,009 firms for our sample period.

Next, we search the SDC database for all completed divestments for the 1996-2004 sample period. We require that more than 95% of the divested division's assets be acquired by the buying firm after the transaction (as in McNeil and Moore (2005)). (However, we note that because segments can consist of more than one division, a divestiture of at least 95% of the division does not mean that at least 95% of the reported segment is divested.) This procedure gives us a data set comprising 1,317 firm years for 530 firms that have a divestiture during our sample period. We link the divested assets with the business segments reported by Compustat by using the SDC synopsis on the divestiture, the SDC SIC codes, and the SDC business description of the divested assets. If the link remains ambiguous, we check the annual report and search for descriptions of segments and discontinued operations. If we still have no clarity in classification, we exclude the divestiture's firm year from our sample. Multiple divestitures can occur within one segment in the same year. Since our unit of observation is either a firm year or a segment year, we treat multiple divestitures within one segment year as one observation. We require segments to have at least two years of data prior to the divestment, otherwise we exclude the firm year of this segment.

During our sample period, which includes the introduction of SFAS 131 in 1997, several firms change their segment reporting[6] Compustat provides revised historical financial information for the new segments for the two years prior to the new segment reporting, based on firms' annual reports. If this information is not available, we delete the firm year. We derive CEO work experience information from the Marquis Who's Who database and from Hoover's. If necessary, we check details in the SEC 10-K and proxy filings. We exclude firm years for which CEO work experience information is not available. We also exclude firm years with two different CEOs, and

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[6] For a detailed analysis of the impact of SFAS 131 on segment reporting, see Berger and Hann (2003, 2005).

firm years in which firms divest assets acquired from a merger in the previous year. Similar to Lamont (1997), we exclude segments with corporate financial information and segments tagged as "elimination".

We control for the first-stage decision of firms (i.e., whether or not to divest assets), since the second stage of the process (i.e., the decision on which assets to divest) is conditional on the prediction from the first stage. Therefore, we construct a matched sample of firms that do not divest assets and investigate whether our sample of divesting firms makes decisions that are consistent with previous divestiture studies.

We derive the benchmark firms from our sample of 3,934 non-divesting firm years (i.e., our initial sample of 5,251 firm years minus 1,317 divesting firm years). We use requirements for our benchmark firms similar to those of Schlingemann, Stulz, and Walkling (2002). We require that during year t-1, the benchmark firm be operating in the same number of business segments and be in the same sales decile as the divesting firm. We base the sales deciles on the sales of the 5,251 firm years. When we have a choice among possible benchmark firms, we choose the firm with a primary SIC code that is closest to the divesting firm primary SIC code. Appendix 2A provides more details on our matching procedure.

2.3.2   CEO familiarity measure

We construct proxy variables for familiarity that differentiate the three levels of CEOs' relevant experience in a segment prior to being appointed as CEOs. First, the strongest form of familiarity is direct working experience within a segment that serves as the CEOs' home base. We include the next two proxies that only represent industry knowledge of the segment. CEOs that only have industry experience in a segment are less likely to have their connections in these segments and will have less specific knowledge on assets, procedures, and developments within the segment. The second level of familiarity is inside-industry working experience within the same firm, i.e., CEOs are familiar with segments that operate in the same two-digit SIC industry as the home base. The third level of familiarity is outside-industry working experience, i.e., CEOs are familiar with segments operating in the same two-digit SIC industry as those outside firms where they were previously employed. We classify all other segments as non-familiar segments. Appendix 2B provides an example of our classification method.

In our study, we need to segregate familiar segments from non-familiar segments for CEOs who decide to divest. This required segregation imposes two additional requirements on our sample. First, sufficient detailed information about the working experience of the CEO should be available, leading to the exclusion of 49 firm years.

Table 2.1
Sample selection procedure

The table presents our sample selection procedure. We obtain the selected firms and firm years from Compustat, and derive divestitures sample from the Thomson's SDC database. We exclude firm years with incomplete historical Compustat data and incomplete CEO information; firm years in which it is not clear to which segment the divestiture belongs; firm years in which the divestiture belongs to the corporate segment; firm years in which two different CEOs announce a divestiture in the same year; and when the divested assets come from a merger in the previous year. We also exclude corporate segments from our data set and firm years with no variance in familiarity between segments in that firm year.

	Firms	Firm years	Segments	Segment years
Total Compustat information after selection	1,009	5,251	5,403	18,948
Selected Compustat firms with divestitures derived from SDC	530	1,317		
- Incomplete historical Compustat data	192	589		
- Incomplete CEO information	21	49		
- Not clear to which segment divestiture belongs, divestiture belongs to corporate segment, firm years with two CEOs, assets are from merger in previous year	15	71		
Total	302	608	1,393	2,394
- Corporate segments			237	393
Total	302	608	1,156	2,001
- No variance in familiarity between segments in a firm year	146	270	511	819
Total	156	338	645	1,182

Second, we need variations in a CEO's degree of familiarity among segments. As a result of the second requirement, we exclude firm years in which CEOs have no familiarity with any of the segments, and firm years in which CEOs only have experience in overseeing all segments, like presidents and founders. This second requirement results in excluding 270 firm years from our data set.[7]

Table 2.1 summarizes the selection procedure of our divesting firm-years sample. Our final sample consists of 1,182 segment years, of which 443 are divested segments and 739 are retained segments. The sample contains 338 firm years from 156 firms and 177 CEOs.

2.3.3 Control variables

To examine the type of segment that is selected for divestiture, we include several control variables. For each business segment we obtain information on sales, assets,

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[7] The 270 excluded firm years consist of 61 firm years with founders (including CEOs who started as executive officers after a spin-off), 14 firm years with internal hires and all segments are home bases, 26 firm years with internal hires and all segments are outside industry experience segments, 77 firm years with internal hires without any familiar segments, 41 firm years with external hires and all segments are outside industry experience segments, and 51 firm years with external hires without any familiar segments.

cash flows (which we calculate as operating profit plus depreciation and amortization), net capital expenditures (calculated as gross capital expenditures minus depreciation and amortization), and primary and secondary SIC codes from the Compustat Business Information File. We obtain financial firm-level variables; variables to calculate the segments' Tobin's q, segment industry-adjusted measures, and the firm's primary SIC code from the Annual Compustat File. We use CRSP for segment industry returns and segment industry return volatility. We obtain information on CEO remuneration and ownership data from the Execucomp and governance information from the IRRC.

We classify a segment as a core segment if the primary two-digit SIC code of the segment corresponds with the primary two-digit SIC code of the firm. To facilitate comparability, we apply the same method as Schlingemann, Stulz, and Walkling (2002) for the industry measures. We calculate these measures as the median of all Compustat firms with the same two-digit SIC code in the fiscal year prior to the divestiture announcement. For more reliable industry measures, we require that at least five firms operate in the same industry. The Tobin's q of a segment is the industry ratio of the market value of assets to the book value of assets, for which we use similar data items as Malmendier and Tate (2005, 2007).[8] We use item 12 for the calculation of median industry sales, item 13 for median industry cash flows, and items 128 and 14 for median industry net capital expenditures. As in Ahn and Denis (2004), we estimate cross-subsidization as the segment's industry-adjusted investment minus the firm's sales weighted sum of industry-adjusted investment. We follow Schlingemann, Stulz, and Walkling in calculating segment liquidity: we divide the total value of acquisition transactions by the total assets in that industry. We exclude values higher than one and industries with less than ten firms from the sample.

Segment return volatility is the natural logarithm of one plus the variance of the industry holding-period return times 253 (the typical number of trading days in a fiscal year). We calculate both segment industry returns and firm level returns as the natural logarithm of the relative change in stock price. The stock price (adjusted for stock splits) is item 199 divided by item 27. At the firm level, we calculate leverage as total debt (item 181) divided by total assets (item 6).[9]

We derive our financial constraint measure from the Kaplan-Zingales (1997) index:[10]

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[8] We calculate the market value of assets as book value of total assets (item 6) plus market equity minus book equity. The market equity=(item 25 * item 199); the book equity=(item 216 - item 10 + item 35 - item 336).

[9] We note that our sample contains 16 observations in which the firm's leverage exceeds one, which is theoretically not possible. Therefore, we set these values to one. Not setting these observations to one does not influence our results.

[10] Kaplan and Zingales (1997) define the accounting ratios as follows: cash flow to capital=(item 18 + item 14)/item 8; Q=(item 6 + (item 24 * item 25) – item 60 – item 74)/item 6; leverage=(item 9 + item 34)/(item 9 + item 34 + item 216); dividends to capital=(item 21 + item 19)/item 8; cash to capital=item 1/item 8.

$$-1.001909*\frac{CF_{it}}{K_{it-1}}+0.2826389*Q_{it}+3.139193*Leverage_{it}-39.3678*\frac{Dividend_{it}}{K_{it-1}}-1.314759*\frac{C_{it}}{K_{it-1}} \quad (1)$$

A higher score on the Kaplan-Zingales (1997) index indicates that firms are more financially constrained.

To calculate the firm's diversity in q, we follow Rajan, Servaes, and Zingales (2000) and Schlingemann, Stulz, and Walkling (2002):

$$Diversity = \sqrt{\sum_{i=1}^{n}(Sales_i / \sum_{i=1}^{n} Sales_i)\times(q_i - \overline{q})^2} / \overline{q}, \quad (2)$$

where $Sales_i$ refers to segment i's sales, n to the number of segments, q_i to the median q of all Compustat firms with the same two-digit SIC code as segment i, and $\overline{q}$ to the sales-weighted average imputed q across the n segments of the firm.

We follow Berger and Ofek (1995) in calculating excess value, which is the percentage difference between a firm's total value and the sum of imputed values of its segments as stand-alone firms. We define excess value as equal to ln(V/I(V)), where V is the total firm value calculated as the market value of equity (item 199 * item 25) plus book value of debt (item 181) and I(V) the imputed value of the sum of a firm's segments as stand-alone firm.

$$I(V) = \sum_{i=1}^{n} AI_i *(Ind_i(V / AI)_{mf}), \quad (3)$$

where AI_i is segment i's sales, n the number of segments and $Ind_i(V/AI)_{mf}$ the multiple of total capital to sales for the median single-segment firm with at least $20 million sales in segment i's industry. We follow Berger and Ofek (1995) and Schlingemann, Stulz, and Walkling (2002) by basing the industry median ratios on the narrowest SIC grouping with at least five firms within that industry, and by excluding from our sample and considering as outliers any values larger than 1.386 or smaller than -1.386.

We use the governance index constructed by Gompers, Ishii, and Metrick (2003), which is a score for the number of takeover defenses and other anti-shareholder provisions. The percentage of independent directors is the number of independent directors divided by the total number of directors, as derived from IRRC. Total compensation is the CEO's salary, bonus, and other annual compensation. The value of options granted is the Black-Scholes value as derived from Execucomp. We follow Core, Holthausen, and Larcker (1999) in our calculation of excess total compensation, which is total compensation, including the value of options granted and restricted stock granted, minus predicted total compensation. We calculate a predicted total

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Table 2.2

Firm and CEO summary statistics

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The table shows the means, standard deviations, minimum, and maximum values of firm level and CEO level variables. Leverage is debt divided by total assets. Net capital expenditures are the gross capital expenditures minus depreciation and amortization. We define cash flows as operating profit plus depreciation and amortization. Tobin's q is the ratio of the market-to-book value of assets, as calculated in Malmendier and Tate (2005, 2007). We calculate the financial constraint measure following Kaplan and Zingales (1997); the diversity in q as in Rajan, Servaes, and Zingales (2000); the excess value measure as in Berger and Ofek (1995); and the governance index as in Gompers, Ishii, and Metrick (2003). We define total compensation as a CEO's salary, bonus, and other annual compensation not categorized as salary or bonus. The value of options granted is the Black-Scholes value. Excess total compensation is the actual total compensation, including options and restricted stock granted, minus the predicted total compensation estimated from a regression model.

	Mean	St. Dev.	Minimum	Maximum	N
Panel A. Firm summary statistics					
Sales $_{t-1}$ ($M)	9,849	16,860	141	153,627	338
Assets $_{t-1}$ ($M)	12,852	30,163	173	279,097	338
Leverage	0.652	0.149	0.251	1.000	337
Capx $_{t-1}$/sales $_{t-2}$	0.017	0.077	-0.228	0.755	338
Cash flow $_{t-1}$/sales $_{t-2}$	0.183	0.097	0.006	0.859	338
Tobin's q	1.785	0.985	0.241	7.302	338
Ln(1 + return) $_{t-1}$	0.086	0.335	-1.758	1.287	334
Financial constraint	-2.059	4.271	-22.286	7.745	335
Diversity in q	0.118	0.110	0.000	0.492	335
Excess value	0.091	0.496	-1.386	1.386	312
Governance index	10.441	2.432	3	16	331
Panel B. CEO summary statistics					
CEO age	56.355	6.016	38	74	338
Years employed as CEO	5.571	5.481	0	30	338
Years worked for firm	20.533	11.622	0	47	330
Number of titles (CEO, president, chairman)	2.192	0.517	1	3	307
Total compensation ($ thousand)	2,216	1,760	144	14,719	307
Value of restricted stock granted ($ thousand)	528	1,500	0	11,469	307
Value of options granted ($ thousand)	3,588	11,591	0	193,532	307
Excess compensation ($ thousand)	-751	11,764	-10,551	191,085	305
Percentage of stock owned	0.020	0.071	0	0.570	307
Inside CEO	0.870	0.337	0	1	338

compensation by first regressing total compensation on economic variables derived from Core, Holthausen, and Larcker, using 1,009 divesting and non-divesting firms (see Table 2.1). The economic variables are the natural log of sales, cash flows divided by beginning of the year sales, Tobin's q and firm return. We use the coefficients of this regression for the estimation of the predicted total compensation.

2.3.4   Sample description

Table 2.2 provides the statistics for our sample of divesting firm years. Panel A shows the firm statistics. The sample firms have average sales of close to $10 billion and average assets of close to $13 billion. The leverage level is relatively high (65%), which may be a result of our selecting only divesting firm years. Our average sample firm performs well, with positive cash flows and positive returns prior to the divestment year. The average Tobin's q is 1.785, which is somewhat higher than those reported in previous studies (e.g., Schlingemann, Stulz, and Walkling, 2002; Ahn and Denis, 2004). The average diversity in q across segments equals 0.118, which is slightly higher than that of the divesting firms in Schlingemann, Stulz, and Walkling. Next section discusses these differences in more detail. Our sample of divesting firm years further shows a positive average excess value of 0.091, indicating that the average firm in our sample does not underperform its single-segment counterparts. The governance index ranges from three to 16, with an average of 10.441.

Panel B shows the characteristics of the CEOs in our sample. The average CEO is 56 years old, and has been employed by the firm for 20.5 years and as CEO for 5.6 years. Of our sample of CEOs, 87% are hired from inside the firm. Panel B also shows that the CEOs in our sample have from one to three titles. CEOs with three titles are also president and chairman of the board, which is an indication of the formal authority of the CEO (Finkelstein, 1992).

In terms of remuneration, CEOs receive on average $6.332 million per year, which is composed of $2.216 million in salary, bonus, and other annual compensation, $528 thousand in restricted stock, and $3.588 million in stock options. The average excess compensation is negative, with a value of $751 thousand, which is a result of a small number of CEOs, who receive extremely large raises. On average, CEOs own 2% of the firms' shares outstanding. One CEO owns more than half of the firm's shares (57%).

2.4   Results

As noted earlier, we approach the divestiture decision in multi-segment firms as a two-stage process. The first stage is the decision by firms to divest or not. The probability that a firm is predicted to divest may have a bearing on which assets it chooses to divest. We present the empirically estimated logistic regressions for both stages below. We also compare the statistics of divested, retained, familiar, and non-familiar segments.

2.4.1   Which firms divest assets?

Firms' motives to divest influence their selection of assets to divest. Divestiture studies provide three major motives for divesting assets: firms divest to reallocate assets to higher-valued users (Jain, 1985; Hite, Owers, and Rogers, 1987), to obtain funds when external financing is too expensive and internal financing is insufficient (Lang, Poulsen, and Stulz, 1995), and to increase the focus of the firm's business (John and Ofek, 1995).

Table 2.3

Binary logit regression explaining which firms divest

This table presents the results of binary logit regressions with a dependent variable that takes the value of one for divesting firms and zero for the benchmark firms. Regressions (1) and (3) contain all divesting firm years and their benchmark firm years. Regressions (2) and (4) contain only firm years in which segments get fully divested and their benchmark firm years. We base our regression on Schlingemann, Stulz, and Walkling (2002). We define cash flows as operating profit plus depreciation and amortization. Net capital expenditures are the gross capital expenditures minus depreciation and amortization. Leverage is debt divided by total assets. We calculate the financial constraint measure following Kaplan and Zingales (1997); the excess value measure as in Berger and Ofek (1995); the variation in Q as in Rajan, Servaes, and Zingales (2000); and the governance index as in Gompers, Ishii, and Metrick (2003). The subscripts refer to the year relative to the year in which firms announce their divestment. *P*-values appear in parentheses and are based on Huber/White standard errors.

	(1)	(2)	(3)	(4)
Intercept	-1.913***	-1.453	-2.616***	-2.559**
	(0.000)	(0.129)	(0.000)	(0.041)
Cash flow $_{t-1}$/sales $_{t-2}$	1.287	0.381	1.297	0.482
	(0.165)	(0.812)	(0.169)	(0.779)
Capx $_{t-1}$/sales $_{t-2}$	1.340	0.433	1.588	1.036
	(0.298)	(0.901)	(0.224)	(0.777)
Leverage	2.311***	2.088*	2.435***	2.259
	(0.000)	(0.099)	(0.000)	(0.107)
Excess value	-0.001	-0.103	-0.050	-0.116
	(0.995)	(0.803)	(0.774)	(0.785)
Variation in Q	2.171***	0.831	2.012***	0.693
	(0.005)	(0.658)	(0.010)	(0.705)
Financial constraint			-0.022	-0.045
			(0.265)	(0.407)
Governance index			0.058*	0.088
			(0.072)	(0.322)
Number of observations	676	106	676	106
McFadden *R*-squared	3.53%	1.92%	4.00%	3.22%

* significant at 10%; ** significant at 5%, *** significant at 1%

We estimate binary logit regressions in which the dependent variable takes the value of one for divesting firms and zero for our matched sample of non-divesting firms. For comparability, we include variables in the regressions similar to those in Schlingemann, Stulz, and Walkling (2002). These variables are performance, capital expenditures, leverage, excess value, and diversity in q to test for firms' main reasons to divest.[11] Table 2.3 reports the results the binary logit regressions.

Consistent with the financing explanation, the results of Regression (1) suggest that firms with a higher leverage ratio are more likely to divest assets. As Schlingemann, Stulz, and Walkling (2002), we find that firms with a higher diversity in Q are more likely to divest assets, which is in line with the argument that firms divest to focus their business. Cash flows, capital expenditures and excess value do not significantly influence a firm's decision to divest assets.

In comparison with our results, Schlingemann, Stulz, and Walkling (2002) find excess value to have a significantly negative impact on the probability to divest at a 10% significance level. However, these authors examine only firm years with fully divested segments, while we examine both fully divested segments and partially divested segments. We note that some segments are so large and contain such different activities and divisions that a partial divestment of these segments can actually be a major resource reallocation decision. Therefore, firms might divest substantial assets, in dollar and percentage of firm's assets, from large segments. By also including partially divested segments, we avoid the arbitrary classification of segments to drive our results.

To compare our results with that of Schlingemann, Stulz, and Walkling (2002), in Regression (2) we estimate the same regression as Regression (1), but exclusively for firm years in which divestitures of full segments take place and their benchmark firm years. Leverage has again a significantly positive impact on the likelihood to divest. Yet, the firm's variation in Q loses its significance. The difference between our results and theirs may be due to a different sample period[12], our use of smaller sales deciles, or our additional requirement that matched firms do not divest assets, even though these matched firms do not reduce the number of reported segments.

Regressions (3) and (4) include two additional variables, i.e., financial constraint and the governance index. Regression (3) covers the whole sample and Regression (4) only considers the divestitures of whole segments. Firms that are financially constrained and require funds for investments or to meet debt obligations might have

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[11] We set the missing values for excess value and diversity in q to the median value. The reason for this replacement is that we will use the predicted value of this regression in the second stage regression, in which we examine from which segment firms divest assets. We also replace missing values of the Kaplan Zingales index and the governance index in Regression (3) and (4) of Table 3 to median values.
[12] We examine divestitures in the period 1996-2004, while Schlingemann, Stulz, and Walkling (2002) examine divestitures during 1979-1994.

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Table 2.4

Characteristics of divested and retained segments

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The table presents means, standard deviations, and mean differences for segments of the fiscal year prior to the divestiture announcement. The dummy core segments equals one for segments with the same primary two-digit SIC code as the primary two-digit SIC code of the firm. Cash flows are the segment's operating profit plus depreciation and amortization. We define net capital expenditures as the gross capital expenditures minus depreciation and amortization. The segment's Tobin's q, the natural log of industry returns, and the industry return volatility represent the median industry q of all Compustat firms with the same two-digit SIC code as the segment. Tobin's q is the ratio of the market-to-book value of assets, as calculated in Malmendier and Tate (2005, 2007). Segment's industry liquidity is the liquidity index at the two-digit SIC code level, as calculated by Schlingemann, Stulz, and Walkling (2002). We define the industry-adjusted variables as the segment variable minus the median of all Compustat firms with the same two-digit SIC code. We define the firm-adjusted variables as the segment variable minus the firm level variable, except for the cross-subsidization variable, which we calculate as in Ahn and Denis (2004). The subscripts refer to the year relative to the year in which firms announce their divestment. As in Schlingemann, Stulz, and Walkling, we truncate ratios at -1 and +1, and growth variables at -100% and +200%. The sales numbers are in US $ millions.

	Divested (1)			Retained (2)			Mean difference	
	Mean	St.dev.	N	Mean	St.dev.	N	(1)-(2)	p-value
Panel A. Segment descriptives								
Divestment dummy	1.000	0.000	443	0.000	0.000	739		
Fully divested segment dummy	0.125	0.331	440	0.000	0.000	739		
Ln (sales) $_{t-1}$	7.078	1.638	443	6.754	1.604	738	0.324	***0.001***
Sales $_{t-1}$/ firm sales $_{t-1}$	0.329	0.238	443	0.260	0.196	738	0.070	***0.000***
Size<10% dummy	0.149	0.356	443	0.199	0.399	739	-0.050	***0.031***
Dummy core segment	0.510	0.500	443	0.522	0.500	739	-0.012	*0.686*
(Sales $_{t-1}$/ sales $_{t-2}$) -1	0.084	0.290	440	0.105	0.323	727	-0.021	*0.242*
(Sales $_{t-2}$/ sales $_{t-3}$) -1	0.093	0.286	391	0.101	0.320	638	-0.009	*0.645*
((Sales/firm sales)$_{t-1}$/(sales/firm sales)$_{t-2}$) -1	0.023	0.263	440	0.046	0.318	727	-0.023	*0.211*
((Sales/firm sales)$_{t-2}$/(sales/firm sales)$_{t-3}$) -1	0.031	0.263	391	0.049	0.315	638	-0.018	*0.325*
Cash flow $_{t-1}$/sales $_{t-2}$	0.180	0.202	440	0.200	0.191	727	-0.020	***0.096***
Cash flow $_{t-2}$/sales $_{t-3}$	0.187	0.204	391	0.200	0.173	638	-0.013	*0.292*
Cash flow $_{t-1}$/cash flow $_{t-2}$	0.060	0.493	440	0.116	0.550	726	-0.056	***0.071***
Cash flow $_{t-2}$/cash flow $_{t-3}$	0.108	0.491	386	0.103	0.536	631	0.005	*0.886*
Capx $_{t-1}$/sales $_{t-2}$	0.013	0.130	440	0.015	0.135	727	-0.002	*0.837*
Capx $_{t-2}$/sales $_{t-3}$	0.021	0.133	391	0.021	0.148	638	0.000	*0.985*
(Capx $_{t-1}$/capx $_{t-2}$) -1	0.009	1.014	439	-0.048	0.938	716	0.057	*0.333*
(Capx $_{t-2}$/capx $_{t-3}$) -1	-0.031	0.941	388	-0.054	0.962	626	0.023	*0.707*
Segment's Tobin's q	1.612	0.523	441	1.578	0.528	734	0.034	*0.282*
Segment's industry liquidity	0.125	0.103	437	0.115	0.100	731	0.010	*0.104*
Segment's industry stock return	-0.041	0.252	441	-0.050	0.259	735	0.009	*0.566*
Segment's industry return volatility	0.522	0.205	440	0.516	0.197	734	0.006	*0.629*
Panel B. Firm- and industry-adjusted segment descriptives								
Industry-adj. ln (sales) $_{t-1}$	0.022	0.602	440	0.104	1.860	734	-0.083	*0.268*
Firm-adj. cash flow $_{t-1}$/sales $_{t-2}$	0.001	0.182	440	0.019	0.182	727	-0.018	***0.100***
Industry-adj. cash flow $_{t-1}$/sales $_{t-2}$	0.056	0.203	437	0.088	0.199	722	-0.032	***0.008***
Firm-adj. capx $_{t-1}$/sales $_{t-2}$	0.003	0.134	440	-0.002	0.133	727	0.005	*0.577*
Industry-adj. capx $_{t-1}$/sales $_{t-2}$	0.006	0.130	437	0.012	0.135	722	-0.006	*0.460*
Cross-subsidization	-0.007	0.145	407	-0.008	0.154	643	0.000	*0.970*
Firm-adj. segment's Tobin's q	-0.193	0.891	441	-0.232	1.043	734	0.039	*0.515*

to rely on assets sales, as it is more expensive and difficult for these firms to acquire external funds. We include the Gompers, Ishii, and Metrick (2003) governance index to control for the level of takeover defenses and anti-shareholder provisions. Firms with fewer defense mechanisms are more exposed to the market of corporate control, which could have a disciplinary effect on CEOs to divest assets (Boot, 1992). We find that after controlling for related variables, such as performance, leverage, and excess value, our measure of financial constraint does not significantly contribute to the firms' decisions to divest all or part of a segment. However, firms with more defenses against takeovers are more likely to partially sell segments.

2.4.2 Descriptive statistics of divested and retained segments

Table 2.4 provides statistics for divested segments and retained segments. Panel A describes the segment statistics and Panel B describes the industry- and firm-adjusted statistics. The table shows that in 338 firm years, firms divest assets from 443 segments and fully retain 739 segments. Of all divestitures, 12.5% are fully divested segments. In contrast to the results of studies that focus exclusively on fully divested segments (e.g., Schlingemann, Stulz, and Walkling, 2002; Dittmar and Shivdasani, 2003), we show that partially divested segments are larger in terms of absolute size (the difference of the natural log of sales is 0.324; p equals 0.001) and relative size (the difference between sales ratios is 7%; p is less than 0.001) compared to fully retained segments, indicating that they are too important to be ignored. Larger segments often consist of a collection of smaller divisions, thus increasing the likelihood that a separable portion of a segment gets divested.

   Furthermore, consistent with efficiency and financing explanations, divested segments have lower cash flows compared to retained segments. This difference is even more significant when we adjust the segment cash flows for industry cash flows.

2.4.3   Descriptive statistics of familiar segments and non-familiar segments

Our sample consists of divesting multisegment firms for which the number of segments differs per firm and firm year. Table 2.5 provides an overview of the number of divested segments relative to the number of reported segments per firm year. The results indicate that most multi-segment firms divest assets from only one segment within a firm year, and that fewer firms divest from more than one segment.

Table 2.5
Overview of the number of divestitures

This table shows the number of segments from which firms divest assets. We split the sample into firm years with two, three, four, five, six, and seven reported segments (excluding corporate segments).

Divestitures in N segments within firm year	Firm years with X number of segments						All firm years
	X=2	X=3	X=4	X=5	X=6	X=7	
N=1	49	110	50	29	7	4	249
N=2	11	29	18	10	7	0	75
N=3		3	1	5	3	0	12
N=4			0	2	0	0	2
N=5				0	0	0	0
N=6					0	0	0
N=7						0	0
All firm years	60	142	69	46	17	4	338

 In our sample, 249 firm years divest assets from one segment, 75 from two segments, 12 from three segments, and two from four segments.

Table 2.6 describes the mean values and mean differences of familiar and non-familiar segments. We divide our total sample of 1,182 segments among 762 familiar segments and 420 non-familiar segments. CEOs have an average of 8.5 years of direct working experience (i.e., in the home-base segment) in 354 segments, 8.91 years of inside industry experience in 234 segments, and 14.95 years of outside industry experience in 174 segments. Although the difference is not significant, the percentage of divestitures among non-familiar segments (i.e., 39.5%) is higher than that of familiar segments (i.e., 36.4%). If we consider only fully divested segments, the percentage difference is statistically significant (i.e., 3.3% compared to 7.1%). We also see that the percentage of fully divested segments decreases with the level of familiarity.

Our results indicate that familiar segments are larger compared to non-familiar segments. Although CEOs have working experience in familiar segments or in the same industry as the familiar segment, we find no significant difference in performance between familiar and non-familiar segments in terms of sales growth and cash flows. Moreover, familiar segments receive more capital expenditures relative to the firm's budget, which supports the prediction that CEOs allocate a more favorable budget to familiar segments.

Table 2.6 also shows that familiar segments are more often core segments, and that they operate in industries with higher q but are less liquid. The segments' industry stock returns and industry volatility do not differ across familiar and non-familiar segments.

Table 2.6

Characteristics of familiar and non-familiar segments

The table presents means, standard deviations, and mean differences for familiar and non-familiar segments of the fiscal year prior to the divestiture announcement. The familiar segments are segments in which CEOs have direct or industry working experience. We split industry working experience into home base (i.e., direct working experience), inside industry working experience, and outside industry working experience. All other variables are self-explanatory or defined more completely in Table 2.4. The subscripts refer to the year relative to the year in which firms announce their divestment. As in Schlingemann, Stulz, and Walkling (2002), we truncate ratios at -1 and +1 and growth variables at -100% and +200%. The sales numbers are in \$ millions.

	Familiar												Not familiar			Mean difference		
	Home bases			Inside industry experience			Outside industry experience			All (1)			All (2)					
	Mean	St. D.	N	Mean	St. D.	N	Mean	St. D.	N	Mean	St. D.	N	Mean	St. D.	N	N	(1) - (2)	*p-value*
Aggregate familiarity dummy	1.000	0.000	354	1.000	0.000	234	1.000	0.000	174	1.000	0.000	762	0.000	0.000	420	420		
Home base	1.000	0.000	354	1.000	0.000	234	-	-		0.465	0.499	762	-	-				
Inside industry experience	-	-		1.000	0.000	234	-	-		0.307	0.462	762	-	-				
Outside industry experience	-	-		-	-		1.000	0.000	174	0.228	0.420	762	-	-				
Years worked for home base	8.500	8.832	354	-	-		-	-		3.949	7.361	762	-	-				
Years inside industry experience	-	-		8.910	8.891	234	-	-		2.736	6.412	762	-	-				
Years outside industry experience	-	-		-	-		14.948	9.690	174	3.413	7.796	762	-	-				
Divestment dummy	0.367	0.483	354	0.346	0.477	234	0.379	0.487	174	0.364	0.481	762	0.395	0.489	420		-0.032	*0.281*
Fully divested segment dummy	0.020	0.140	353	0.039	0.193	233	0.052	0.223	173	0.033	0.179	759	0.071	0.258	420		-0.038	***0.003***

Table 2.6 (continued)

	Familiar												Not familiar			Mean difference	
	Home bases			Inside industry experience			Outside industry experience			All (1)			All (2)				
ln (sales) t-1	7.401	1.357	354	6.752	1.567	234	6.674	1.623	174	7.036	1.524	762	6.583	1.755	419	0.453	*0.000*
Sales t-1/ firm sales t-1	0.390	0.234	354	0.218	0.153	234	0.285	0.203	174	0.313	0.218	762	0.236	0.200	419	0.077	*0.000*
Size<10% dummy	0.079	0.270	354	0.235	0.425	234	0.207	0.406	174	0.156	0.363	762	0.224	0.417	420	-0.068	*0.004*
Dummy core segment	0.678	0.468	354	0.821	0.385	234	0.431	0.497	174	0.665	0.472	762	0.250	0.434	420	0.415	*0.000*
(Sales t-1/ sales t-2) -1	0.090	0.235	351	0.124	0.348	231	0.101	0.398	172	0.103	0.314	754	0.086	0.304	413	0.017	0.380
((Sales/firm sales)t-1/(sales/firm sales)t-2) -1	0.025	0.208	351	0.045	0.289	231	0.068	0.407	172	0.041	0.289	754	0.030	0.315	413	0.011	0.543
Cash flow t-1/sales t-2	0.202	0.136	351	0.171	0.181	231	0.174	0.236	172	0.186	0.178	754	0.206	0.224	413	-0.020	0.100
Firm-adj. cash flow t-1/sales t-2	0.012	0.105	351	-0.014	0.158	231	0.023	0.242	172	0.007	0.162	754	0.021	0.214	413	-0.015	0.180
Industry-adj. cash flow t-1/sales t-2	0.078	0.164	351	0.088	0.197	231	0.067	0.248	169	0.079	0.196	751	0.071	0.211	408	0.007	0.558
Capx t-1/sales t-2	0.020	0.118	351	0.003	0.100	231	0.027	0.159	172	0.016	0.124	754	0.011	0.148	413	0.005	0.508
Firm-adj. capx t-1/sales t-2	0.011	0.107	351	-0.001	0.092	231	0.004	0.160	172	0.005	0.117	754	-0.010	0.158	413	0.016	*0.052*
Industry-adj. capx t-1/sales t-2	0.012	0.116	351	0.004	0.098	231	0.026	0.160	169	0.013	0.123	751	0.004	0.151	408	0.009	0.280
Cross-subsidization	0.004	0.099	323	-0.005	0.096	216	0.005	0.181	143	0.001	0.120	682	-0.023	0.195	368	0.025	*0.012*
Segment's Tobin's q	1.608	0.539	354	1.704	0.578	234	1.546	0.485	172	1.624	0.542	760	1.530	0.491	415	0.093	*0.004*
Firm-adj. segment's Tobin's q	-0.324	1.043	354	-0.278	1.050	234	0.119	0.662	172	-0.210	0.988	760	-0.232	0.992	415	0.022	0.710
Segment's industry liquidity	0.115	0.095	352	0.122	0.114	234	0.096	0.099	170	0.113	0.102	756	0.130	0.098	412	-0.016	*0.007*
Segment's industry stock return	-0.035	0.247	354	-0.066	0.275	234	-0.078	0.272	172	-0.054	0.262	760	-0.033	0.245	416	-0.022	0.153
Segment's industry return volatility	0.502	0.197	354	0.534	0.190	234	0.520	0.225	171	0.516	0.202	759	0.521	0.197	415	-0.005	0.683

2.4.4   The impact of familiarity on segment selection for divestment

To examine whether CEOs are biased in their selection on which segments to divest assets, we estimate binary logit regressions in which the dependent variable takes the value of one for divested segments and zero for retained segments. For comparability, we follow Schlingemann, Stulz, and Walkling (2002) for the specification of the economic factors. These are performance, investment, size, whether it is a core segment, whether the segment is less than 10% of total sales, segment q, and segment industry's liquidity. Using these variables, we control for the most important reasons to divest, i.e., efficiency, financing, and focus. We also include year dummies and dummies for the number of segments as reported by the firm. Table 2.7 presents the results.

The results of Regression (1) largely corroborate the results of Schlingemann, Stulz, and Walkling (2002). The table shows that CEOs are more likely to divest assets from segments with lower cash flows and segments that operate in more liquid industries. The negative coefficient for cash flows supports both the financing and efficiency rationales to divest.

The efficiency explanation implies that firms divest assets when their industry peers can manage these assets more efficiently. If firms divest for financing reasons, on the other hand, they choose assets from segments with low cash flows and need not consider cash flows from industry peers. In contrast to Schlingemann, Stulz, and Walkling (2002), our coefficient of industry median cash flows is significant, indicating that firms divest assets from segments for efficiency reasons. Further results show that capital expenditures influence the likelihood to divest on the industry level, but not on the segment level. That is, CEOs are more likely to divest assets from segments that operate in industries with higher capital expenditures, possibly to economize on cash flows.

Consistent with our statistics, the probability of asset divestiture is higher for larger segments, since we also include partially divested segments. Furthermore, the CEO's choice of divestment is not influenced by the segment's imputed Tobin's q, whether a segment operates in the firm's core industry, or whether a segment has sales of less than 10% of the firm's consolidated sales.

To examine whether CEOs' familiarity with segments influence their divestiture decisions, the second regression includes the aggregate familiarity dummy, which is a dummy for CEOs' direct or industry working experience in a segment. Consistent with our first hypothesis, our results show that CEOs exhibit a familiarity effect. After controlling for other factors, we find that CEOs are less likely to divest assets from familiar segments. The odds ratio is 0.742, indicating that asset divestments to occur

Table 2.7

Binary logit regressions explaining from which type of segments firms divest assets

This table presents the results of binary logit regressions that explain from which type of segments firms choose to divest assets. The dependent variable takes the value of one for divested segments and zero for retained segments. We base our regression on Schlingemann, Stulz, and Walkling (2002). Proxies for familiarity are the CEOs' industry working experience, which we split into home-base experience (i.e., direct working experience), inside industry working experience, and outside industry working experience. The control in first-stage variable is the predicted probability from Regression (3.3). All other variables are self-explanatory or defined more completely in Table 2.4. The subscripts refer to the year relative to the year in which firms announce their divestment. As in Schlingemann, Stulz, and Walkling, we truncate ratios at -1 and +1 and growth variables at -100% and +200%. All regressions include firm year dummies and dummies for the number of segments. *P*-values appear in parentheses and are based on Huber/White standard errors.

	(1)	(2)	(3)	(4)
Intercept	-1.420	-1.276	-1.836*	-1.867*
	(0.141)	(0.191)	(0.077)	(0.072)
Cash flow $_{t-1}$/sales $_{t-2}$	-0.925**	-0.963**	-0.954**	-0.942**
	(0.013)	(0.011)	(0.012)	(0.012)
Industry median cash flow $_{t-1}$/sales $_{t-2}$	1.351*	1.406*	1.417*	1.494**
	(0.072)	(0.062)	(0.060)	(0.049)
Capx $_{t-1}$/sales $_{t-2}$	-1.275	-1.290*	-1.551**	-1.571**
	(0.102)	(0.091)	(0.048)	(0.047)
Industry median capx $_{t-1}$/sales $_{t-2}$	6.479**	6.433**	6.732**	6.872**
	(0.020)	(0.018)	(0.014)	(0.012)
Cross-subsidization	0.833	0.918	1.137	1.158
	(0.278)	(0.222)	(0.141)	(0.135)
Sales $_{t-1}$/ firm sales $_{t-2}$	1.644***	1.636***	1.637***	1.795***
	(0.000)	(0.000)	(0.000)	(0.000)
Core dummy	-0.160	-0.044	-0.028	-0.044
	(0.287)	(0.789)	(0.865)	(0.795)
Segment's Tobin's q	0.236	0.260*	0.247	0.252
	(0.125)	(0.094)	(0.113)	(0.105)
Size<10% dummy	0.121	0.112	0.126	0.123
	(0.562)	(0.594)	(0.548)	(0.560)
Liquidity	1.327*	1.199	1.345*	1.388*
	(0.074)	(0.112)	(0.078)	(0.069)
Aggregated familiarity dummy		-0.299*	-0.282*	
		(0.060)	(0.077)	
Control for first stage			0.960	1.016
			(0.148)	(0.129)
Home base				-0.413**
				(0.026)
Inside industry experience				-0.164
				(0.456)
Outside industry experience				-0.162
				(0.454)
Number of observations	1049	1049	1049	1049
McFadden *R*-squared	5.00%	5.26%	5.41%	5.55%

* significant at 10%; ** significant at 5%, *** significant at 1%

only 74.2% as often among familiar segments as among non-familiar segments. This result applies to the entire sample, i.e., both newly-hired and longer-tenured CEOs. Including the aggregate familiarity dummy significantly increases the explanatory power of our regression.

Because the selection of the segment to divest partially or wholly also depends on the overall decision whether or not to divest, we add the predicted probability of a firm to divest from Regression (3) of Table 2.3 to Regression (3) of Table 2.7. Adding the predicted probability does not significantly influence our results on the role of the familiarity effect.

To examine what type of experience makes CEOs more likely to divest from non-familiar segments, the fourth regression includes the three dummy variables for home base, inside-industry experience, and outside-industry experience instead of a single dummy for familiarity. The results indicate that the home-base dummy is the only significant dummy with the predicted negative impact on the segment selection choice. Because the main difference between the home-base proxy and the industry-experience proxies is CEOs' gained knowledge from hands-on experience and connections with employees of the segment, this result suggests that such knowledge, either real or assumed, is the main driver behind the familiarity effect.

2.4.5   The bargaining process between CEOs and segment managers

The role of political power within organizations suggests that CEOs have to gain tenure before they can exhibit their familiarity effect. Therefore, we split our sample of divesting firm years into a sample of CEOs with tenure of up to two firm years, and a sample of CEOs with at least three or more years of tenure. We choose the two-year cutoff point to be comparable with Xuan (2006), who exclusively examines newly-hired CEOs with tenure up to two years. Besides, within two or three years of tenure, CEOs have gained enough political leeway to take corporate actions that are not in line with their original mandate (Hambrick and Fukutomi, 1991).[13] Table 2.8 provides the results.

Regression (1) shows the results for newly-hired CEOs and Regression (2) for longer-tenured CEOs. We find that newly-hired CEOs do not show a familiarity bias, which is consistent with the stronger bargaining position of segment managers that plays an important deterrent role in the negotiation process. In line with Xuan's (2006) bridge-building hypothesis, newly-hired CEOs may induce cooperation from the non-familiar-segment managers and appear to play fair by not divesting more often from these segments. The regression also indicates that newly-hired CEOs are more likely

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[13] Changing the threshold to three years does not change our conclusions.

Table 2.8

Binary logit regressions explaining from which type of segments firms divest assets, with subsamples split according to CEO tenure

This table presents the results of binary logit regressions that explain from which type of segments firms choose to divest assets. The dependent variable takes the value of one for divested segments and zero for retained segments. Regression (1) contains only firm years with CEOs with a tenure up to two years. Regression (2) contains only firm years with CEOs with a tenure of at least three years. We base our regression on Schlingemann, Stulz, and Walkling (2002). Proxies for familiarity are the CEOs' industry working experience, which we split into home-base experience (i.e., direct working experience), inside industry working experience, and outside industry working experience. The control in first stage variable is the predicted probability from Regression (3.3). All other variables are self-explanatory or defined more completely in Table 2.4. The subscripts refer to the year relative to the year in which firms announce their divestment. As in Schlingemann, Stulz, and Walkling, we truncate ratios at -1 and +1 and growth variables at -100% and +200%. All regressions include firm year dummies and dummies for the number of segments. P-values appear in parentheses and are based on Huber/White standard errors.

	(1) Newly hired	(2) Longer tenured
Intercept	-1.496	-1.223
	(0.139)	(0.293)
Cash flow $_{t-1}$/sales $_{t-2}$	-1.279*	-0.847*
	(0.070)	(0.089)
Industry median cash flow $_{t-1}$/sales $_{t-2}$	0.625	1.904**
	(0.712)	(0.039)
Capx $_{t-1}$/sales $_{t-2}$	-1.947	-1.904*
	(0.110)	(0.092)
Industry median capx $_{t-1}$/sales $_{t-2}$	3.488	7.992**
	(0.571)	(0.016)
Cross-subsidization	0.225	2.137*
	(0.842)	(0.055)
Sales $_{t-1}$/ firm sales $_{t-2}$	2.084***	1.768***
	(0.007)	(0.001)
Core dummy	-0.183	0.020
	(0.548)	(0.927)
Segment's Tobin's q	0.325	0.112
	(0.240)	(0.579)
Size<10% dummy	0.141	0.096
	(0.722)	(0.714)
Liquidity	1.785	1.379
	(0.170)	(0.154)
Control for first stage	0.639	0.843
	(0.590)	(0.337)
Home base	0.137	-0.657***
	(0.672)	(0.006)
Inside industry experience	0.308	-0.347
	(0.428)	(0.218)
Outside industry experience	0.005	-0.192
	(0.990)	(0.461)
Number of observations	360	689
McFadden R-squared	6.50%	7.11%

* significant at 10%; ** significant at 5%, *** significant at 1%

to divest assets from the larger segments and segments with lower cash flows. Other economic factors do not play significant roles.

The significantly negative coefficient of the home-base dummy in Regression (2) for longer-tenured CEOs is in line with our second hypothesis. The odds ratio of 0.518 suggests that home-base segments experience 48.2% fewer divestitures than do non-familiar segments. The results confirm our prediction of different regimes for newly-hired versus longer-tenured CEOs. The findings support the role of relative political power and its accumulation within the firm.

2.4.6   What explains the familiarity effect?

In this section, we examine the three competing explanations for the familiarity effect, i.e., entrenchment, superior knowledge, and assumed knowledge.

One of the implications of Shleifer and Vishny's (1989) entrenchment theory is that entrenched CEOs aim to extract excessive remuneration relative to the firm's performance. If this theory is true, then CEOs who divest assets from non-familiar segments so that they can become more powerful and more costly to replace would also receive excessive remuneration. In Table 2.9, Regression (1), we form an interaction term comprising the home-base dummy and a dummy that indicates whether the CEO receives excess remuneration above the sample median, which we calculate from the procedure described earlier.

The results do not support the entrenchment explanation, as CEOs with high excess remuneration do not show a stronger familiarity bias (interaction coefficient equals 0.272, p equals 0.467). However, our home-base dummy remains significant and negative (coefficient equals -0.863, p equals 0.008).[14]

In addition to excess remuneration, we also test the entrenchment explanation by means of corporate governance measures. We expect good corporate governance to induce CEOs to make value-maximizing decisions for their firm, rather than for themselves. We control for external governance in the first stage of a firm's decision of whether or not to divest. Internal governance mechanisms could have even greater importance in the second stage, which reflects the decisions of which assets to divest. CEOs of firms with a more independent board of directors have less power over the board; hence, they have less discretion over their decisions (e.g., Ryan and Wiggins III, 2004; Moeller, 2005). If CEOs have a familiarity effect due to their desire to entrench, they would not be able to exhibit that bias in well-governed firms. Regression (2) adds an interaction term consisting of the home base dummy and a dummy that takes the value of one for firm years with an above-median percentage of

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[14] Using the fourth quartile as threshold for high excess remuneration does not change our results.

Table 2.9

Binary logit regressions explaining from which type of segments firms with longer-tenured CEOs divest assets

This table presents the results of binary logit regressions that explain from which type of segments firms choose to divest assets. The dependent variable takes the value of one for divested segments and zero for retained segments. All regressions contain only firm years with CEOs with a tenure of at least three years. We base our regression on Schlingemann, Stulz, and Walkling (2002). Proxies for familiarity are the CEOs' industry working experience, which we split into home-base experience (i.e., direct working experience), inside industry working experience, and outside industry working experience. The high excess compensation dummy equals one when the CEO's excess return is above the median of our sample. The good internal governance dummy equals one for firm years where the percentage of inside directors is above the median of our sample. The crisis dummy equals one when the firm's cash flow to sales is lower than the industry cash flow to sales for two years in a row. The control in first stage variable is the predicted probability from Regression (3.3). All other variables are self-explanatory or defined more completely in Table 2.4. The subscripts refer to the year relative to the year in which firms announce their divestment. As in Schlingemann, Stulz, and Walkling, we truncate ratios at -1 and +1 and growth variables at -100% and +200%. All regressions include firm year dummies and dummies for the number of segments. *P*-values appear in parentheses and are based on Huber/White standard errors.

	(1)	(2)	(3)
Intercept	-1.300	-1.464	-1.181
	(0.290)	(0.212)	(0.310)
Cash flow $_{t-1}$/sales $_{t-2}$	-0.673	-0.883 *	-0.901 *
	(0.234)	(0.081)	(0.074)
Industry median cash flow $_{t-1}$/sales $_{t-2}$	1.960 **	1.981 **	1.820 *
	(0.043)	(0.037)	(0.051)
Capx $_{t-1}$/sales $_{t-2}$	-1.484	-2.016 *	-1.902 *
	(0.331)	(0.075)	(0.097)
Industry median capx $_{t-1}$/sales $_{t-2}$	8.303 **	9.091 ***	8.776 ***
	(0.024)	(0.008)	(0.009)
Cross-subsidization	1.088	2.171 *	2.118 *
	(0.494)	(0.050)	(0.060)
Sales $_{t-1}$/ firm sales $_{t-2}$	1.871 ***	1.923 ***	1.693 ***
	(0.001)	(0.001)	(0.002)
Core dummy	0.019	0.042	0.030
	(0.934)	(0.850)	(0.891)
Segment's Tobin's q	0.063	0.111	0.082
	(0.765)	(0.590)	(0.690)
Size<10% dummy	-0.073	0.054	0.101
	(0.793)	(0.840)	(0.703)
Liquidity	2.091 **	1.741 *	1.292
	(0.048)	(0.088)	(0.180)
Control for first stage	0.971	0.978	0.796
	(0.298)	(0.287)	(0.366)
Home base	-0.863 ***	-0.737 **	-0.520 **
	(0.008)	(0.015)	(0.037)
Inside industry experience	-0.394	-0.346	-0.336
	(0.183)	(0.231)	(0.238)
Outside industry experience	-0.115	-0.130	-0.201
	(0.672)	(0.625)	(0.441)
Home base * High excess compensation dummy	0.272		
	(0.467)		
High excess compensation dummy	-0.011		
	(0.960)		
Home base * Good internal governance dummy		0.101	

		(0.784)	
Good internal governance dummy		-0.036	
		(0.867)	
Home base * Crisis dummy			-1.089 *
			(0.086)
Crisis dummy			0.254
			(0.431)
Number of observations	641	666	689
McFadden *R*-squared	7.63%	7.38%	7.48%

* significant at 10%; ** significant at 5%; *** significant at
1%

independent directors in the board. The interaction term does not show significant results (coefficient equals 0.101, p-value equals 0.784) and our home-base dummy remains significant (coefficient equals -0.737, p-value equals 0.015).[15]

Since our results suggest that entrenchment is not the main explanation for the familiarity effect, we now examine which of the two versions of knowledge can justify this effect, the rational, i.e., superior knowledge from acquired information and through acquaintances; or the non-rational, i.e., assumed knowledge or the illusion of control. Ex ante, it is difficult to distinguish between the two, since, everything else equal, CEOs tend to give familiar segments higher valuation relative to non-familiar segments under either explanation. Although we cannot rule out superior knowledge, we can identify a situation in which assumed knowledge is more likely to drive CEOs' familiarity bias, i.e., when CEOs are under pressure to show good performance to the board and shareholders. We define such a situation as one in which CEOs of firms underperform their industry for two years in a row. One year of underperformance could be blamed on bad luck. However, two consecutive years of bad performance are more likely to be attributed to CEOs' poor ability and that they are not likely to possess superior information. Such pressure also mitigates agency as a factor to explain familiarity bias, as these CEOs do not have the luxury of having slack that is associated with agency costs. Thus, it is more likely that only those CEOs who are under the illusion of control will rely disproportionately on the support of familiar segments in terms of people and performance.

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[15] We note that although an independent board is a better monitor than a more dependent board, how effective it is depends on the information that the CEO provides (Song and Thakor, 2006; Adams and Ferreira, 2007). A CEO may be especially reluctant to share relevant information on divestment decisions that are motivated by the CEO's desire to entrench, which could explain the nonsignificant result. However, our results do not change when we define well-governed firms as those firms in the highest quartile of independent directors. As an alternative governance measure, we use CEO ownership in our empirical test. CEOs with a higher stake in their firm have more decision-making power (Finkelstein, 1992; Bigley and Wiersema, 2002; Adams, Almeida, and Ferreira, 2005). On the other hand, a CEO's incentives are more aligned with shareholders' incentives when they own a higher percentage of the firm's shares (Jensen and Meckling, 1976). We find that neither above- nor below-median CEO ownership influences CEOs' familiarity bias (results are available on request).

We identify 27 firm years, comprising 88 segments, with returns on sales that are below the industry median for two consecutive years prior to the divesting years. Regression (3) includes an interaction term with a dummy variable for one for these firm years and for the home-base dummy variable. We find that the home-base dummy remains significantly negative (coefficient equals -0.520, p equals 0.037). In line with the illusion of control explanation, interacting with the crisis dummy provides a significant, negative coefficient (coefficient equals -1.089, p equals 0.086).

A drawback of interaction variables in binary logit regressions is that we cannot interpret the coefficients as the marginal effect of the interaction term (Ai and Norton, 2003; Powers, 2005). We calculate the interaction effect via the procedure proposed by Ai and Norton (2003). We still find a negative interaction effect, albeit not significant (p-value equals 0.358).

We additionally examine another margin that may discriminate between the two alternative knowledge explanations by means of the number of years that the CEOs last gained their experience in the home base. Over the years, the CEOs' superior information can fade, while their illusion of control remains. On the other hand, as CEOs gain more knowledge of the non-familiar segments over the years, the discount for non-familiar segments due to the CEOs' inability to estimate their risks gradually reduces. Consequently, the difference in valuations between familiar and non-familiar segments becomes smaller. CEOs may also prefer to be surrounded by familiar people or those with whom they have connections. However, we expect this type of affinity to be strongest among those CEOs that have the most recent experience with personnel in the home-base segment. Therefore, the longer the period since CEOs last worked in their home base, information and acquaintances become less of a factor than their illusion of control that prevents them from divesting assets from familiar segments.

To investigate the impact of passage of time away from the home base, we re-estimate Regression (2) of Table 2.8, but here, we split the home-base dummy into four quartiles based on the number of years since the longer-tenured CEO left the segment: up to five years, six to nine years, ten to 15 years, and over 16 years. We find that CEOs show their familiarity bias for the first three quartiles of being away from the home-base segments: the coefficient for the first quartile equals -0.623 (p-value equals 0.085), for the second quartile equals -0.799 (p-value equals 0.023), for the third quartile equals -1.294 (p-value equals 0.002). But for the fourth quartile, the coefficient equals -0.308 (p-value equals 0.370).

Although one might argue that CEOs' political connections is a continuing and dynamic process through which they keep contacts and exchange information, the relationships are not likely to have a life span long enough to sustain a familiarity effect up to 15 years after they leave their home-base. Thus, short of actual knowledge,

CEOs who have long departed from the segment may substitute assumed knowledge for superior knowledge by committing the illusion of control.

2.5   Shareholder returns and the familiarity effect

This section investigates how the stock market perceives the familiarity effect in divestitures by means of an event study. We expect that superior knowledge of home-base segments will yield positive abnormal returns for all divestitures. Divesting assets from familiar segments is valuable, as familiar managers have a comparative advantage in valuing the segment's assets and locating potential buyers. Divesting from non-familiar segments is also valuable, because managers have less knowledge how to best manage and improve the performance of these assets. An additional effect may arise in the case of assumed knowledge. Illusion of control can lead to an unrealistic belief that CEOs can improve the performance of the home base's poorly performing assets. This unrealistic believe can result in a disposition effect (Shefrin and Statman, 1985) where CEOs retain their losing assets in their home bases far too long. Such behavior could have a downward pressure on the share price until the CEO decides to divest these assets. We expect these home-base divestments to have a relatively larger positive impact on the share price.

2.5.1   The average market response to divestitures

We estimate the abnormal returns to divestiture announcements by means of the market model as described by MacKinlay (1997). Our estimation window runs from day -160 to -41 relative to the announcement date. We aggregate the abnormal returns over the day prior to the divestiture announcement until the day after the divestiture announcement. Table 2.10 provides statistics for the whole sample of divestitures[16], the subsample of home-base divestitures, and the subsample of non-home-base divestitures. Since longer-tenured CEOs mainly exhibit the familiarity effect, we also split the sample into longer-tenured and newly-hired CEOs.

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[16] Our sample has in total 592 divestitures. Of these 592 divestitures, we lose 280 observations due to missing transaction values and 34 observations due to missing values in the abnormal returns. To avoid that outliers drive our results, we also exclude the highest and lowest 2.5 percentile CAR observations. We further have seven firms that announce more than one divestiture at the same date from the same segment. We treat these announcements as one observation. One firm announces more than one divestiture from two different segments at the same date. We treat this announcement as two observations. Deleting this announcement does not significantly influence our results.

Table 2.10

CARs to divestiture announcement for home bases and non-home bases

The table presents the means, standard deviations, and mean differences of the cumulative abnormal returns over days -1 to +1 relative to the divestiture announcement. We estimate the abnormal returns by means of the market model as described by MacKinlay (1997) with an estimation window running from day -160 to day -41 relative to the announcement date. The home-base segments are segments in which CEOs have direct working experience. Longer-tenured CEOs are CEOs with a tenure of at least three years and newly-hired CEOs are CEOs with a tenure up to two years.

	All	Home base (1)	Non-home base (2)	Mean difference (1) - (2)
Mean	0.55%	0.86%	0.41%	0.44%
(*p*-value)	*(0.010)*	*(0.039)*	*(0.093)*	(0.337)
St.dev.	3.38%	3.60%	3.29%	
N	258	78	180	
Longer-tenured CEOs				
Mean (a)	0.62%	1.48%	0.33%	1.14%
(*p*-value)	*(0.017)*	*(0.010)*	(0.249)	*(0.054)*
St.dev.	3.41%	3.64%	3.29%	
N	174	44	130	
Newly-hired CEOs				
Mean (b)	0.39%	0.05%	0.62%	-0.57%
(*p*-value)	(0.288)	(0.932)	(0.188)	(0.447)
St.dev.	3.35%	3.45%	3.29%	
N	84	34	50	
Mean difference (a) - (b)	0.23%	1.43%	-0.29%	
(*p*-value)	(0.606)	*(0.083)*	(0.601)	

The results show a positive average abnormal return of 0.55% for the whole sample, which is significantly different from zero. When we split the sample into home-base and non-home-base divestitures, we find that the home-base divestitures generate 0.86% abnormal returns, while the non-home-base divestitures generate 0.41% abnormal returns. The difference between the two sub-samples is not significant. However, the difference is significant for the sample of divestitures made by longer-tenured CEOs, which is the group of CEOs for which we find a familiarity effect (i.e., the difference is 1.14%, with *p*-value equals 0.054). In addition, home-base divestitures made by longer-tenured CEOs generate higher abnormal returns than home-base divestitures made by newly-hired CEOs (i.e., the difference is 1.43%, with *p*-value equals 0.083).

The higher positive abnormal returns for home-base divestitures support the role for superior knowledge, as CEOs are able to pick winners (Stein, 1997) when they divest assets from their home base. The findings also suggest that assumed knowledge leads CEOs to show a disposition effect by waiting too long before they divest the poorly performing assets from their home base. Since we find the highest abnormal

returns for the subsample of CEOs that show a familiarity effect, our evidence suggests that substantial costs are associated with this effect.

2.5.2   The impact of familiarity on the market response to divestitures

In addition to the univariate analysis, we estimate an ordinary least squares regression where we regress the three-day abnormal returns on the home-base dummy and several control variables. We follow Bates (2005) for the specification of the control variables, which are: the relative transaction size, Tobin's q, industry-adjusted capital expenditures, industry-adjusted leverage, industry-adjusted cash, and the percentage of stock owned by the CEO. With these variables, we control for the efficiency explanation as well as for the financing explanation. Table 2.11 provides the results.

In line with our univariate results, Regression (1) shows a positive and significant home-base coefficient. Home-base divestitures generate 0.9% higher abnormal returns than non-home-base divestitures. The regression further shows a positive relation between the relative transaction size and the market reaction, indicating that a 10% increase in relative transaction size brings about 0.89% higher abnormal returns. This is in line with results of Bates (2005) for the subsample of divestitures where the firm pays out the proceeds in terms of equity. The other control variables do not provide any significant result.

While Regression (1) does not control for the increasing focus explanation in which Berger and Ofek (1995) show that this type of divestitures have a positive impact on firm performance, we remedy that by adding excess value and a core dummy to Regression (2). We find that, consistent with the focusing explanation, divestitures from core segments generate 1.3% lower abnormal returns than divestitures from non-core segments. Excess value does not show a significant impact. More importantly, adding these two variables does not influence the home-base coefficient, which remains 0.9%.

Since only longer-tenured CEOs exhibit a familiarity effect, we estimate the regression for longer-tenured CEOs and newly-hired CEOs separately (see Regression (3) and Regression (4), respectively). We find that longer-tenured CEOs who divest assets from their home base generate 1.7% higher returns than longer-tenured CEOs who divest from their non-home base. The home-base dummy is not significant in the newly-hired CEOs sample. Again, our evidence suggests that even though longer-tenured CEOs are less likely to divest assets from their home base, these home-base divestitures generate higher abnormal returns. The higher abnormal returns support the superior knowledge explanation. Yet, given the familiarity effect, this result also

Table 2.11
OLS regression explaining announcement CARs to divesting firms

This table presents the results of ordinary least squares regressions of three-day CARs to divestiture announcements. Regressions (1) and (2) contain the whole sample of divestitures. Regression (3) contains only firm years with CEOs with a tenure of at least three years. Regression (4) contains only firm years with CEOs with a tenure up to two years. We estimate the abnormal returns by means of the market model as described by MacKinlay (1997) with an estimation window running from day -160 to day -41 relative to the announcement date. The home-base segments are segments in which CEOs have direct working experience. The relative transaction size is the transaction value divided by the book value of the firm's total assets. Tobin's q is the ratio of the market-to-book value of assets, as calculated in Malmendier and Tate (2005, 2007). We define the industry-adjusted variables as the firm variable minus the median of all Compustat firms with the same two-digit SIC code. Capital expenditures are gross capital expenditures minus depreciation and amortization. Leverage is debt divided by total assets. We calculate the excess value measure as in Berger and Ofek (1995). The dummy core segments equals one for divestments from segments with the same primary two-digit SIC code as the primary two-digit SIC code of the firm. All regressions include firm year dummies and dummies for the number of segments. P-values appear in parentheses and are based on White standard errors.

	(1)	(2)	(3) longer tenured	(4) newly hired
Intercept	0.005	0.011 *	0.019 **	-0.009
	(0.370)	(0.073)	(0.018)	(0.481)
Home base	0.009 **	0.009 *	0.017 **	0.008
	(0.048)	(0.068)	(0.018)	(0.294)
Relative transaction size	0.089 ***	0.082 ***	0.061 **	0.255 ***
	(0.005)	(0.005)	(0.026)	(0.001)
Tobin's q	-0.004	-0.004	-0.005	-0.003
	(0.107)	(0.215)	(0.246)	(0.350)
Industry-adj. capx $_{t-1}$/sales $_{t-2}$	0.030	0.026	0.008	0.028
	(0.262)	(0.455)	(0.847)	(0.844)
Industry-adj. leverage	0.005	0.004	-0.011	0.007
	(0.745)	(0.808)	(0.603)	(0.724)
Industry-adj, cash $_{t-1}$/sales $_{t-2}$	0.002	-0.007	-0.008	-0.019
	(0.886)	(0.742)	(0.758)	(0.547)
Percentage of stock owned	-0.035	-0.028	-0.016	-0.652
	(0.294)	(0.459)	(0.661)	(0.518)
Excess value		0.007	0.011	0.000
		(0.291)	(0.224)	(0.969)
Dummy core segment		-0.013 **	-0.019 ***	0.002
		(0.025)	(0.009)	(0.845)
Number of observations	236	213	148	65
Adjusted R-squared	5.70%	6.70%	7.40%	13.20%

* significant at 10%; ** significant at 5%, *** significant at 1%

suggests a cost related to assumed knowledge, in the case CEOs do not divest home-base assets, while they should be divested.

2.6   Additional evidence and robustness tests

Here, we provide additional supporting evidence for the influence of familiarity on the divestment decisions and test the sensitivity of our results.

2.6.1   Does self-selection explain the familiarity effect?

During the selection process of CEOs, the boards of directors take into account CEOs' prior working experience. One of the reasons to select someone to be a CEO could be the specific characteristics of their home-base segment. Thus, selection bias may be the underlying explanation for the familiarity effect. That is, if the boards hire CEOs with the purpose to expand the home-base segments, we would expect fewer divestitures in these segments. Since CEOs are most likely to take actions according to their mandate in the first two or three years of their tenure (Hambrick and Fukutomi, 1991), and yet our results do not show any familiarity effect in this period. Thus, our evidence does not support this version of selection bias as an explanation.

We also investigate other situations in which self-selection could occur. For example, the board of directors might be more likely to appoint managers who work for larger and more successful segments, which would make the CEOs less likely to divest assets from these better-performing segments. Our statistics indicate that familiar segments are larger and more often core segments, compared to non-familiar, non-core segments. However, these statistics also show no significant difference in performance between familiar and non-familiar segments in terms of sales growth and cash flows.

To ascertain that self-selection is not likely to drive our results, we add an interaction term of the home-base dummy with the core-segment dummy to Regression (8.2). We find the interaction term has no significant influence (interaction coefficient equals 0.090, p equals 0.832; home-base coefficient equals -0.708, p equals 0.031). Interacting the home-base dummy with the segment performance also does not show significant influence (interaction coefficient equals 1.72, p equals 0.216; home-base coefficient equals -0.997, p equals 0.007).

Another potential self-selection bias is that the boards appoint people to the CEO positions because they have worked for a home-base segment that operates in a high growth industry, but underperforms its industry peers. The CEO's task would be to grow and improve the performance of that segment. We identify the home-base segments that operate in above-median-q industries among industries in our sample, and at the same time underperform their industry. Our sample of 215 firm years with longer-tenured CEOs has only 26 firm years in which high-growth home-base segments underperform their industry. Leaving these firm years out of our sample does not significantly influence our results.

On the other hand, boards may reward and hire as CEOs managers who have had hands-on experience in home-base segments that operate in high-growth industries

and outperform the industry. We find that 90 out of the 215 firm years with longer-tenured CEOs have such home bases. We add an interaction term to Regression (2) of Table 2.8 for these 90 firm years along with the home-base dummy and find that the home-base coefficient remains significant. The interaction term is not significant, suggesting the same familiarity bias exists for both sub samples (home-base coefficient equals -0.675, *p* equals 0.017; interaction coefficient equals -0.065, *p* equals 0.822).

2.6.2   Three-digit SIC classification for industry working experience

Our results show that CEOs only exhibit a familiarity bias towards home-base segments, but not towards their industry-experience segments. A possible explanation for this discrepancy is that the classification of industry working experience, based on a two-digit SIC code, is too broad, i.e., various types of experience under the same two-digit SIC code may be different and not transferable. Thus, a classification on the basis of a three-digit SIC code that captures narrower experience might be more appropriate. Therefore, we again re-estimate Regression (2) of Table 2.8 with familiarity proxies based on a three-digit SIC code and find similar results. The coefficient for home base is -0.643 (*p* equals 0.005), for three-digit SIC inside industry experience is -0.096 (*p* equals 0.743), and for three-digit SIC outside industry experience is -0.453 (*p* equals 0.177).

2.6.3   Different subsamples

In the final set of robustness tests, we re-estimate regressions for four subsamples, i.e., firm years with partially divested segments, firm years with fully divested segments, firm years with divestments of at least $10 million from a segment, and divesting firm years with a negative excess value.

    We first examine firm years with fully divested segments and firm years with partially divested segments to examine whether the familiarity bias plays different roles in the decision to divest segments fully or partially. We expect familiarity to play a role for both types of divestitures. We further expect that full divestitures are more likely to occur among small segments and that partial divestitures are more likely to occur among larger segments. Since larger segments are more likely to consist of a collection of several divisions, it is harder for firms to divest these segments completely. Furthermore, segments' performance is more visible to the market than is the performance of a division of segments with the same size.

Therefore, we expect that a segment's poor performance plays a larger role in the decision to fully divest segments relative to the decision to partially divest segments.

Firms that divest to focus on their core business will be more likely to fully divest unrelated segments instead of a part of the unrelated segment, although larger unrelated segments are more difficult to divest completely. Firms that divest to generate funds need not completely divest a segment, but partially divesting a segment may be sufficient. According to Meyer, Milgrom, and Roberts (1992), the prospect of a divestment with possible layoffs motivates segment managers to influence activities in an attempt to protect their job. These activities may be more intense against the CEOs that plan to fully divest non-familiar segments.

In Table 2.12, Regression (1) provides the results of the regression with partially divesting firm years and Regression (2) provides the results of the regression with fully divesting firm years.

Our findings confirm that firms are more likely to partially divest larger segments and fully divest smaller segments. We also find that segment performance is negatively related to the probability of a full divestment; higher industry performance increases the likelihood of a partial divestiture. For financing needs, our findings also confirm that segments that receive more investment funds are more likely to be partially divested, but investments do not influence the likelihood of a full divestment. The core dummy does not significantly influence either type of divestments.

More importantly, we find that both subsamples provide significant negative coefficients for a CEO's home-base experience. For the full divestiture sample, inside-industry experience also provides a significantly negative coefficient. Because the full divestiture of a segment represents a more drastic and possibly irreversible course of action, i.e., to exit the industry and forgo the option to re-enter, CEOs may need stronger justifications to convince themselves that the segment under consideration is indeed beyond remedies within their firms. The search for extra justifications could cause the CEOs to attach greater confidence to reviving segments with which they are familiar at the level of inside industry experience. Therefore, the significant inside-industry experience coefficient may partly be a result of illusion of control.

As larger divestitures should have a greater impact on firms, we test the familiarity effect for firm years with a total value of divestitures within a segment of at least $10 million. We exclude firm years in which a divestiture value of a segment is unknown and the total value of the other divestitures within that segment is less than $10 million. The final sample decreases from 689 to 317 segment observations. Agreeing with our previous tests, Regression (3) shows that CEOs are less likely to divest assets with a value of at least $10 million from home-base segments.

Table 2.12

Binary logit regressions explaining from which type of segments firms with longer-tenured CEO divest assets, using different subsamples

This table presents the results of binary logit regressions explaining from which segment firms divest. The dependent variable is one for divested segments and zero for retained segments. Regression (1) contains the sample in which firms divest their segments partially. Regression (2) contains the sample in which firms divest a full segment. Regression (3) contains firm years with divestitures in which the total value of divestitures within a segment is at least $10 million. If a divestiture value in a segment is unknown and the total value of the other divestitures within that segment is less than $10 million, we exclude the firm year. Regression (4) contains the sample of firm years with a negative excess value (Berger and Ofek, 1995). We base our regressions on Schlingemann, Stulz, and Walkling (2002). Proxies for familiarity are the CEOs' home-base experience, inside industry working experience, and outside industry working experience. The control in first stage variable is the predicted probability from Regression (3.3). The other variables defined more completely in Table 2.4. The subscripts refer to the year relative to the year in which firms announce their divestment. We truncate ratios are truncated at -1 and +1 and growth variables at -100% and +200%. All regressions include firm year dummies and dummies for the number of segments. *P*-values appear in parentheses and are based on Huber/White standard errors.

	(1) Partial	(2) Full	(3) >$10m	(4) Excess value<0
Intercept	-1.675 **	4.948	0.539	-2.350
	(0.036)	(0.152)	(0.721)	(0.203)
Cash flow $_{t-1}$/sales $_{t-2}$	-0.603	-6.165	-0.321	0.210
	(0.276)	(0.118)	(0.712)	(0.827)
Industry median cash flow $_{t-1}$/sales $_{t-2}$	1.898 *	-5.031	2.287 *	2.545
	(0.062)	(0.158)	(0.072)	(0.138)
Capx $_{t-1}$/sales $_{t-2}$	-1.600	-6.308	-2.132 *	5.829
	(0.171)	(0.592)	(0.087)	(0.251)
Industry median capx $_{t-1}$/sales $_{t-2}$	8.189 **	5.587	4.753	-1.439
	(0.024)	(0.759)	(0.268)	(0.831)
Cross-subsidization	2.227 **	8.020	1.957 *	-5.911
	(0.047)	(0.548)	(0.094)	(0.320)
Sales $_{t-1}$/ firm sales $_{t-2}$	2.583 ***	-5.007 **	0.974	2.832 ***
	(0.000)	(0.047)	(0.207)	(0.006)
Core dummy	-0.050	0.449	-0.228	0.049
	(0.832)	(0.557)	(0.504)	(0.898)
Segment's Tobin's q	0.016	0.247	-0.214	0.114
	(0.943)	(0.727)	(0.516)	(0.764)
Size<10% dummy	-0.012	1.345	-0.351	0.374
	(0.968)	(0.108)	(0.387)	(0.498)
Liquidity	1.527	-1.588	0.791	1.266
	(0.143)	(0.620)	(0.565)	(0.477)
Control for first stage	0.750	2.930	0.513	0.997
	(0.430)	(0.647)	(0.725)	(0.570)
Home base	-0.488 *	-2.321 *	-0.793 **	-0.813 *
	(0.059)	(0.091)	(0.021)	(0.090)
Inside industry experience	-0.255	-2.302 **	-0.460	0.078
	(0.406)	(0.022)	(0.286)	(0.879)
Outside industry experience	-0.163	-1.361	-0.639	-0.076
	(0.563)	(0.128)	(0.133)	(0.863)
Number of observations	601	103	317	237
McFadden *R*-squared	8.60%	32.79%	8.89%	10.18%

* significant at 10%; ** significant at 5%, *** significant at 1%

Because Schlingemann, Stulz, and Walkling (2002) find that firms with a lower excess value are more likely to divest and our average firm trades at a premium, we re-estimate the familiarity effect for firm years with a negative excess value. Regression (4) shows that, even though their firm is worth less than all segments separately, CEOs remain to be less likely to divest from their home bases.

2.6.4 Long-term returns

In non-tabulated analyses (and available on request), we examine long-term returns adjusted for pure-play firm performance (i.e., synthetic composite of portfolios of single segment firms with at least $20 million sales that match the divesting firm segment for segment in the narrowest SIC industry available and in the segment sales weighted proportion). We split the sample into four different divestment strategies: firm years in which divestitures occur only in home-base segments (i.e., 40 observations); firm years in which divestitures occur only in non-home-base segments (i.e., 102 observations); firm years in which divestitures occur in both home-base segments and non-home-base segments (i.e., 42 observations); and firm years with externally-hired CEOs (i.e., 23 observations).[17]

Our results are in accordance with our event study. We find that divestitures generally create positive values during and after the divesting year. Although the difference in adjusted performance between the four divesting strategies is not always significant, our results further suggest that CEOs who only divest from their home base create the greatest incremental wealth for shareholders. Thus, the results further strengthen our conclusion.

2.7 Conclusion

This chapter examines the impact of CEOs' background characteristics on corporate decisions. Managers' characteristics play a role in their decisions in the areas of investment, financial and organizational practices (Bertrand and Schoar, 2003; Ben-David, Graham, Harvey, 2007). In their survey of behavioral corporate finance literature, Baker, Ruback, and Wurgler (2004) conclude that there are very few behavioral finance studies that examine the CEOs' perspective. Rather, most such

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[17] To be comparable with our event study, we restrict our sample to firms that disclose the value of their divestitures. The number of observations decreases over the length of the period that we examine. In particular, we have 207 observations for the divesting year, where the number of observations decreases to 198, 187, and 161 observations when we lengthen the period to one, two, and three years after the divesting year, respectively.

studies focus mainly on investments and financing decisions. Examples of these studies are Heaton (2002), Malmendier and Tate (2005, 2007), and Xuan (2006). Our tests help to fill this gap by making the connection between CEOs' working experiences with firms' divestment decisions.

We analyze the political process in an internal capital market between corporate headquarters, as exemplified by the CEO, and their business segments' managers. In particular, we focus on how CEOs' familiarity with segments influences their negative budget allocations to segments in the form of divestments. CEOs are familiar with segments through their working experience. Our empirical evidence supports two hypotheses. First, CEOs are more likely to divest assets from non-familiar segments relative to familiar segments. Second, they exhibit this familiarity effect later in their tenure. Longer-tenured CEOs divest about half as often from their home-base segments compare to non-familiar segments.

We investigate whether CEOs' true superior knowledge of the home-base segments and their personnel explains the familiarity effect, or whether CEOs' illusion of control, which implies that they assume to have knowledge, explains this effect. We also investigate the entrenchment hypothesis, in which the CEOs divest non-familiar assets to make their skill more valuable with the familiar segments that remain; and a hypothesis on various self-selection biases in which not divesting from their home base is part of the reasons that the board chooses a CEO. Our findings support both knowledge based hypotheses: CEOs have superior knowledge in general for all divestiture decisions, but exhibit assumed knowledge at the margin for not divesting home base segments.

We further find evidence that the internal capital market is a political process, in addition to an economic mechanism, for allocating corporate funds. The relative bargaining power of segment managers, in the form of political clout from size, segment and organizational knowledge, moderates CEOs' familiarity bias. Business segments under newly appointed CEOs are more successful in preventing assets from their segments from having to carry a disproportional share of the firms' divestment decision.

Our event study suggests that, on average, firms are capable of creating value for shareholders by divesting assets. However, the familiarity effect of longer-tenured CEOs can be costly to shareholders, because the highest abnormal returns are generated by longer-tenured CEOs who are willing to divest from their home-base segments. These CEOs achieve 1.7% higher returns compared to those CEOs who divest from non-home-base segments.

APPENDIX 2A
Matching procedure

We construct a matched sample of firms that do/do not divest assets. We derive the benchmark firms from our sample of 3,934 non-divesting firm years (i.e., our initial sample of 5,251 firm years minus 1,317 divesting firm years). We require that during year t-1, the benchmark firm must operate in the same number of business segments and be in the same sales decile as the divesting firm. We base the sales deciles on the sales of the 5,251 firm years. When we have a choice among possible benchmark firms, we choose the firm with a primary SIC code that is closest to the divesting firm primary SIC code.

For 29 firm years that do not match the same number of segments in the same sales decile, we take the firm year with the same number of segments. We allow a broader match, i.e., with sales decile above or below the divesting firm's decile. This flexibility leaves us 11 firm years in the highest deciles with operations in five to seven segments without a match. For these firm years we search for the closest match in terms of number of segments, sales decile, and industry. A consequence of our flexibility is that the average sales of our benchmark firms is significantly lower than that of the divesting firms (i.e., $6,239 million versus $9,849 million), although the number of segments is similar for both divesting and non-divesting firms.

APPENDIX 2B
Classification of the three levels of familiarity
To illustrate the differences between the three levels of familiarity, we consider Bausch & Lomb Inc., which discloses four segments: Vision Care (two-digit SIC 28 and 38), Eyewear (two-digit SIC 38), Pharmaceuticals (two-digit SIC 28), and Healthcare (two-digit SIC 2 and 28). The CEO of this firm, William Carpenter, was employed as a global business manager in Eyewear. Prior to his employment at Bausch & Lomb, he worked for Johnson & Johnson and Reckitt & Coleman.

According to our measure, Carpenter's home-base segment is Eyewear. The Vision Care segment operates in the same two-digit industry as the Eyewear segment, which gives Carpenter inside-industry experience. Johnson & Johnson operates in the two-digit industries of all segments, which means that Carpenter is familiar with all segments, based on his outside-industry experience.

This example illustrates that the three familiarity levels can overlap. Because familiarity is stronger in segments in which CEOs have more direct working experience, we tabulate Eyewear as the home base, Vision Care as the inside industry experience segment, and Pharmaceuticals and Healthcare as the outside industry experience segments.

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Chapter 3

"Thinking about going abroad": The choice of advisor in cross-border M&A deals[18]

3.1 Introduction

The worldwide removal of entry restrictions in many industries and the growing significance of services in the economy have dramatically increased the number and importance of cross-border mergers and acquisitions (M&As). Between 1980 and 1985 for example only 13 percent of the total value of the mergers recorded in the Securities Data Corporation database consisted of mergers taking place across national borders. Between 2000 and 2005 already 29 percent of the total value consisted of cross-border mergers.

While the characteristics, determinants, and valuation of cross-border M&As have been widely studied, the selection of an investment bank as a financial advisor in a cross-border M&A has been somewhat overlooked. Any M&A is a strategic and complex decision, taken only very infrequently. Consequently, firms and their CEOs often rely on detailed advice from well-informed investment banks acting as advisors. Cross-border M&As are almost by definition more complex and judicious advisor selection may therefore be even more crucial. Yet, few studies have investigated this choice comprehensively. This chapter aims to fill this gap.

Two questions about the selection of an advisor by acquirers in cross-border M&As need to be addressed: "Who do these acquirers select as advisors?" and "Who

<u>should</u> they select?" (Bao and Edmans, 2007). We tackle both questions. For the "do" question, we construct an empirical model of the choice by the acquirer between hiring one or no advisor, followed by the choice of advisor nationality and experience. We estimate the latter choice using the nested multinomial logit methodology and assume that acquirers pick advisor nationality and experience as a function of target, acquirer, deal, advisor, and nation characteristics. We address the "should" question by investigating how stock-market investors assess the difference between the actually observed and the estimated choices (which we surmise may be reasonably close to optimal choices given the large dataset and comprehensive model we employ).

We hypothesize that the acquirer's decision on advisor nationality depends on the benefits of the services that advisors from the target nation can provide relative to the services that advisors from the acquirer nation can provide. In particular, target-nation advisors derive their competitive advantage from their local knowledge on the nation's economic and regulatory conditions, while acquirer-nation advisors have more knowledge on these conditions in the acquirer's nation. Firms might hire advisors from a third nation when neither of the benefits prevails.

We also hypothesize that acquirers take into account the advisors' global and target-country experience when deciding on the advisor's nationality. Global advisors generally have broader and more international expertise that could help them to reduce information asymmetries and transaction costs in cross-border M&As. The more detailed country-specific knowledge of advisors that belong to the top five in the target nation can especially be helpful when the advisor originates in the acquirer or a third nation.

From the *Securities Data Corporation* (SDC) database we cull all completed cross-border deals in the period 1995 – 2005 involving non-financial and listed firms. We end up with 3,537 deals involving 92 different target nations. We find that the determinants of the decision to engage an advisor in a cross-border deal seemingly do not differ from those in a domestic deal. More importantly however, we provide clear evidence that acquirers select advisor nationality and experience based on these advisors' benefits in a cross-border setting. Our results suggest that acquirers engage advisors from the country (i.e., either acquirer or target nation) with the greatest procedural formalism of dispute resolution and the country that is most financially sophisticated. Firms further tend to hire target-nation advisors when acquiring firms in nations that are less open to foreign acquisitions. Greater investor protection in either acquirer or target nation increases the likelihood of firms to hire advisors from their own nation. The global and country experience of the advisor is a substitute for the cross-border acquisition experience of the acquirer and especially needed when the deal is complex.

We further show that the acquirer's advisor selection has value implications. Our findings on the acquirer's abnormal returns suggest that firms optimally choose non-global, non-top-target-country advisors from either the target nation or their own nation, as their advice leads to acquisitions that generate the highest value for the acquirer. Surprisingly, the hiring of global advisors, who have the greatest international competitive advantage, does not lead to superior returns.

The rest of the chapter is organized as follows. We review the related empirical literature in Section 3.2. We review the functions of an advisor in an M&A and the role played by reputation, and the selection of targets, advisors and deal valuation in cross-border M&A deals. Section 3.3 describes the data, the three-stage decision tree and the econometric methodology we employ. Section 3.4 provides the results for estimations of the choice between no or one advisor, the decision between a target-, acquirer-, or third-nation advisor, and the selection of the global and country experience of the advisor. We also analyze the difference in investor assessment between predicted and unpredicted advisor choices. Section 3.5 discusses several robustness tests. We conclude in Section 3.6.

3.2   Empirical literature

This chapter provides the first comprehensive empirical evidence on the determinants of the selection of an advisor by acquirers located world-wide in cross-border M&As.[19] As such, this chapter contributes to both the literature dealing with M&A advisor selection and to the literature dealing with cross-border M&A deals and the services investment banks provide in this respect.

3.2.1   Selection of an advisor in merger and acquisition transactions

A large literature investigates the role advisors play in M&A transactions and the value they can create. Servaes and Zenner (1996) identify three functions investment banks fulfill as advisors, i.e., reduction in transactions costs, informational asymmetries, and contracting costs. A firm can reduce its *transaction costs* by hiring an advisor that identifies potential targets, values them, and creates bids at a lower cost. Advisors may also reduce problems of *asymmetric information* between the target and acquirer, which could especially be severe when assets are difficult to value, the target is highly diversified, or when the acquirer is the first bidder. Finally,

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[19] While most work focuses on advisor selection by the acquirer, Forte, Iannotta and Navone (2007) focuses on advisor selection by the target. They also employ a nested binomial model.

advisors can reduce *contracting costs* as the investment bank could act as a monitor since their reputation clearly depends on the quality of their advice. The empirical evidence in Servaes and Zenner (1996) suggests that acquirers select advisors for all three functions, with a reduction of transaction costs as main function.

Allen, Jagtiani, Peristiani, and Saunders (2004) highlight the certification role of advisors. Banks that function both as lenders and advisors can provide further certification, since, as a lender, the bank has private information about its client, which the bank can use in providing its advisory services.[20] Conflicts of interest can arise if a firm believes that material secret information about its business that is to be released to an investment bank would be of interest to a competitor or potential acquirer (see also Bhattacharya and Chiesa (1995) and Yosha (1995) for example).

Surprisingly though, hiring advisors or even the reputation of advisors do not seem to positively influence acquirer returns (Bowers and Miller, 1990; Servaes and Zenner, 1996; Rau, 2000; Ma, 2007). The evidence of Rau (2000) further suggests that the performance of the acquirers in the mergers or tender offers does not explain the advisors' market share. The deal completion ratio matters more and first-tier investment banks often charge fees that are mainly contingent on completion. These results are in line with a conflict of interest between advisors and its acquirer or target client that could arise from the fee structure in their contracts as proposed by McLaughlin (1990; 1992). McLaughlin (1990) suggests that the advisors' concern about their reputation could partially mitigate this conflict.

However, Kale, Kini, and Ryan (2003) do find that acquirers can benefit from highly reputable advisors. Their results indicate that high reputation advisors not only identify more valuable mergers or structure the deal better and thereby achieve higher total synergy gains, but that acquirers employing a higher reputation advisor than the target also receive a larger share of the total synergy gains from the takeover. Furthermore, top-tier advisors engaged by targets seem better capable of matching acquirers and targets (Ma, 2007), rather than redistributing value from acquirers. Better matching also corresponds to higher target returns, higher combined returns, more bidders competing for the target, higher offer premiums, and payment in cash.

Ultimately, to increase the likelihood of striking value-enhancing deals, firms should select advisors based on past performance rather than market share. Bao and Edmans (2007) provide evidence that a bank's resulting market share is negatively associated with the component of abnormal returns that is attributable to deal characteristics but is independent of its past total abnormal returns, completion ratio and speed. They also find that frequent acquirers are less likely to hire advisors from banks with a large market share. In this respect, Francis, Hasan, and Sun (2006) find

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[20] Similarly see Drucker and Puri (2005) and Schenone (2005), among others, on lending relationships and IPOs.

that firms are more likely to retain their financial advisor if their previous experience with this financial advisor is positive in terms of the announcement effect.

3.2.2   Cross-border M&A deals

Acquirers face a more complex decision when "venturing abroad" rather than "staying at home".[21] Identifying and valuing potential targets may be harder and different rules and regulations, for example, may further complicate the deal. In line with these arguments, previous studies find that country characteristics influence acquisition patterns across countries. Rossi and Volpin (2004), for example, show that firms from countries with better investor protection through higher accounting standards, better shareholder protection, and with common law origins make more acquisitions, more hostile deals, and more deals in countries with poorer investor protection. The authors argue that the lower private benefits of control in countries with greater investor protection make the market for corporate control more effective.

Similarly, Buch and DeLong (2004) suggest that information costs and regulation determine the likelihood of cross-border bank mergers. These mergers are more likely to occur between firms of countries that are more nearby, that share the same language, and that have the same legal origin. Bank targets are typically located in countries with tougher banking authorities and more transparent bank disclosures, while acquirers typically come from countries with less tough banking authorities.

Apart from acquisition patterns, country characteristics can also influence the acquirers' value creation in cross-border deals. For instance, Moeller and Schlingemann (2005) find lower US acquirer returns when the target comes from a country with a French civil law origin, which is typically associated with poorer corporate governance (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1997; 2000), or from a country with fewer economic restrictions. They relate these results to the hubris hypothesis (Roll, 1986) and agency problems that arise with the increased integration of international markets (Dennis, Dennis, and Yost, 2002). Firms also earn higher returns when acquiring firms from less developed countries (Doukas and Travlos, 1988; Kiymaz, 2004), from countries with greater takeover activity, other than the UK (Moeller and Schlingemann, 2005), from countries where accounting data is less value relevant (Black, Carnes, Jandik, and Henderson, 2007), and from countries with better quality of public institutions (Kiymaz, 2004).

Different country characteristics also influence target returns. Starks and Wei (2004) suggests that shareholders of US target firms demand compensation for being

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[21] See Kissin and Herrera (1990) for a description of 14 additional decisions firms have to make when making a cross-border acquisition rather than a domestic one.

acquired by firms from countries with worse governance practices. On the contrary, Bris and Cabolis (2005) find that with 100 percent acquisitions the target shareholders receive a larger premium when their shares are acquired by better-governed firms in terms of shareholder protection and accounting standards. As targets adopt the governance regime of the country of acquirer if it owns 100 percent of the targets' shares after the acquisition, the target shareholders receive compensation for their insiders' loss of private benefits.

3.2.3   Advisors in cross-border M&A deals

The complexity of cross-border acquisitions may require advisors to play an enhanced or even different role in the acquisition process. Consequently, firms may base their choice of an advisor in a cross-border deal on additional requirements. According to Shimizua, Hitt, Vaidyanathc, and Pisanod (2004), the key role financial advisors play in the cross-border acquisition has been somewhat overlooked.

A survey of 142 executives by Angwin (2001) suggests that, in a cross-border acquisition, UK and French firms are more likely to hire an advisor for a due diligence process and that cultural differences influence their perceptions of how acquisitions should be managed. Similarly, Angwin and Savill (1997) suggest that external advisors are sought to help in identifying targets and performing a financial and systems due diligence.

Francis, Hasan, and Sun (2007) investigate the actual selection of advisors and the value effects of 376 cross-border M&A deals made by US acquirers. The authors argue that acquirers engage "US advisors" – i.e., advisors that are active in the US market – to certify the quality of the deal, as these advisors are concerned about their reputation in their home market, and advisors with target-country experience to reduce the deal's transaction costs. Their results suggest that the likelihood to engage US advisors increases with deals that involve cash payments, larger targets, and no acquisition experience in the target nation in the previous five years. Besides, acquirers experience greater abnormal returns when hiring US advisors in cash-paid deals and when hiring advisors with target-country experience in stock-paid deals.

This chapter differs from that of Francis, Hasan, and Sun (2007) in our focus on multiple acquirer and target nations that allows us to study how the characteristics of the acquirer and target nation can play a key role in advisor choice. In addition, we model the sequential choice for an internal or external advisor and its country affiliation and experience.

Benou, Gleason, and Madura (2007) examine abnormal returns of acquisition announcements of foreign high-tech firms that are more difficult to value as the

uncertainties around high tech are compounded by the uncertainties of the foreign market conditions. The authors argue that greater media exposure can ease uncertainties about the firm's technology, while a top-tier investment bank can reduce transaction, asymmetric information, and contracting costs. Their results suggest that deals with a top-tier advisor and more past media attention for the target generate greater abnormal returns around their announcement. For these results to hold, top-tier advisors need to be active in the region of the target, but can be either global market or high-tech industry players.

3.3   Methodology

We set up our empirical model of acquirer choice of advisor nationality and experience. We describe the data and sample, motivate the model with a three-stage decision tree, and introduce the nested multinomial logit procedure. We motivate and define the explanatory variables employed in the regressions in the next section.

3.3.1   Data and sample

From the *Securities Data Corporation* (SDC) database we collect all completed cross-border deals that (1) are announced between January 1st, 1995 and December 31st, 2005, (2) that are larger than $ 10 million, (3) in which at least 50 percent of the shares were acquired, and (4) that resulted in a 95 percent or more ownership (by the acquirer) after acquisition. 4,752 deals satisfy these criteria. Table 3.1 provides an overview of the data selection.

Table 3.1
Sample Composition

This table lists the total number of cross-border deals of at least $10 million in which 50 percent of the shares are acquired to obtain 95 percent ownership after acquisition. The table further lists the number of acquirers that are not listed, the number of deals involving financial firms, the number of deals for which the designation of the acquirer is unclear, the number of deals in which the acquirer engages more than one advisor, and the resulting number of deals that is being analyzed.

	Number of Deals
Total number of cross-border deals (> $ 10 million, 50% acquired shares, 95% ownership after acquisition)	4,752
Acquirer is not listed	347 -
Acquirer or target is financial firm (i.e., primary SIC 6000-6999)	514 -
The designation of the acquirer is unclear (relative size of acquisition is larger than or equal to one)	75 -
Acquirer hires more than one advisor	279 -
Total number of observations in the analysis	3,537

In 347 deals the acquirer is not listed, in 514 deals the acquirer or target is a financial firm (i.e., the primary SIC is between 6000 and 6999), and in 75 cases the designation of the acquirer is unclear (as the relative size of the acquisition versus the acquirer is larger than or equal to one). In 279 (i.e., 7 percent) of the remaining 3,806 deals, acquirers hire more than one advisor. Consequently, we are left with 3,537 deals in which listed non-financial acquirers choose one or no advisor.[22]

Though 638 (i.e., 18 percent) of these deals are between firms from the US and the UK, we document 541 different acquirer-/target-nation combinations in total. The twenty most important target and acquirer nations are reported in Table 3.2, but 72 other target nations and 26 other acquirer nations observe at least one acquisition that is retained in the sample.

3.3.2   Three-step decision tree

In the model, we maintain that advisor nationality is of primary importance in the advisor choice by the acquirers and that this choice of advisor nationality may have an important influence on advisor experience. As shown in the three-step decision tree in Figure 1, firms first decide whether or not to have an advisor (the top "branches"), then on the nationality of their advisor (the middle "branches"), and then, conditional on that choice, choose the experience they want their advisor to have (the bottom "branches").

Although our discussion is framed almost entirely in terms of the decisions acquirers make in selecting advisors, the observed outcomes may also reflect the willingness and ability of advisors to supply these services. For example, a multinational corporation that considers entering Lithuania through an acquisition may prefer the services of a target-nation advisor with global and country experience, but finds that no advisor can provide this combination (of nationality and experience). Maybe the size of the target-nation advisor market is too small, the legal structure is (still) too undeveloped, or the barriers to cross-border entry are too high such that there are no target-nation advisors with global and country experience that are available. To the extent possible, we will try to control for such supply factors in our empirical model below by including many explanatory variables that reflect the institutional environment in the target nation.

At the nodes of the top branches of the tree in Figure 1, we report the sample number and frequencies of choosing *no* or *one* advisor, in the middle branches we report the sample frequencies of choosing a *target-*, *acquirer-,* or *third-nation* advisor, while at the bottom branch nodes, we report the sample frequencies of choosing an

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[22] Section 3.5 discusses a robustness test in which we include multiple advisors.
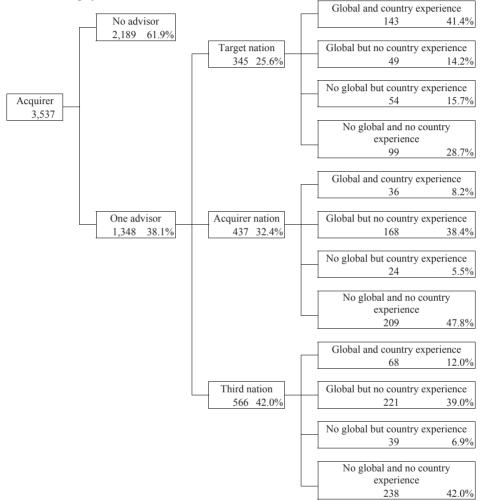
Table 3.2
Target and Acquirer Countries

This table lists the twenty target countries with the highest number of cross-border deals and the number of deals originating in each of these most important target countries. Other target countries include (number of deals between brackets): New Zealand (27), Korea (23), Argentina (21), Hong Kong (21), Japan (21), India (19), Taiwan (19), South Africa (18), Singapore (15), Poland (14), Russian Federation (13), Austria (11), Malaysia (11), Chile (10), Czech Republic (10), Indonesia (9), Puerto Rico (8), Thailand (7), Philippines (6), Portugal (6), Venezuela (6), Romania (5), Bermuda (4), Colombia (4), Egypt (4), Guernsey (4), Hungary (4), Luxembourg (4), Antigua (2), Armenia (2), Ecuador (2), Greece (2), Guatemala (2), Mauritania (2), Netherlands Antilles (2), Slovak Republic (2), Slovenia (2), Algeria (2), Aruba (1), Bahamas (1), Belize (1), Botswana (1), British Virgin Islands (1), Bulgaria (1), Croatia (1), Democratic Republic Congo (1), Ghana (1), Gibraltar (1), Honduras (1), Iceland (1), Jersey (1), Kazakhstan (1), Kuwait (1), Latvia (1), Myanmar (1), Nicaragua (1), Pakistan (1), Papua New Guinea (1), Peru (1), Tunisia (1), Turkey (1), Uruguay (1), United Arab Emirates (1), Zambia (1), Zimbabwe (1), Bangladesh (1), Lithuania (1), Sri Lanka (1), Costa Rica (1), Vietnam (1), Serbia & Montenegro (1), and Yugoslavia (1).

Target nation	ISO	(1) US	(2) GB	(3) DE	(4) CA	(5) FR	(6) NL	(7) AU	(8) SE	(9) CH	(10) IT	(11) ES	(12) IE	(13) BE	(14) BR	(15) IL	(16) DK	(17) NO	(18) CN	(19) FI	(20) MX	(21) Other	(22) Total
(1) United States	US	0	352	42	223	70	40	31	36	30	10	0	30	19	0	17	2	3	1	17	6	113	1,042
(2) United Kingdom	GB	286	0	20	25	14	14	11	20	14	7	1	39	3	0	2	3	4	0	3	0	33	499
(3) Germany	DE	111	59	0	10	8	2	7	7	8	7	1	4	5	0	1	1	2	0	9	0	13	255
(4) Canada	CA	186	32	1	0	6	3	2	1	4	0	1	0	0	0	1	0	0	0	2	0	5	244
(5) France	FR	72	67	8	9	0	4	0	4	3	7	0	1	2	0	1	4	2	0	2	0	5	191
(6) Netherlands	NL	38	39	4	6	7	0	2	4	1	3	0	4	1	0	1	1	4	0	5	0	11	131
(7) Australia	AU	47	20	1	10	0	1	0	2	3	0	0	2	1	0	0	0	0	1	0	0	34	122
(8) Sweden	SE	25	15	8	2	2	2	0	0	0	0	0	1	0	0	0	5	11	0	12	0	2	80
(9) Switzerland	CH	25	8	8	3	6	3	1	2	0	3	0	1	1	0	2	0	0	0	0	0	8	71
(10) Italy	IT	16	21	0	0	5	3	1	1	2	0	0	1	3	0	1	1	1	0	0	0	5	63
(11) Spain	ES	11	15	3	0	4	7	2	2	1	4	0	0	0	0	0	0	0	0	0	0	8	58
(12) Ireland	IE	17	32	1	0	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	54
(13) Belgium	BE	14	9	4	3	2	7	0	3	1	1	0	0	0	0	0	1	0	0	0	0	5	50
(14) Brazil	BR	19	4	1	3	7	0	1	0	0	0	0	2	0	0	1	0	1	0	0	3	6	48
(15) Israel	IL	41	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	48
(16) Denmark	DK	14	8	2	2	2	1	0	5	0	0	0	1	1	0	0	0	9	0	2	0	1	47
(17) Norway	NO	14	6	1	3	3	2	0	8	0	2	0	0	0	1	1	1	0	0	3	0	3	47
(18) China	CN	16	3	0	0	0	2	0	0	0	1	0	0	1	0	0	0	0	0	1	0	19	43
(19) Finland	FI	8	4	0	0	1	2	0	9	1	0	0	2	0	0	0	1	2	0	0	0	0	33
(20) Mexico	MX	18	4	2	2	1	0	0	2	0	0	0	0	0	1	1	0	0	0	0	0	3	33
(21) Other		136	58	8	22	22	8	23	7	8	5	0	1	2	1	1	1	5	4	0	7	59	378
(22) Total		1,114	758	111	326	161	101	81	113	77	52	3	88	39	2	29	22	44	6	57	16	337	3,537

Figure 1
Decision Tree
The figure clarifies the sequential choices made by the acquirer and the observed number and proportion of deals in each category.

advisor with *global- and target-country experience*, *global but no target-country experience*, *no global but target-country experience*, and *no global and no target-country experience*, conditional on the choice of advisor nationality. Table 3.3 defines the dependent variables. The table also lists the specific data sources we consult to construct each variable.

Table 3.3
Variable Definitions

This table lists the variable name, definition, unit and source (Src.). Units include: 0/1: dummy variable that equals zero or one, $-mln: millions of US dollars, $-PPP: purchase power adjusted US dollars, %: percentage, km: kilometers, and x-y: range going from x to y. Sources include: D: doingbusiness.com, DLLS: {Djankov, 2003 #1363}, F: Factbooks, GCR: Global Competitiveness Report 2005-2006, K/H: {Kogut, 1988 #1523} and {Hofstede, 1991 #1524}, LLSV: {La Porta, 1997 #346}, M: mapcrow.info, DS: Datastream, SDC: Securities Data Corporation database, and WDI: World Development Indicators.

Variable Name	Definition	Unit	Src.
Dependent Variables			
D(Advisor)	No advisor = if the acquirer hires no advisor, = One advisor if the acquirer hires one advisor.	0/1	SDC
Advisor nation	= Target (Acquirer, Third Nation) if the acquirer hires an advisor with the parent in the target (the acquirer, a third) nation.	0/1/2	SDC
Advisor global and country experience	= Global experience if the advisor is one of the top ten advisors in the world in terms of the total transaction value of all deals reported by SDC in the year prior to the cross-border acquisition announcement, = Country experience if the advisor is one of the top five advisors in the target country in terms of the total number of deals reported by SDC in the year prior to the cross-border acquisition announcement; advisors have global or no global and country or no country experience.	0/1/2/3	SDC
CAR(-1,1)	The percentage three-day Cumulative Abnormal Returns (CARs) of cross-border deal announcements. We set the estimation window to 110 days until 10 days prior to the deal announcement.	%	DS
Target Characteristics			
ln(1+ Number of SIC codes of target)	Natural logarithm of one plus the number of SIC codes of the target.	-	SDC
D(Target hires advisor)	= 1 if target hires an advisor, = 0 otherwise.	0/1	SDC
D(Target is listed)	= 1 if target is listed, = 0 otherwise.	0/1	SDC
Acquirer Characteristics			
ln(1+ Previous acquisition experience)	Natural logarithm of one plus the number of deals in the ten years prior to the cross-border deal in which the acquirer and/or acquirer parent obtained at least 50 percent of the assets to own at least 95 percent.	-	SDC
d(Acquirer experience in target nation)	= 1 if the acquirer and/or acquirer parent has acquisition experience in target nation in the ten years period prior to the cross-border acquisition, = 0 otherwise.	0/1	SDC
ln(Market value of acquirer assets)	Natural logarithm of the market value of the acquirer, calculated as the book value of total assets plus the market value of equity minus the book value of equity.	$-mln	SDC

% Cross-border acquisition experience	Percentage of cross-border deals in the ten years prior to the cross-border deal in which the acquirer and/or acquirer parent obtained at least 50 percent of the assets to own at least 95 percent (equals zero if there were no cross-border deals or no deals).	%	SDC
Tobin's q	Acquirer's market to book ratio, =(Book value of total assets plus market value of equity minus book value of equity)/book value of total assets.	-	SDC
Deal Characteristics			
ln(Value transaction)	Natural logarithm of the value of the transaction.	$-mln	SDC
d(Stock payment)	= 1 if at least a proportion of the payment consists of stock, = 0 otherwise.	0/1	SDC
d(Related acquisition)	= 1 if the target and acquirer have at least one equal 3-digit SIC code, = 0 otherwise.	0/1	SDC
d(Regulatory approval)	= 1 if regulatory agencies have to approve the deal, = 0 otherwise.	0/1	SDC
d(Complex deal)	= 1 if the reaction of the target to the acquirer's bid upon the initial disclosure of the offer price is hostile or unsolicited, or if there are more than one bidder, = 0 otherwise.	0/1	SDC
d(Tender offer)	= 1 if the deal is a tender offer, = 0 otherwise.	0/1	SDC
Nation Characteristics			
Openness	Percentage of acquisitions that are cross border acquisition deals in the target nation during the year prior to the year in which the cross-border deal takes place.	%	SDC
Accounting and auditing	Strength of financial auditing and reporting standards regarding company financial performance (1=weakest, 7=strongest).	1-7	GCR
Financial sophistication	Financial market sophistication (1=lowest, 7=highest).	1-7	GCR
Investor protection	Investor protection index of the nation.	-	D
Formalism	Aggregate measure of substantive and procedural intervention in lower-court proceedings for evicting a non-paying private residence tenant (0=lowest, 7=highest).	0-7	DLLS
Antitrust policy effectiveness	Effectiveness of antitrust policy (1=lax and not effective in promoting competition, 7=effective and promotes competition).	1-7	GCR
ln(GDP per capita)	Gross domestic product per capita of the nation.	$-PPP	WDI
Bilateral Nation Characteristics			
ln(Distance)	Natural logarithm of the physical distance between the target and acquirer nation.	km	M
d(Same legal origin)	= 1 if the legal origin of the target and acquirer nation is the same, = 0 otherwise.	0/1	LLSV
Cultural distance	{Kogut, 1988 #1523} index that aggregates the differences in the four {Hofstede, 1991 #1524} cultural dimensions between the target and acquirer nation.	-	K/H
d(Similar language)	= 1 if any of the languages of the target and acquirer nation are similar, = 0 otherwise.	0/1	F

An acquirer can hire no or one advisor. The advisor's nationality is either the target-, the acquirer-, or a third-nation affiliation of the parent.[23] There are more acquirers choosing either acquirer- or target-nation advisors (i.e., 58 percent), than there are acquirers engaging third-nation advisors (i.e., 42 percent). Hence, the country expertise of the advisor (either of acquirer or target nation) may matter. On the other hand, industry or other (more general) expertise must also play a role as a sizeable minority of advisors comes from third nations. Third-nation advisors are actually more often chosen than advisors from acquirer (i.e., 32 percent) or target nations (i.e., 26 percent) when considered separately.

The conditional experience frequencies further enrich this picture. An advisor is defined to have global experience if the advisor is one of the top ten advisors in the world in terms of the total transaction <u>value</u> of all deals in the year prior to the cross-border announcement reported in SDC. An advisor has country experience if the advisor is one of the top five advisors in the target country in terms of the total <u>number</u> of deals in the year prior to the cross-border announcement listed in SDC. Advisors can have global or no global and country or no country experience. We *a priori* choose for this definitional differentiation between global and country experience, because the much smaller number of deals at the country level strengthens the potential relevance of the fixed costs incurred in getting to know a country.

Acquirers' preferences for advisor experience differ greatly depending on the choice of advisor nationality. Only 19 percent (14 percent) of the third- (acquirer-) nation advisors have any country experience, while almost 60 percent of the target-nation advisors have country experience. This could simply reflect an equilibrium outcome, i.e., the demand for some target-nation services within third or acquirer nations is simply not great enough to induce an advisor to expand its services to the target nation to the extent of being a top five service provider. On the other hand, as the local demand for the services in the target nation is large, the main target-nation advisors may also be among the top five providers in terms of the number of deals and hence are defined to have target-country experience. Therefore, as discussed above, the observed choices may reflect not only demand but also supply conditions in the target, acquirer and third nations. We try to control for these conditions in our logit regressions.

In contrast to country experience, the reach of the advisor experience (global or not) plays a secondary role in determining the advisor nation. Of our sample, 56 percent of target-nation advisors, 47 percent of acquirer-nation advisors, and 51 percent of third-nation advisors have global experience. Hence, while advisors from

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[23] As the SDC database only lists the nationality of the parents of financial advisors, a subsidiary of Goldman Sachs located in the Netherlands, for example, will be classified as a US and not as a Dutch advisor.

the acquirer nation are somewhat less global, the differences between the three groups of advisor nations seem ultimately relatively small.

We argue that the raw-data findings from Figure 1 provide solid support for the maintained assumptions of our model. The finding that many acquirers choose third-nation advisors – even when this impedes the selection of an advisor with country experience – supports our maintained assumption that advisor nationality is of primary importance and is the choice made first in the decision tree. In addition, the finding that advisor experience does vary substantially with the choice of target, acquirer, and third nation supports the assumption that the choice of advisor nationality may have a significant influence on the degree of advisor experience, and may therefore be modeled as conditional on advisor nationality.

3.3.3   Econometric model

Based on the tree structure of Figure 1, we construct a model of the choice by the acquirer of advisor nationality and experience. We further show how that model can be estimated using the nested multinomial logit (NMNL) methodology proposed by McFadden (1978). We will also model the initial choice by the acquirer between having no or one advisor. Choosing to complete the transaction without an advisor implies no subsequent choice of advisor nationality and experience. The nested multinomial logit of advisor nationality and experience is therefore preceded by a (standard) logit model of the need for an advisor.

In the first stage of the nested multinomial logit, we assume that acquirers pick advisor nationality as a function of target, acquirer, deal, advisor, and nation (target, acquirer, and bilateral) characteristics that are relevant for the nationality and experience choice.[24] We hypothesize that acquirers base their nationality decision on the relative attractiveness of having a local *concierge*, which tends to push an acquirer towards a target-nation advisor, vis-à-vis the *home cookin´* effect, which tends to push a firm towards an acquirer-nation advisor (as in Berger, Dai, Ongena, and Smith, 2003). Acquirers may choose a third-nation advisor when the concierge and home cookin´ effects are both relatively weak. As discussed further below, some of the explanatory variables are included in part to control for factors that affect the willingness and ability of advisors to supply services in the relevant nations.

Let Y_i^N be a discrete-valued dependent variable that takes on the value of 0, 1, or 2 depending on whether acquirer i chooses a target-, acquirer-, or third-nation advisor, respectively. We assume that the discrete value Y_i^N is the observed outcome from a

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[24] Note that the first stage of the nested multinomial logit model is the second step in the decision tree (see Figure 1).

continuously-valued, latent variable Y_i^{N*} that reflects the net benefits flowing to an acquirer from selecting a target-, acquirer-, or third-nation advisor. The first stage of our model is:

$$Y_i^{N*} = f(Z_N, Z_{N,E}) \tag{1}$$

where Z_N are variables relevant for the nationality choice and $Z_{N,E}$ are variables that are relevant for the experience choice, and hence 'indirectly' also for the nationality choice. Indeed, in the second stage, the acquirer chooses advisor experience conditional on these characteristics, $Z_{N,E}$, that are relevant for the choice of advisor experience. We hypothesize that acquirers base their advisor experience decisions on the tradeoff between having access at the corporate level to the broad expertise associated with advisors with global experience versus the benefits from country-specific knowledge associated with advisors with country experience.

We assume the existence of a latent variable $Y_i^{R|N*}$ that reflects the flow of benefits to acquirer i from choosing an advisor with or without global/country experience (assigned the values of 0, 1, 2, or 3 respectively), conditional on the nationality chosen in the first stage,

$$Y_i^{E|N*} = h_N(Z_{N,E}), \ N = (0,1,2). \tag{2}$$

Following McFadden (1978), we assume that Y_i^{N*} and $Y_i^{E|N*}$ are linear in their regressors and that the regressions errors follow a generalized extreme-value distribution. This assumption implies that we can write the joint probability of observing an acquirer choosing nationality N and experience E as:

$$Pr(N,E) = \frac{\exp(\alpha'Z_N + \beta_N'Z_{N,E})}{\sum_{N=0}^{2}\sum_{E=0}^{3}\exp(\alpha'Z_N + \beta_N'Z_{N,E})}, \tag{3}$$

the conditional probability of choosing E given N as:

$$Pr(E\,|\,N) = \frac{\exp(\beta_N'Z_{N,E})}{\sum_{R=0}^{3}\exp(\beta_N'Z_{N,E})}, \tag{4}$$

and the unconditional probability of choosing N as:

$$\Pr(N) = \frac{\exp(\alpha 'Z_N)\sum_{E=0}^{3}\exp(\beta_N 'Z_{N,E})}{\sum_{N=0}^{2}\exp(\alpha 'Z_N)\sum_{E=0}^{3}\exp(\beta_N 'Z_{N,E})}. \tag{5}$$

We then follow McFadden (1978) and define the "inclusive value" as:

$$I_N = \ln\left(\sum_{E=0}^{3}\exp(\beta_N 'Z_{N,E})\right), \tag{6}$$

such that equation (5) can be expressed as:

$$\Pr(N) = \frac{\exp(\alpha'Z_N + \rho I_N)}{\sum_{N=0}^{2}\exp(\alpha'Z_N + \rho I_N)}. \tag{7}$$

The parameters α, β_N, and ρ are estimated by working backwards on the Figure 1 decision tree, applying multinomial logit at each stage. First, the β_N are estimated at each nationality node (N = target, acquirer and third nation) by regressing the conditional bank reach observations $Y_i^{E|N}$ on experience relevant variables, $Z_{N,E}$. Then, estimated values of β_N are used to construct inclusive values for each nationality node using equation (4). These inclusive values summarize the impact of these characteristics on the experience decision, conditional on a given choice of nationality. In the second step, α and ρ are estimated by regressing the advisor nationality observations Y_i^N on variables relevant for the nationality choice, Z_N, and the inclusive values, I_N.

3.4   Results

Our empirical model relies on a number of target, acquirer, and deal characteristics, and also accounts for target-, acquirer-, and bilateral-nation characteristics. Table 3.3 lists the variable names and definitions. For each step in our empirical model, we motivate and define all variables and then discuss the estimation results. We first model the choice between *no* or *one* advisor, then analyze the decision between a *target-*, *acquirer-*, or *third-nation* advisor, finally turn to the selection of the *global and country experience* of the advisor.

3.4.1 No advisor or one advisor

3.4.1.1 Variables

Target, acquirer, and prospective deal characteristics determine the acquirer's choice between *no* or *one* advisor. Investment banks that advise targets may play an important role in contacting potential buyers, screening bids, negotiating specific deal terms, and providing a fairness opinion (Hansen, 2001; Boone and Mulherin, 2006). On the one hand, the target may hire an investment bank to help in the search for an acquirer. In this respect, the acquirer receives cooperation. On the other hand, acquirers may face opposition and/or tougher negotiations when the target hires an advisor to thwart any deal or to assist it with the negotiation (see also Ma (2007)). Consequently, the decision by the acquirer itself to engage an advisor will be influenced by the target's decision to hire an advisor. We include a dummy variable *d(Target hires advisor)* that equals one if the target firm hires an advisor, and equals zero otherwise.

The public listing of the target may also be a determinant of the acquirer's choice. Knowing how to deal with the target's shareholders and the listing regulations may be of first order importance in accomplishing the deal, hence increasing the need for an advisor. If listing further implies more dispersed ownership, takeovers may also become more complex due to free-riding (Shleifer and Vishny, 1986). We incorporate a dummy variable *d(Target is listed)* that equals one if the target is listed, and equals zero otherwise.

Not only target but also acquirer characteristics may determine the choice for an advisor. More acquisition experience may on the margin decrease the need for an acquirer to hire an advisor because of learning for example. There may also be a fixed cost in setting up a mergers and acquisitions group within the acquirer to provide (internal) advice and replace the (external) advisor. More acquisitions may make it optimal for the acquirer to bear this cost (Servaes and Zenner, 1996). Greater acquisition experience may also indicate overinvestment *à la* Jensen (1986) or managerial hubris *à la* Roll (1986) (Kale, Kini, and Ryan, 2003). As common in the literature we measure *ln(1+ Previous acquisition experience)* as the natural log of one plus the number of deals in the ten years prior to the cross-border deal (in which the acquirer and/or acquirer parent obtained at least 50 percent of the assets to own at least 95 percent).

Deal characteristics also matter. Contracting costs may increase more than proportionally in size and complexity of the acquisition. From a large group of shareholders, it may also be more likely that one or more shareholders sue if the deal is not value enhancing. We include a variable *ln(Value transaction)* that is defined as

the natural logarithm of the value of the transaction. Firms are further more likely to hire an advisor when their payment includes stock. Including stock requires special expertise in designing the payment package and in possibly issuing new shares (Servaes and Zenner, 1996). Shareholders in a cross-border acquisition may also be reluctant to receive foreign stock (Rossi and Volpin, 2004). A dummy variable *d(Stock payment)* equals one if at least a proportion of the payment consists of stock, and equals zero otherwise.

Information asymmetry between acquirers and targets is a principal hurdle to any transaction. It may be larger for unrelated acquisitions (Servaes and Zenner, 1996). Although previous studies did not find any statistically significant correspondence between the likelihood of hiring an advisor and the acquisition of a related target (Servaes and Zenner, 1996; Kale, Kini, and Ryan, 2003; Ma (2007)), we include the dummy variable *d(Related acquisition)* that equals one if the target and acquirer have at least one equal 3-digit SIC code, and equals zero otherwise.

An acquirer is further more likely to hire an advisor when the deal needs regulatory approval. Advisors probably have more experience than most acquirers in dealing with the regulator and can provide this service at a lower cost than the acquirer itself. A dummy variable *d(Regulatory approval)* equals one if regulatory agencies have to approve the deal, and zero otherwise. The regulatory process of approval and the set of agencies involved may not only depend on the sector of the target and the size of the deal, but also on the target nation.

The accounting and auditing standards in the target nation may also play a role in determining the choice for an advisor. Stricter standards facilitate target valuation for the acquirer, reducing transaction costs. On the other hand, stricter standards may entail stringent reporting and disclosure rules for acquisition, increasing transaction costs. Rossi and Volpin (2004) also use accounting standards as one of their proxies for investor protection. Accounting standards improve firms' disclosure making them more transparent and easier to identify as potential takeover candidates. A variable *Accounting and auditing* taken from the *Global Competitiveness Report* measures the strength of financial auditing and reporting standards in the nation regarding company financial performance (1=weakest, 7=strongest).[25]

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[25] We derive all the variables from the Global Competitiveness Report 2005, because the versions of earlier years up to the beginning of our sample period provide the scores of fewer countries or do not provide these scores. For instance, we do not have the accounting and auditing scores for 1997. The 2002 report has this information for 68 of our sample countries, while this number increases to 80 countries for the 2005 report. As the correlation between the scores of the 68 available countries in 2002 and 2005 equals 0.857, we do not expect that the year from which we derive the scores determines our results. The correlation for the variables effectiveness of antitrust policy and financial sophistication between the 2002 and 2005 reports equal 0.944 and 0.934, respectively. To analyze as many acquirer-/target-country combinations, we impute the mean value of our sample countries to the remaining missing values.

3.4.1.2   Results

Table 3.4 lists the key statistics (mean, median, minimum, maximum, and standard deviation) for the target, acquirer, deal, and nation characteristics of the 2,189 deals in which the acquirer has no advisor and the 1,348 deals where the acquirer reports one advisor. The table also lists the differences in the means and its statistical significance on the basis of a standard difference-of-means test.

In advised deals, targets are (statistically significantly) also more likely to engage an advisor and be listed while the deal itself is larger, more often involves stock payment, features related acquisitions, and requires regulatory approval than in unadvised deals. The accounting and auditing standards of the target nation are also higher in the advised acquirer group.

Table 3.5 reports the estimated coefficients and marginal effects from the logit regression of the choice of the number of advisors (i.e., zero or one) on target, deal, and target-nation characteristics. Each estimated marginal effect measures the change in the probability of observing a given choice given a small change in the regressor, holding the other variables constant, evaluated at the sample mean of the explanatory variables, i.e., $(\partial \Pr(A)/\partial Z)_{\bar{Z}}$. The number of observations used in this regression is 3,537. Statistical significance is assessed on the basis of Huber-White standard errors (Huber, 1967; White, 1980).

The acquirer is more likely to get an advisor if the target uses an advisor, if the target is listed, if the acquirer has little previous experience, if the value of the transaction is large, if the payment includes stocks or if the deal requires regulatory approval (though this last coefficient is only marginally significant).

The economic relevancy of each of the estimated coefficients can be readily assessed at the sample mean of the other explanatory variables for the significant dummy variables and continuous variables alike. Remember that almost 40 percent of the acquirers engages one advisor. The listing of the target increases this likelihood by almost 30 percentage points to 70 percent. If the target gets an advisor this likelihood increases by almost 15 percentage points to 55 percent. A one standard deviation decrease in previous acquisition experience or increase in the value of the transaction increases this likelihood by approximately almost 10 and 15 percentage points, respectively. We find these effects to be economically relevant and basically confirming earlier findings in the literature (e.g., Servaes and Zenner, 1996; Kale, Kini, and Ryan, 2003). The determinants of the decision to engage an advisor in a cross-border deal seemingly do not differ from those in a domestic deal.

Table 3.4
Sample Statistics: No Advisor or Advisor

This table lists the mean, median, minimum, maximum, and standard deviation of target, acquirer, deal and nation characteristics of deals in which the acquirer has no or one advisor (the number of observations is 2,189 and 1,348 respectively). The table also lists a difference-of-means test. *, **, *** represent statistical significance at the 10%, 5%, and 1% levels, respectively.

	Deals in which acquirer does not hire any advisor					Deals in which acquirer hires one advisor					Mean difference
	Mean (1)	Median	Minimum	Maximum	St.dev.	Mean (2)	Median	Minimum	Maximum	St.dev.	(1) - (2) Signif.
Target Characteristics											
d(Target hires advisor)	0.347	0.000	0.000	1.000	0.476	0.659	1.000	0.000	1.000	0.474	-0.313 ***
d(Target is listed)	0.044	0.000	0.000	1.000	0.205	0.235	0.000	0.000	1.000	0.424	-0.191 ***
Acquirer Characteristics											
ln(1+ Previous acquisition experience)	1.875	1.946	0.000	5.472	1.266	1.802	1.792	0.000	5.940	1.297	0.073
Deal Characteristics											
ln(Value transaction)	3.720	3.509	2.303	8.009	1.065	4.924	4.860	2.303	9.520	1.489	-1.204 ***
d(Stock payment)	0.162	0.000	0.000	1.000	0.369	0.200	0.000	0.000	1.000	0.400	-0.038 ***
d(Related acquisition)	0.684	1.000	0.000	1.000	0.465	0.737	1.000	0.000	1.000	0.441	-0.053 ***
d(Regulatory approval)	0.170	0.000	0.000	1.000	0.376	0.381	0.000	0.000	1.000	0.486	-0.211 ***
d(Complex deal)	0.005	0.000	0.000	1.000	0.074	0.030	0.000	0.000	1.000	0.170	-0.024 ***
Target-Nation Characteristics											
Accounting and auditing	6.055	6.200	3.200	6.600	0.682	6.119	6.300	3.200	6.600	0.605	-0.064 ***

Table 3.5

Regression of No or One Advisor on Target, Deal and Target-Nation Characteristics

This table reports the estimated coefficients and marginal effects from a logit regression. Each estimated marginal effect measures the change in the probability of observing a given choice given a small change in the regressor, holding the other variables constant, evaluated at the sample mean of the explanatory variables, i.e., $(\partial \Pr(A)/\partial Z)_{\bar{Z}}$. The number of observations used in the regressions is 3,537. Table 3.3 provides the variable definitions. *, **, *** represent statistical significance, based on Huber-White standard errors, at the 10%, 5%, and 1% levels, respectively.

Independent Variables	Estimated coefficents	Marginal effects in % at mean	
		One advisor	No advisor
d(Target hires advisor)	0.537 ***	12.4 ***	-12.4 ***
d(Target is listed)	1.185 ***	28.7 ***	-28.7 ***
ln(1+ Previous acquisition experience)	-0.263 ***	-6.1 ***	6.1 ***
ln(Value transaction)	0.631 ***	14.6 ***	-14.6 ***
d(Stock payment)	0.273 **	6.5 **	-6.5 **
d(Related acquisition)	0.095	2.2	-2.2
d(Regulatory approval)	0.190 *	4.4 *	-4.4 *
Target-Nation accounting and auditing	0.021	0.5	-0.5
Constant	-3.393 ***		
Percentage correctly predicted	73.8%		
Log likelihood	-1,897		
Pseudo R-squared	19.3%		
Percentage correctly predicted (full)	63.1%		
BIC (full)	8,251		

3.4.2   Target-, acquirer- or third-nation advisor

3.4.2.1   Variables

We now turn to the main contribution of this chapter, which is to analyze the decision between a *target-*, *acquirer-*, or *third-nation* advisor and the selection of the *global and country experience* of the advisor in a nested multinomial logit model.

A number of acquirer-, target-, and acquirer-nation characteristics can be naturally linked to the choice of the nationality of the advisor. Take for example the experience of the <u>acquirer</u> in the target nation. The more extensive is this experience, the less valuable any target-country experience may be the advisor can offer. Hence we include a dummy variable *d(Acquisition experience in target nation)* that equals one if the acquirer and/or acquirer parent has acquisition experience in the target nation in the ten years period prior to the cross-border acquisition, and equals zero otherwise.

Openness may be a characteristic unique to the <u>target nation</u>. In a closed target nation, the role as a local concierge played by the advisor will be more important,

hence the acquirer may select an advisor from the target nation. In an open target nation, the acquirer may get by with the home cookin´ services of an advisor from the home (acquirer) nation. We define a variable *Openness* as the percentage of acquisitions in the target nation (whereby a firm in the target nation gets acquired) that are cross-border acquisitions during the year prior to the year in which the cross-border deal takes place.

Next, we include four characteristics of <u>both the target and the acquirer nation</u>. The sophistication of the financial markets in the target nation may simplify the valuation of the target, reducing the need for a concierge. On the other hand, sophisticated financial markets in the target nation may allow only higher quality financial advisors to thrive there, enhancing the attractiveness of an advisor from the target nation. Similarly, sophisticated financial markets in the acquirer nation make an advisor from the home nation more appealing to the acquirer. We obtain a measure for the *Financial sophistication* of the target and acquirer nations from the *Global Competitiveness Report*.

Investor protection in both the target and acquirer nation also matters. Rossi and Volpin (2004) find that firms that make a cross-border acquisition are more likely to be incorporated in countries with better investor protection than the target firm. We examine only the acquisitions where after the transaction the acquirer owns at least 95 percent. Under international law, cross-border acquisitions resulting in 100 percent ownership by the acquirer switch the nationality of the target firm, and the applicable investor protection, to the acquirer nation. Shareholders wanting to sue the firm will have to do that in the acquirer nation. Stricter investor protection in the target nation makes a concierge from the target nation more useful, while stricter investor protection in the acquirer nation may make an advisor from the acquirer nation more appealing. We take the measure of *Investor protection* from *doingbusiness.com* (as in Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2006)).

Formalism in a country's legal system may make regulation more specific, but also more elaborate, protracted, inconsistent and even unfair in its judicial procedures and decisions. In the latter sense, formalism in the target nation makes a concierge more valuable. Similarly, more formalism in the acquirer nation makes an advisor from the acquirer's home nation more attractive. We take the measure of country *formalism* from Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2003). They construct an aggregate measure of the substantive and procedural intervention in lower-court proceedings for evicting a non-paying private residence tenant. A low value indicates a lower degree of formalism. Finally, we also include the logarithm of *GDP per capita* of both the target and acquirer nations as controls.

In addition to the characteristics of the target and the acquirer nation, we also include a set of variables that we label <u>bilateral</u> in the sense that they measure

differences between characteristics of the target and acquirer nation. *ln(Distance)* is the natural logarithm of the physical distance between the target and acquirer nation. A higher distance possibly makes the engagement of a local concierge, i.e., a target nation advisor, more of a necessity. Similarly, if the legal origin of the target and acquirer nation (à la La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997)) differs, an advisor familiar with − and from − the target nation may be more valuable. A dummy variable *d(Same legal origin)* equals one if the legal origin of the target and acquirer nation is the same, and equals zero otherwise.

The cultural distance between the two nations may play a comparable role. Our measure of the *Cultural distance* between the target and acquirer nation is the Kogut and Singh (1988) index that aggregates the differences in the four Hofstede (1991) cultural dimensions between the target and acquirer nation. Finally, a dummy variable *d(Similar language)* equals one if any of the languages of the target and acquirer nation are similar, and equals zero otherwise.

3.4.2.2 Results

Table 3.6 lists the mean and standard deviation for the target, acquirer, deal, and nation characteristics of the deals in which the acquirer opts for a target-, acquirer-, or third-nation advisor. The number of observations for each of these choices is 345, 437, and 566, respectively. The table also lists the differences in the means between the three groups and their statistical significance on the basis of standard difference-of-means tests.

Somewhat surprisingly, acquirer experience in the target nation is significantly higher in the group of deals with target-nation advisors than in the two other deal groups. On the other hand, and as expected, the openness of the target nation is lower among deals with target-nation advisors, while its financial sophistication and investor protection are higher. None of the bilateral nation characteristics differ between the decisions to hire target-nation or acquirer-nation advisors.

Table 3.7 reports the estimated coefficients from a one-stage logit (Model I) and the two-stage nested multinomial logit regression (Model II) of the choice of target-, acquirer-, or third-nation advisor on target-, acquirer-, and bilateral-nation characteristics. The difference between the two models is the inclusive value that is present in Model II, but not in Model I. Recall that the inclusive value summarizes the impact of the characteristics on the subsequent experience decision, conditional on a given choice of nationality. Tying the choice model to a utility maximization model would turn the inclusive value into "the expected maximum utility of the alternatives in each nationality nest".

Table 3.6
Sample Statistics: One Target-, Acquirer- or Third-Nation Advisor

This table lists the mean and standard deviation of target, acquirer, deal and nation characteristics of the deals in which the acquirer selects a target-, acquirer- or third-nation advisor (the number of observations is 345, 437, and 566, respectively). The table also lists difference-of-means tests. Table 3.3 provides the variable definitions. *, **, *** represent statistical significance at the 10%, 5%, and 1% levels, respectively.

	Advisor nationality						Mean differences		
	Target nation		Acquirer nation		Third nation		Target vs. acquirer	Target vs. third	Acquirer vs. third
	Mean (1)	St.dev.	Mean (2)	St.dev.	Mean (3)	St.dev.	(1) - (2) Signif.	(1) - (3) Signif.	(2) - (3) Signif.
Acquirer Characteristics									
d(Acquirer experience in target nation)	0.586	0.493	0.263	0.441	0.284	0.452	0.322 ***	0.301 ***	-0.021
Target-Nation Characteristics									
Openness	0.166	0.121	0.320	0.153	0.316	0.166	-0.154 ***	-0.150 ***	0.004
Financial sophistication	6.522	0.353	5.973	0.768	5.889	0.865	0.549 ***	0.633 ***	0.085 *
Investor protection	7.710	1.283	6.777	1.618	6.521	1.745	0.934 ***	1.189 ***	0.256 **
Formalism	2.979	0.384	3.018	0.729	3.148	0.807	-0.038	-0.168 ***	-0.130 ***
ln(GDP per capita)	10.391	0.150	10.123	0.499	10.090	0.557	0.268 ***	0.301 ***	0.033
Acquirer-Nation Characteristics									
Financial sophistication	6.033	0.587	6.513	0.387	6.048	0.718	-0.481 ***	-0.015	0.465 ***
Investor protection	6.625	1.698	7.757	1.246	6.748	1.668	-1.132 ***	-0.123	1.009 ***
Formalism	2.923	0.710	2.947	0.395	2.951	0.749	-0.025	-0.028	-0.004
Antitrust policy effectiveness	5.623	0.515	5.823	0.278	5.609	0.613	-0.200 ***	0.014	0.214 ***
ln(GDP per capita)	10.247	0.311	10.389	0.163	10.153	0.440	-0.142 ***	0.095 ***	0.237 ***
Bilatera- Nation Characteristics									
ln(Distance)	8.018	1.170	8.095	1.173	7.863	1.277	-0.077	0.155 *	0.233 ***
d(Same legal origin)	0.507	0.501	0.538	0.499	0.472	0.500	-0.031	0.036	0.066 **
Cultural distance	1.080	1.089	1.083	1.247	1.344	1.361	-0.003	-0.264 ***	-0.261 ***
d(Similar language)	0.545	0.499	0.565	0.496	0.539	0.499	-0.020	0.006	0.026

Table 3.7 also displays the marginal effects for Model II. Each estimated marginal effect measures the change in the probability of observing a given choice given a small change in the regressor, holding the other variables constant, evaluated at the sample mean of the explanatory variables. The number of observations used in these regressions is 1,348.

Table 3.7

Regression of Target-, Acquirer- or Third-Nation Advisor on Target-, Acquirer- and Bilateral-Nation Characteristics

This table reports the estimated coefficients and marginal effects from (I) a one-step logit and (II) the two-stage nested multinomial logit (NMNL) regression of the choice of target-, acquirer-, or third-nation advisor on target-, acquirer-, and bilateral-nation characteristics. Each estimated marginal effect measures the change in the probability of observing a given choice given a small change in the regressor, holding the other variables constant, evaluated at the sample mean of the explanatory variables, i.e., $(\partial \Pr(C)/\partial Z)_{\bar{Z}}$. The number of observations used in the regressions is 1,348. Table 3.3 provides the variable definitions. *, **, *** represent statistical significance, based on Huber-White standard errors, at the 10%, 5%, and 1% levels, respectively.

| | Estimated coefficents | | | | Marginal effects in % at mean | | |
| | I | | II | | II | | |
Independent Variables	Acquirer nation	Third nation	Acquirer nation	Third nation	Target nation	Acquirer nation	Third nation
d(Acquirer experience in target nation)	-0.392*	-0.444***	1.053***	0.665**	-2.5***	6.3**	-3.8
Target-Nation Characteristics							
Openness	5.540***	4.866***	6.457***	4.203**	-16.6**	35.4***	-18.8
Financial sophistication	-0.580**	-0.753***	-1.363***	-1.292***	4.7***	-1.9	-2.8
Investor protection	0.100	-0.036	0.179	0.008	-0.1	2.5**	-2.3**
Formalism	-0.560***	-0.568***	-0.788***	-0.749***	2.7**	-1.1	-1.7
ln(GDP per capita)	-2.306***	-2.097***	-3.039***	-2.521***	9.4***	-9.2**	-0.3
Acquirer-Nation Characteristics							
Financial sophistication	1.502***	0.146	2.131***	-0.059	-1.2	31.7***	-30.5***
Investor protection	0.322***	-0.086	0.256**	-0.201**	0.4	6.5***	-6.9***
Formalism	1.037***	-0.305**	2.111***	0.139	-1.8*	28.7***	-26.9***
ln(GDP per capita)	1.731***	-0.863***	2.644***	-0.287	-0.9	42.3***	-41.4***
Bilateral-Nation Characteristics							
ln(Distance)	0.094	0.113	0.438***	0.368***	-1.4***	1.3	0.1
d(Same legal origin)	0.332	0.046	-0.485	-0.695*	2.4	2.6	-5.0
Cultural distance	-0.118	-0.070	-0.034	-0.003	0.0	-0.5	0.4
d(Similar language)	-0.359	0.216	-0.183	0.419	-1.1	-8.6**	9.7**
Inclusive value			4.675***	3.328***	-12.9***	21.7***	-8.8***
Constant	-5.824	36.339***	-22.252**	31.363***			
Percentage correctly predicted (I)					69.9%	67.5%	71.0%
Percentage correctly predicted (II)					88.4%	79.2%	80.2%
Percentage correctly predicted	69.6%		82.0%				
Log likelihood	-1,079		-651				
Pseudo *R*-squared	25.8%		55.2%				

The difference in the percentage of correctly predicted observations in Models I and II − the percentage increases from 69.6 percent to 82.0 percent − immediately illustrates the importance of taking into account the inclusive value. A log likelihood ratio test further rejects the exclusion of the inclusive value (two times the difference between the two log likelihoods far surpasses the critical chi-squared value of 3.84). But also the sign of the coefficient of the experience of the acquirer in the target nation on advisor choices in Model I and II differs. Once we account for the subsequent choice of the experience of the advisor, an acquirer with target-nation experience is three percentage points less likely to choose a target-nation advisor and six percentage points more likely for an advisor from the acquirer nation. This result indicates that in a cross-border deal the firm's target-country experience will direct the acquirer in choosing the country affiliation of the advisor and the subsequent choice of the advisor's country experience.

Target- and acquirer-nation characteristics seem to play an even more important role in determining the country affiliation of the advisor. An open target nation makes it less likely the acquirer will opt for a target-nation advisor. The effect is also economically relevant: a one standard deviation increase in openness decreases the probability of a target-nation advisor by around three percentage points and increases the probability of an acquirer-nation advisor by around six percentage points. In assessing this impact, remember that the choice of advisor nationality was split almost three ways between target, acquirer, and third nation (26, 32, and 42 percent, respectively).

Financial sophistication, formalism, and GDP per capita of the target nation favor the choice for a target-nation advisor. A one standard deviation in either one variable increases the likelihood by four, two, and five percentage points. Surprisingly, investor protection in the target nation does not affect the choice for a target-nation advisor, but increases the acquirer-nation choice by four percentage points.[26]

The characteristics of the acquirer nation, on the other hand, affect the likelihood of both the choices for an acquirer-nation or third-nation bank, but in an opposite direction. A one standard deviation in financial sophistication of the acquirer nation increases the likelihood of an acquirer-nation advisor by almost twenty five percentage points, investor protection by almost eleven percentage points, formalism by around twenty percentage points, and GDP per capita by twenty percentage points.

Bilateral nation characteristics hardly matter with the exception of language. A different language in the target nation decreases the choice for an acquirer-nation

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[26] A robustness test using 1,251 observations with only acquisitions of 100 percent of the target's assets gives similar results (i.e., marginal effects for the target nation equal -0.6 with *p*-value 0.302; for the acquirer nation 2.9 with *p*-value 0.021; for a third nation -2.3 with *p*-value 0.071).

advisor by almost nine percentage points, but increases the choice for a third-nation advisor by ten percentage points.

To conclude, target-nation characteristics influence the preference for a target-nation advisor somewhat. But especially the acquirer-nation characteristics determine the choice for either an acquirer- or a third-nation advisor. Overall, we provide clear support for the home cookin´ and concierge services that advisors from the acquirer and target nation, respectively, can offer.

3.4.3   Global and country experience

3.4.3.1   Variables

Next, we investigate the selection of the *global and country experience* of the advisor in the second stage of the nested multinomial logit model (remember that the estimation procedure actually starts with this third step of the decision tree). Advisors can have *global and country*, *global but no country*, *no global but country*, and *no global and no country* experience. We estimate a logit model for each of the advisor nationality choices made by the acquirer, i.e., the target-, acquirer-, and third-nation advisor groups.

We explain advisor experience in each group by six independent variables. A more diversified target makes it more difficult for the acquirers to value the target, as the acquirers are less likely to have detailed knowledge on every industry in which the diversified target operates. The greater information asymmetry induces acquirers to rely more on advisors (Servaes and Zenner, 1996), particularly on those advisors that are global as they may cover more industries. We define *ln(1+ Number of SIC codes of target)* to be the natural logarithm of one plus the number of SIC codes of the industries in which the target operates.

We also include acquirer characteristics. Large acquirers for example are more likely to face a larger, more sophisticated and international shareholder base. These shareholders may be more likely to sue if the deal is not value enhancing. We define the *ln(Market value of acquirer assets)* as the natural logarithm of the market value of the acquirer (i.e., the book value of total assets plus the market value of equity minus the book value of equity).

The cross-border acquisitions experience of the acquirer may determine how much the acquirer prizes global and/or country experience. We calculate *% Cross-border acquisition experience* as the percentage of cross-border deals in the ten years prior to the cross-border deal (in which the acquirer and/or acquirer parent obtained at

least 50 percent of the assets to own at least 95 percent). It equals zero if there were no cross-border deals or no deals.

Deal characteristics may also matter for the advisor experience choice. Though global top-tier advisors may prefer not to advise on hostile (and complex) deals (Servaes and Zenner, 1996), their skills may be especially prized when the deal is complex and hobbled by agency problems (Rau and Rodgers, 2002). Evidence suggests complex deals are often advised by global advisors (Servaes and Zenner, 1996), though deal complexity and the hiring of a top-tier bank seems less strongly related. We introduce a dummy variable *d(Complex deal)* that equals one if the reaction of the target to the acquirer's bid upon the initial disclosure of the offer price is hostile or unsolicited, or if there are more than one bidder, and equals zero otherwise.

Finally, we include the *antitrust policy effectiveness* of both the target and acquirer nations in promoting competition. Higher effectiveness in either nation may make global and country experience more important.

3.4.3.2 Results

Table 3.8 reports the marginal effects from the second stage in the nested multinomial logit model. The global and country experience level of target-, acquirer-, or third-nation advisors, respectively, is regressed on target, acquirer, deal, target-, and acquirer-nation characteristics. The number of observations used in the regressions equals 345, 437, and 566, respectively.

Large acquirers and acquirers that take over diversified targets engage target-nation advisors with global and major country experience. The same type of firms tends to engage acquirer-nation advisors with global experience, but without major country experience. Acquirers with more cross-border acquisition experience and with an acquirer- or third-nation advisor seemingly care less about the experience of this advisor. They are more likely to select an advisor without global or country experience and less likely to select an advisor with global experience. Acquirers with experience but with a target-nation advisor, on the other hand, are somewhat less likely to pick an advisor without global experience (but with country experience). Hence, the experience of the acquirer only substitutes for the experience of the advisors from acquirer or third nations.

Deal complexity leads to a comparable implicit substitutability. Acquirers in complex deals that opted for an acquirer- or third-nation advisor will avoid advisors without experience and want these advisors to have global experience (with or without country experience). In this case, advisor experience seemingly can help the acquirer

Table 3.8

Regression of Global- and Country-Experience Level of Target-, Acquirer- or Third-Nation Advisors on Target, Acquirer, Deal, Target-, and Acquirer-Nation Characteristics

This table reports the marginal effects from the two-stage nested multinomial logit (NMNL) regression of the global- and country-experience level of target-, acquirer-, or third-nation advisors on target, acquirer, deal, target-, and acquirer-nation characteristics. Each estimated marginal effect measures the change in the probability of observing a given choice given a small change in the regressor, holding the other variables constant, evaluated at the sample mean of the explanatory variables, i.e., $(\partial \Pr(E)/\partial Z)_{\bar{Z}}$. The number of observations used in the regressions equals 345, 437, and 566, respectively. Table 3.3 provides the variable definitions. *, **, *** represent statistical significance, based on Huber-White standard errors, at the 10%, 5%, and 1% levels, respectively.

| | Marginal effects in % at mean | | | |
| | Advisor Experience | | | |
	Global and country	Global but no country	No global but country	No global and no country
Target- Nation Advisor				
ln(1 + Number of SIC codes of target)	10.3	-2.6	-2.5	-5.2
ln(Market value of acquirer assets)	10.1***	1.5	-1.1**	-10.5***
% Cross-border acquisition experience	7.1	0.0	-7.4**	0.4
d(Complex deal)	-19.5	-7.1	-13.7***	40.4**
Target-nation antitrust policy effectiveness	-17.6	22.4**	-23.7**	18.9
Acquirer-nation antitrust policy effectiveness	-4.7	-6.5*	1.8	9.4
Percentage correctly predicted (per group)	80.4%	0.0%	40.7%	60.6%
Percentage correctly predicted	57.1%			
Log likelihood	-386			
Pseudo *R*-squared	13.3%			
Acquirer-Nation Advisor				
ln(1 + Number of SIC codes of target)	-0.1	23.0**	-9.0***	-13.8**
ln(Market value of acquirer assets)	2.4***	11.1***	-0.1	-13.5***
% Cross-border acquisition experience	-9.7***	-9.7	-2.5	21.9**
d(Complex deal)	1.0	20.4	12.3	-33.7**
Target-nation antitrust policy effectiveness	-4.1***	7.1	0.7	-3.7
Acquirer-nation antitrust policy effectiveness	13.6***	24.2	-8.3***	-29.5*
Percentage correctly predicted (per group)	16.7%	62.5%	4.2%	81.3%
Percentage correctly predicted	64.5%			
Log likelihood	-396			
Pseudo *R*-squared	16.5%			
Third-Nation Advisor				
ln(1 + Number of SIC codes of target)	-5.7*	12.9**	-4.1	-3.1
ln(Market value of acquirer assets)	3.0***	7.6***	-1.5**	-9.2***
% Cross-border acquisition experience	4.8	-20.9***	-1.4	17.5***
d(Complex deal)	27.9**	-7.0	6.2	-27.2***
Target-nation antitrust policy effectiveness	-1.9	5.5*	-0.8	-2.7
Acquirer-nation antitrust policy effectiveness	-0.9	-1.0	1.2	0.7
Percentage correctly predicted (per group)	10.3%	57.9%	0.0%	69.7%
Percentage correctly predicted	53.4%			
Log likelihood	-607			
Pseudo *R*-squared	8.4%			

in dealing with the complexity of the deal. Acquirers in complex deals with target-nation advisors, on the other hand, seem fine with advisors without experience.

Antitrust policy effectiveness in the target nation makes lack of country experience for target-nation advisors more likely, possibly because such a policy may keep the market structure in the target nation relatively easy to assess. Antitrust policy effectiveness in the acquirer nation, on the other hand, makes global experience for acquirer-nation advisors preferable. Policy effectiveness at home may push firms to look for deals involving rents abroad, necessitating global experience in their acquirer-nation advisors. Antitrust policy effectiveness in either target or acquirer nations does not seem to play a role when third-nation advisors were selected.

3.4.4   Acquirers' stock price reactions

Finally, we turn to studying the acquirers' stock price reactions in a three-day window − i.e., minus one to plus one day − when deals are announced. We use the market model to calculate the Cumulative Abnormal Returns (CARs). To make sure that outliers do not influence our results, we exclude the extreme one-percentile CAR observations from our sample (the one-percentile threshold equals -18.2 percent and the 99-percentile threshold equals 23.1 percent). Table 3.9 reports the percentage CARs of cross-border deal announcements for the total sample and for the groups where our model predicts or does not predict country affiliation or experience of the advisors.

On average, acquirers that do not hire an advisor generate 0.88 percent abnormal returns, while those that do hire a financial advisor generate 1.01 percent abnormal returns. The results on advisor origin and experience suggest that deals where acquirers engage advisors from their home nation and deals where acquirers engage non-global, non-top-target-country advisors generate the highest abnormal returns (i.e., 1.24 percent and 1.88 percent, respectively). The lower abnormal returns for the global advisors are consistent with the results of McLaughlin (1992) and Rau (2000).

When we distinguish between firms' choices that our model correctly predicts and does not correctly predict, we find striking results. Firms that engage advisors and are expected to do so generate 1.07 percentage points lower abnormal returns than firms that engage advisors but are not expected to do so (i.e., *p*-value equals 0.001). The complexity of the acquisitions or redundant costly fees for advisors may explain this difference. However, we do not see a significant difference between firms with "expected" and "unexpected" in-house advisors. Though statistically not significant, abnormal returns are 1.53 percentage points higher when "unexpectedly" an acquirer engages an advisor from the target nation (i.e., *p*-value equals 0.124). An advisor

Table 3.9

Cumulative Abnormal Returns Around Cross-Border Deal Announcements and the Predicted and Not Predicted Country and Experience of the Advisors

This table reports the percentage three-day Cumulative Abnormal Returns (CARs) of cross-border deal announcements and the predicted and not predicted country affiliation and experience of the advisors. Table 3.3 provides the variable definitions. *, **, *** represent statistical significance at the 10%, 5%, and 1% levels, respectively.

Classification		Total sample	Predicted (1)	Not predicted (2)	Difference (1)-(2)
No advisor	Mean	0.88	0.88	0.87	0.00
	St.dev.	(5.02)	(4.95)	(5.45)	
	N	2,149	1,853	296	
Advisor	Mean	1.01	0.52	1.59	-1.07 ***
	St.dev.	(5.83)	(5.94)	(5.65)	
	N	1,317	713	604	
Advisor from target country	Mean	0.92	0.74	2.26	-1.53
	St.dev.	(5.88)	(5.81)	(6.29)	
	N	340	300	40	
Advisor from acquirer country	Mean	1.24	1.34	0.87	0.48
	St.dev.	(6.67)	(6.99)	(5.37)	
	N	418	329	89	
Advisor from third country	Mean	0.90	1.05	0.27	0.78
	St.dev.	(5.08)	(5.07)	(5.06)	
	N	559	450	109	
Global & country	Mean	0.63	0.04	1.26	-1.22 *
	St.dev.	(5.35)	(5.18)	(5.49)	
	N	246	127	119	
Global & no country	Mean	0.24	-0.11	0.66	-0.77
	St.dev.	(5.78)	(5.09)	(6.48)	
	N	429	231	198	
No global & country	Mean	0.73	0.10	0.89	-0.79
	St.dev.	(4.99)	(4.44)	(5.13)	
	N	116	23	93	
No global & no country	Mean	1.88	2.38	0.62	1.77 ***
	St.dev.	(6.15)	(6.66)	(4.39)	
	N	526	377	149	

unpredicted from the acquirer nation, on the other hand, decreases abnormal returns by 0.48 percentage points (*p*-value equals 0.552). Getting unexpectedly an advisor without any experience results in a three-day CAR that is 1.77 percentage points lower (*p*-value equals 0.003), while unpredicted advisor experience − i.e., global and country, global but no country, no global but country − results in abnormal returns that are respectively 1.22, 0.77, and 0.79 higher (*p*-value equals 0.074, 0.170, and 0.500, respectively).

In Table 3.10, we report the estimated coefficients from an ordinary least squares regression of the percentage three-day CARs of cross-border deal announcements on the advisor origin and experience groups. We include a *Target-*, *Acquirer-*, and *Third-Nation advisor dummy* in Model I, which we split up according to the four experience categories in Model II.

Table 3.10

Regression of three-day Cumulative Abnormal Returns Of Cross-Border Deal Announcements on Target, Acquirer, Advisor, and Deal Characteristics

This table reports the estimated coefficients from an ordinary least squares regression of the percentage three-day Cumulative Abnormal Returns (CARs) of cross-border deal announcements on target, acquirer, deal, and advisor characteristics. Table 3.3 provides the variable definitions. *, **, *** represent statistical significance at the 10%, 5%, and 1% levels, respectively.

Independent Variables	Estimated coefficients	
	I	II
Tobin's q	0.003	0.004
Free cash flow to assets	0.401	0.602
d(Target is listed)	-2.161 ***	-1.972 ***
d(Related acquisition)	-0.007	0.044
d(Tender offer)	0.789	0.739
d(Complex deal)	0.461	0.533
d(Stock payment)	-0.351	-0.384
Relative transaction size	4.049 ***	3.911 ***
Target-nation advisor	0.385	
Global and country experience		-0.106
Global but no country experience		-0.711
No global but country experience		0.054
No global and no country experience		1.621 ***
Acquirer-nation advisor	0.320	
Global and country experience		0.701
Global but no country experience		-0.966 *
No global but country experience		-0.476
No global and no country experience		1.428 ***
Third-nation advisor	0.117	
Global and country experience		-0.159
Global but no country experience		-0.083
No global but country experience		0.202
No global and no country experience		0.310
Year and industry dummies	Yes	Yes
Constant	0.734	0.714
N	3,466	3,466
Adjusted R-squared	1.4%	2.0%

As control variables, we use similar target, acquirer, and deal characteristics as Moeller and Schlingemann (2005). Acquirer characteristics include *Tobin's q* and *Free cash flow to assets*. We use *d(Target is listed)* as a target characteristic. Deal characteristics are *d(Related acquisition)*, *d(Tender offer)*, *d(Complex deal)*, *d(Stock payment)*, and *Relative transaction size*. We also add Year and Industry (one digit SIC) dummies.

The results indicate that, in line with previous studies, acquirers experience higher abnormal returns when they announce an acquisition of non-listed and relatively larger firms (e.g., Servaes and Zenner, 1996; Moeller, Schlingemann, and Stulz, 2005; Moeller and Schlingemann, 2005). The variables of interest are the advisor's origin

and experience. The dummies on advisor origin show positive, but non-significant, coefficients. A decomposition of these variables into advisor's experience provides more insight. We find that acquirers that engage either target-nation advisors or acquirer-nation advisors that do not belong to the top ten of the global advisors or to the top five of the target-nation advisors generate 1.62 percent and 1.43 percent, respectively, higher abnormal returns than acquirers that do not engage an advisor. Moreover, acquirers with advisors from their own nation that have global experience generate 0.97 percent lower abnormal returns. None of the third-nation advisor dummies provide significant differences.

These results suggest that advisor selection can influence deal value. Acquirers select non-global, non-top-target-nation advisors from either the target or their own nation when these advisors qualify for the acquirer's needs best. The greater abnormal returns indicate that these advisors provide concierge benefits when originated in the target nation, while they provide home cookin´ benefits when originated in the acquirer nation. Remarkably, the competitive advantage of global advisors having broad international experience does not seem to add value or even negatively influences the acquirer's value. In addition, being one of the top five target-nation advisors does not seem to guarantee the highest concierge benefits.

Perhaps the higher fees or the fee structure of more reputable advisors (e.g., McLaughlin, 1992; Rau, 2000) is a result of the non-significant impact of the concierge and home cookin´ benefits.[27] On the other hand, agency issues might induce firms to hire more reputable advisors that are more likely to complete acquisitions (Rau, 2000). Acquirers may also select global or top-target-nation advisors when they have less cross-border acquisition experience. However, in non-tabulated analyses, the results remain significant for the sample of firms that has acquisition experience in the target nation over the previous ten years (results are available on request).

3.5   Robustness

In this section, we examine the robustness of our results on the firm's decision to select advisors from the target, acquirer, or third nation to changes in the employed model and sample. First, we compare the performance of our two-stage nested multinomial logit model with a one-stage multinational model. We subsequently discuss the robustness of our results to the inclusion of observations where firms hire multiple advisors, the impact on our results of the observations from the US and UK, and the stability of the results in different subperiods.

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[27] Unfortunately, we do not have enough fee data to directly test for this possible interpretation, as SDC provides information on total fees for just 36 observations and on termination fees for 155 observations.

3.5.1   One-stage multinomial logit

So far we have argued that, once firms decide to select an advisor, the advisor's country of origin is of primary importance for their subsequent advisor selection. We also maintained that advisor origin has a major impact on a firm's choice of advisor experience priors, which motivate our choice of a two-stage nested multinomial model. However, it may well be the case that firms take these two decisions simultaneously. Therefore, we estimate a multinomial logit model and regress the 12 choices (i.e., three origin choices and four experience choices) on the same independent variables as that of the first and second stage of the two-stage nested multinomial logit, which is the more restricted model. We compare both models by means of Schwartz's Bayesian Information Criterion (BIC), which is a model selection criterion that accounts for the fit of the model, the number of observations and the number of free parameters (Schwartz, 1978). The BIC-value for the multinomial logit equals 4,489, while that of the two-stage nested multinomial logit equals 4,348. The lower BIC-value of the nested model justifies the use of this model.

3.5.2   The impact of multiple advisors

Our basic analysis does not include deals in which firms hire multiple advisors, since we cannot classify these deals into a single branch of the decision tree. For instance, if a German company that acquires a Spanish firm decides to hire a German and a Spanish advisor, we have to classify the German advisor as an acquirer-nation advisor and the Spanish advisor as a target-nation advisor. So, the deal would be classified in two advisor-origin groups.

    Deals where firms engage multiple advisors are typically more complex and may therefore require a selection procedure that is different from that of hiring a single advisor. We check whether these deals significantly influence our results by running the two-stage nested multinomial logit regression for the deals where firms hire one advisor plus the deals where firms hire multiple advisors. To circumvent the classification issue of the multiple-advisor deals, we include each deal as often as the number of advisors hired, resulting in 622 additional advisor-deal observations.[28] In this way the regression has a total of 1,970 observations (i.e., 1,348 plus 622).

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[28] That is, 230 deals with two advisors, 37 deals with three advisors, nine deals with four advisors, and three deals with five advisors.

Though our results are almost unaltered (hence not reported but available upon request), two changes are nevertheless noteworthy. We find that, with the inclusion of the multiple-advisor deals, the target nation's openness no longer influences the likelihood of selecting an advisor from the acquirer nation (i.e., the marginal effect equals 12.8, the *p*-value equals 0.233), yet it remains important for the selection of a target-nation advisor (i.e., the marginal effect equals -15.9, the *p*-value equals 0.011). Also, the target nation's investor protection looses its significance for the marginal effects on the selection of acquirer-nation advisors (i.e., the marginal effect equals 1.2, the *p*-value equals 0.223). Except for these two changes, our results remain robust to the inclusion of multiple advisors.

3.5.3   US and UK

Because the US and the UK are relatively well represented in our sample both as acquirer and target nation (see Table 3.2), we assess whether our results are sensitive to the inclusion of these large countries in two different ways.

First, although US and UK targets and acquirers make deals that involve many other countries, an overrepresentation of these two countries reduces the variability of country-level characteristics to explain the advisor's nationality. We mitigate this problem by taking the differences between the characteristics of the target and acquirer nations instead of these characteristics at the country level. We change the four characteristics of both the target and acquirer nation (i.e., financial sophistication, investor protection, formalism, and gross domestic product) into "bilateral variables" by subtracting the target-nation value from the acquirer-nation value.

When using these new bilateral variables, the results yield similar conclusions as our original country-level results however. We find that firms hire advisors from the country with the highest financial sophistication and gross domestic product. Higher investor protection in the acquirer nation relative to the target nation increases the probability that firms hire advisors from their own nation rather than from a third nation. Firms are more likely to engage advisors from their own nation when this nation knows greater formalism than the target nation, otherwise they hire either target- or third-nation advisors.

Second, we test whether our results are driven by the overrepresentation of either the US or the UK by adding additional country dummies to the first stage of the nested multinomial logit regression. In particular, we re-estimate our nested model four times adding a dummy for the US acquirers, US targets, UK acquirers, or UK targets, respectively. This procedure allows us to identify the precise impact of each group on the estimated coefficients.

The results indicate that acquirers from the US are more likely to hire advisors from their own nation relative to a third nation. Firms that acquire US targets are more likely to hire advisors from the US-target nation relative to a third nation. We further find that UK acquirers and firms that acquire UK targets are more likely to hire advisors from a third nation. Since we classify the advisor's origin according to the nation in which the advisor's parent is incorporated, the supply of advisory services from subsidiaries of top-tier banks from the US may explain the results of the UK dummies.

In terms of nation characteristics, the addition of either four country dummies does not influence the impact of a target- or acquirer-nation's financial sophistication on the selection of the advisor's nationality. We further find that the acquirer-nation's investor protection loses its significance when adding a US-acquirer dummy, yet the addition of a UK-acquirer dummy does not influence its significance. The target-nation investor protection is robust to adding either one of the four country dummies. In sum, these results indicate that investor protection plays an important role in advisor selection even among countries other than the US or UK, though US acquirers seem to respond most to the high US (acquirer-nation) protection.

The addition of a US- or UK-target dummy further leads to a loss in significance of the marginal effects of the target-nation and acquirer-nation formalism on the probability to engage target-nation advisors. However, the coefficients still suggest that greater acquirer nation's formalism increases the likelihood to hire an acquirer-nation advisor relative to a target-nation advisor. The formalism coefficients and marginal effects are robust for the addition of a US- or UK-acquirer dummy. As for the impact of a country's wealth, only the addition of a US- or UK-acquirer dummy influences the significance of the impact of the acquirer country's gross domestic product on the selection of acquirer-nation advisors. The openness of the target nation remains significant in explaining the selection of acquirer-nation advisors relative to target-nation advisors.

To conclude, we find that the many US and UK deals not unexpectedly influence our results somewhat. However, this influence is not detrimental to our main findings. In addition, our findings on the differences between countries, where US and UK country-level characteristics should play a less significant role, strengthen our main conclusions.

3.5.4 Subperiods

We also test whether our results are robust for the period in which the cross-border deals take place. Different economic conditions during the sample period may have an

impact on the availability of advisors, and hence influence a firm's selection of advisor. We estimate the two-stage multinomial logit for the period 1997 to 2000 and 2001 to 2005 separately. Both periods comprise about half of the sample (i.e., 51 percent for the first and 49 percent for the second period). The first period shows a yearly increase in the number of deals in which firms hire an advisor, while the economic downturn caused a decrease in this number in the second period. Some coefficients loose their significance, which is not surprising because the number of observations per regression is cut in half. However, we find that the signs of the coefficients do not change. So, the period in which the cross-border deals take place does not seem to affect our conclusions.

3.6 Conclusion

In this chapter, we examine 3,537 cross-border acquisitions in the period 1995 to 2005 to get a better understanding of how acquirers select their financial advisors with cross-border acquisitions and the value implications of their decisions. The additional complexity of dealing with foreign, economic and regulatory, practices and conditions in cross-border deals makes the selection of advisors crucial. Experienced advisors could reduce cross-country related information asymmetries and transaction costs, and hence, enhance the value creation of international deals.

We investigate three steps in the acquirer's decision process. In the first step, where firms decide whether to hire an advisor, we find that acquirers' decisions are similar to previous studies on domestic acquisitions. In the second step, acquirers decide on the advisor's origin, i.e., whether the advisor should be originated in the target, acquirer, or a third nation. Acquirers prefer target-nation advisors when the target nation is less open to foreign acquirers, knows greater procedural formalism, is more financially sophisticated, and more wealthy, while their preference shifts to home-nation advisors with greater formalism, investor protection, financial sophistication, and wealth in the acquirer nation. When deciding on the advisor's origin, acquirers also take into account the advisor's global and target-country experience, which is the third-step decision.

As advisor selection is especially crucial in an international setting, the firm's advisor choice can have consequences for the value creation of the deal. We only focus on the acquirer abnormal returns and find that acquirers who engage target- or acquirer-nation advisors that do not belong to the global or target-country top players generate the highest abnormal returns. Remarkably, the hiring of global advisors, who have the greatest international competitive advantage, does not lead to higher value creation.

Overall, our empirical evidence suggests that acquirers balance the advisor origin based on the target- and acquirer-nation economic conditions, potential risks, and the supply of advisor quality. They show a preference for acquirer-nation advisors when their benefits outweigh the benefits provided by target-nation advisors and vice versa. Acquirers can exploit these benefits even by hiring less reputable advisors.

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Chapter 4

The effect of cross listing on management forecast specificity and accuracy in the Netherlands[29]

4.1   Introduction

Over the past decades international investments have grown enormously. Firms can raise money outside their home countries and investors can buy securities from companies around the globe (Karolyi, 1998; Stulz, 1999). Despite this strong globalization trend, national economies exhibit major and persistent differences in their economic, legal, and political characteristics. Firms can benefit from differences in international capital markets by obtaining a cross listing.

According to conventional wisdom, firms cross list to attain a lower cost of capital, because their shares become more accessible to the global investment community (Karolyi, 1998). More recent analyses on cross listings relate a firm's motivation to pursue overseas listings to agency conflicts, transparency and disclosure concerns, and other governance problems (e.g., Stulz, 1999; Karolyi, 2006).

In this chapter, we build on this new literature and examine the impact of cross listings in the US or UK on management earnings forecasts disclosed by Dutch firms. We build on the premise that firms bond themselves in terms of legal liability exposure and reputation by cross listing in countries with better governance regimes (Coffee Jr., 1999; 2002), which is the case for Dutch firms that cross list in the US or

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UK (see La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998; 2000). In particular, Dutch firms with such a cross listing are subject to more disclosure requirements and increased legal liability exposure. Also 'reputational intermediaries', like auditors and securities analysts, provide additional scrutiny and monitoring.

Lang, Lins, and Miller (2003) and Lang, Ready, and Yetman (2003) relate bonding to increases in the amount and the quality of information surrounding the cross-listed firm, yet there is not much direct evidence on a firm's transparency and disclosure issues in the context of cross listings (Stulz, 1999; Leuz, 2003; Karolyi, 2006). We aim to provide additional insight in the influence of bonding on a firm's transparency and disclosure quality by examining the impact of US and UK cross listings on a manager's forecast specificity choice (i.e, point, range, open-ended, or qualitative forecasts) and the *ex post* realisation of the forecasts.[30]

As in the Netherlands, firms in the US or UK are not required to disclose earnings forecasts. So, even though Dutch cross-listed firms face additional scrutiny and legal exposure, they disclose their forecasts on a voluntary basis. Managers disclose forecasts voluntarily in an attempt to influence investors' expectations. According to the full disclosure theory, it is optimal for managers to release all value-relevant information, i.e., both good and bad news, otherwise investors will value shares at the lower bound of expectations (Milgrom, 1981). Refinements of the full disclosure theory take into account the cost of disclosure (Verrecchia, 1983; Newman and Sansing, 1993), contracts between managers and shareholders (Dye, 1985), litigation risk (Skinner, 1994), and the quality of the information (Penno, 1997).

Empirical studies predominantly examine management forecasts by US firms.[31] Only a few studies focus on management forecasts by UK firms, as these firms rarely disclose forward-looking information (Frost, 2004). If these UK firms release earnings forecasts, they mainly release forecasts in new share issue prospectuses and during takeover bids (Steele, 1982; Brennan, 2000). Since firms are likely to make different choices in their voluntary disclosures when they face additional scrutiny and legal exposure, it is informative to test the disclosure theory in the Netherlands and make a comparison with the US and UK setting, holding other factors constant.

We provide three hypotheses to test the implications of legal and reputational bonding on the firm's management earnings forecast decisions. We argue that a consequence of the enhanced disclosure and legal regimes abroad is that firms will adapt their disclosure strategies to reduce the likelihood of litigation and to avoid damaging their reputation. Our first hypothesis is that cross-listed firms will become

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[30] Throughout the chapter, we use the terms specificity and precision in relation to the management forecast interchangeably. For the term *ex post* realisation of forecasts, we also use forecast accuracy or the forecast error.
[31] E.g., Skinner (1994), Baginski and Hassell (1997), Bamber and Cheon (1998), Hutton, Miller, and Skinner (2003), Rogers and Stocken (2005), and Cao, Wasley, and Wu (2006).

reticent in providing specific forecasts to avoid making forecast errors. In the second and third hypotheses, we compare the forecasted earnings with the firm's realised earnings. We hypothesize that forecasted earnings of cross-listed firms are more accurate than forecasted earnings of firms without a cross listing. Our third hypothesis predicts that cross-listed firms disclose more conservative forecasts than firms without a cross listing. A reason for more conservative forecasts is that a drop in share price around an earnings announcement brings about a greater litigation threat (Skinner, 1994; Kasznik and Lev, 1995). In addition, firms might suffer a more severe reputation damage when their share price declines.

To examine the influence of cross listings on management forecast decisions, we study 1,896 press releases in which 168 firms disclose 2,781 earnings forecasts in the period 1997 until 2001. Of the 168 firms, 21.4% have a cross listing in the US and/or the UK. To investigate whether legal bonding is more important than reputational bonding, we analyse exchange cross listings (i.e., US ADR level 2 or 3 listings and UK listings on LSE or AIM) and OTC cross listings (i.e., US and UK over-the-counter market) separately. According to Coffee (2002), OTC cross listings have a more limited legal bonding role as firms with such a cross listing do not face additional regulatory exposure. We also distinguish between cross listings in the US and the UK.

In line with our first hypothesis, we find that firms with a cross listing in the US or UK disclose less precise forecasts. This result does not only apply to exchange listings, but also to OTC listings, suggesting that apart from legal bonding, reputational bonding is an important driver for firms to disclose less precise forecasts. In line with our second and third hypothesis, we find that cross-listed firms make smaller forecast errors and are more conservative, i.e., less optimistic, than non-cross-listed firms. Apparently, cross-listed firms reduce their forecast specificity in particular when they are uncertain about their prospects.

When we relate these outcomes to a firm's transparency and disclosure quality, the additional legal exposure and reputational scrutiny have two effects on a firm's voluntary disclosure. First, the quality of the disclosed information of cross-listed firms is greater than that of non-cross-listed firms, since their forecasts are more accurate. Second, managers' concerns about disclosing incorrect and overly optimistic forecasts lead them – in the case of uncertainty about future earnings – to disclose less precise and more conservative information. The latter result also has a positive effect on disclosure quality, because the chosen specificity is a better indication of the uncertainty about the earnings in cross-listed firms. Still, 24% of the forecasts by cross-listed firms are point forecasts, against 29% of the other firms. These interpretations imply that management forecasts by cross-listed firms are more

informative, and thus that legal and reputational bonding have a positive influence on management forecasts in international capital markets.

The remainder of the chapter is organised as follows. Section 2 reviews the studies on cross listings and management forecasts. Section 3 first discusses the institutional background relevant to Dutch firms and then provides our three hypotheses. Section 4 discusses the dataset, defines the variables, and describes the models. Section 5 discusses the results. We conclude in Section 6.

4.2   Literature review and hypotheses

In this section we present our perspective on the literature on cross listings and the effects of cross listings on management earnings forecast specificity and forecast accuracy.

4.2.1   Cross listings

Globalization in capital markets has accelerated rapidly over the past decades. One of the most pronounced consequences is that firms are no longer exclusively listed on the stock exchange in the country of incorporation, but often obtain one or more cross listings in other countries. Previous studies document positive value effects for firms with cross listings. For example, Miller (1999) and Foerster and Karolyi (1999) find that the announcement of a cross listing in the US yields an average abnormal announcement return of 1%. Foerster and Karolyi (2000) find that firms from counties with low accounting standards that cross list on a major US stock exchange outperform their local market over three years after the cross listing. Conventional motivations for the cross-listing premium are market segmentation and liquidity. In segmented markets, a cross listing makes the shares available to a larger investor base, which allows risk sharing and reduces capital costs (e.g., Foerster and Karolyi, 1999; Miller, 1999, Foerster and Karolyi, 2000). Liquidity benefits arise from lower trading costs (Domowitz, Glen, and Madhavan, 1998).

Stulz (1999) challenges these conventional motivations by emphasizing the idea that informational problems and principal-agent considerations can be important drivers of the value effects of cross listings. Karolyi (2006) provides an extensive analysis of the groundwork by Stulz. In this chapter, we focus on the more recent motivations for cross listings.

Coffee Jr. (1999, 2002) introduces the legal bonding motivation, which entails that cross listings by non-US firms on US exchanges increase disclosure and

monitoring because of legal-liability exposure. The greater investor protection at US exchanges reduces agency costs for minority shareholders caused by managers or large shareholders. Among others Doidge (2004) and Doidge, Karolyi, and Stulz (2004) provide empirical evidence of legal bonding. Specifically, in the field of a firm's information environment, Lang, Ready, and Yetman (2003) and Huijgen and Lubberink (2005) find that firms with a cross listing in the US are more conservative in reporting earnings. Lang, Lins, and Miller (2003) find that non-US firms with a NYSE listing have greater analyst coverage and increased analyst forecast accuracy.

Note that recent research finds that cross-listed firms' compliance with US laws can be low and that investors and regulators abstain from taking enforcement actions (Siegel, 2005). Lang, Ready, and Wilson (2006) find that accounting data of cross-listed firms are of lower quality than US firms' accounting data when these firms' main listing is in a country with weak investor protection, despite the fact that all US cross-listed firms are required to follow similar standards as US firms. These findings cast some doubts on legal bonding and have led to the definition of an alternative mechanism, i.e., reputational bonding (Siegel, 2005). Following Diamond's (1991) formal model, firms can show that they deserve a reputational asset in the financial market among parties like investors, security analysts, and the business press, through good insider behaviour over time. Another recent study by De Jong, DeJong, Mertens, and Roosenboom (2007) on Royal Ahold also casts doubt on the influence of legal bonding. In an attempt to explain the failure of the company caused by a major accounting fraud, the authors document that the cross listing did not influence managers, analysts, or investors.[32]

4.2.2   Managers' choice for forecast specificity level

Managers decide on their forecast specificity level before they disclose the forecast. They can choose between point, range, open-ended (i.e., minimum or maximum), and qualitative forecasts. The legal and reputational bonding effects from a cross listing of Dutch firms in the US and the UK may affect forecast specificity. More exposure to potential legal-liability costs can bring about incentives to disclose less precise forecasts (Skinner, 1994; Bamber and Cheon, 1998). Less precise forecasts decreases the likelihood of making forecast errors. Empirical evidence shows that firms in a more litigious environment disclose forecasts less often, less precise and with smaller forecast horizons compared to firms in a less litigious environment (Baginski, Hassell, and Kimbrough, 2002; Frost, 2004). In addition, firms can bond themselves with

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[32] Royal Ahold is a Dutch company whose shares were listed at the New York Stock Exchange from 1993 to 2007. See also footnote 47.

'reputational intermediaries', who provide additional scrutiny and monitoring. As a result, managers might exercise less discretion in their forecast decisions. Our first hypothesis is: *Firms with a cross listing in the US or UK disclose less precise forecasts* (H1).

4.2.3   Forecast accuracy

Forecast accuracy concerns the *ex post* reliability of management forecasts. Previous US studies show that, on average, actual earnings fall short of earnings forecasts.[33] Brennan (2000) finds that actual results are correct or exceed management forecasts disclosed by UK takeover bidders. For UK firms, Steele (1982) reports that non-quantified forecasts reduce uncertainty about future earnings. Specifically, the author finds that the least biased forecasts are predictions of an earnings decrease.

   Skinner (1994) and Kasznik and Lev (1995) show that firms that experience a drop in share price around an earnings announcement face a greater litigation threat. Investors could argue that the firm's disclosure was misleading, either because they were not warned for an earnings surprise or because they disclosed inaccurate forecasts. We expect that firms with a cross listing in the US or UK that release inaccurate forecasts not only experience a stronger litigation threat, but also higher reputation costs, which would provide these firms' managers incentives to avoid misleading investors. Firms mitigate the probability of misleading investors by making less and smaller forecast errors. Accordingly, empirical evidence shows that managers in the US release less optimistic forecasts when they face a higher litigation threat (Rogers and Stocken, 2005). Similarly, we expect that Dutch firms with a cross listing in the US or UK make more conservative earnings forecasts than firms without such a cross listing, leading to smaller forecast errors. By more conservative forecasts, we mean less optimistic forecasts. This reasoning yields two hypotheses. First, we hypothesise that: *The forecast error is smaller for firms cross listed in the US or UK* (H2). Second, we predict that: *The forecast errors are more conservative for firms cross listed in the US or UK* (H3).

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[33] See Pownall, Wasley, and Waymire (1993), Bamber and Cheon (1998), Irani (2001), and Rogers and Stocken (2005). However, McNichols (1989) only finds optimism in one year in the period 1979-1983 and Cao, Wasley, and Wu. (2006) only find optimism in ambiguous cash flow forecasts.

4.3 Management earnings forecasts and cross listings in the Netherlands

Because we analyse management forecasts disclosed by Dutch firms, we provide a description of the legal environment in the Netherlands in Section 3.1. We describe additional requirements for Dutch firms cross listed in the US or UK in Section 3.2. Finally, we pay attention to a specific Dutch feature, i.e., the scale of Mock, in Section 3.3.

4.3.1 Management earnings forecasts and Dutch legislation

According to Dutch law, firms are not required to disclose earnings forecasts. Section 391, subsection 2, book II of the Civil Code states that firms should give a statement in their annual reports concerning their business outlook. [34] Unless there are compelling reasons for not doing so, firms should pay particular attention to investments, financing and personnel, and the circumstances that affect future turnover and profitability. In addition, the Dutch Accounting Standards Board (*Raad voor de Jaarverslaggeving*) issues guidelines for financial reporting, which are not compulsory. Guideline 4.01.108 requires firms to provide statements regarding information on investments, financing, personnel, and the circumstances that affect future turnover and profitability.[35] Finally, Dutch firms that are listed on Euronext Amsterdam have to comply with the listing requirements, which include the recommendation that firms announce their expected turnover or results. Euronext also requires listed firms to immediately announce 'every fact or circumstance which is assumed to have significant influence on the share price' (article 28h Listing Requirements) publicly through a press release.[36]

In the case of malpractice, Euronext gives a warning or a serious warning to the firm. Moreover, investors can start a civil lawsuit against firms and charge them on the basis of committing a wrongful act. In the case of serious misrepresentation, investors with at least €250,000 of the firm's nominal capital or 10% of the firm's shares can also appeal at the Enterprise Chamber (*Ondernemingskamer*), which is a special court and part of the Amsterdam court of law (Klaassen and Schreuder, 1980). A Dutch foundation for minority shareholders (*Vereniging van Effectenbezitters*) often expresses concerns about non-compliance with article 28h (e.g., *De Financiële*

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[34] Dutch listed companies have to comply with International Financial Reporting Standards since 2005.
[35] Dutch Accounting Standards Board (2005).
[36] As of October 1, 2005, this is referred to as article 47 of the Market abuse Act (*Besluit Marktmisbruik)* of the *Autoriteit Financiële Markten,* i.e. the Dutch Financial Markets Authority who is responsible for regulating behaviour on the financial markets in the Netherlands (*Wet Toezicht Effectenverkeer*, 2005).

Telegraaf of 11 October 2001). The association argues that authorities do not intervene adequately. Given the legal requirements and the listing contract, most firms listed on Euronext Amsterdam voluntarily disclose earnings forecasts.

Prior studies on management forecast accuracy of Dutch firms examine forecasts published in annual reports. Hassink *et al.* (1997) document that 62% of the forecasts are correct, 13% are underestimated, and 25% are overestimated. Their results suggest that decreasing earnings forecasts are more reliable than increasing earnings forecasts and that the increasing earnings forecasts are more reliable than predictions of no change in earnings. Furthermore, larger firms provide more correct forecasts than smaller firms. Dorsman, Langendijk, and Van Praag (2003) examine open-ended forecasts with qualitative statements to calculate forecast errors. To include all the adjectives used in the director's reports of the annual reports, the authors translate descriptive forecasts into quantitative forecasts. They find an average forecast error - defined as net income minus the midpoint of the range forecast - of 0.0030. Moreover, 31% of the forecasts are underestimated forecasts and 69% are overestimated forecasts. Because the authors use the midpoint of the range forecasts as reference point, they find either overestimations or underestimations, and no correct forecasts.

4.3.2   Management earnings forecasts for cross-listed firms

Many Dutch firms have obtained cross listings on international exchanges, which affect their disclosure requirements in various degrees. We focus on four types of listings, i.e., exchange cross listings in the US and UK and over-the-counter (OTC) listings in the US and UK.

The US exchange cross listings consist of level 2 and 3 ADR programmes, which are ADR issues in connection with a listing (on the AMEX or NYSE) or a quotation (on the Nasdaq) of either existing shares in the US (i.e., level 2) or a US public offering of the underlying shares (i.e., level 3). Like other foreign firms, Dutch firms with such a listing are exposed to legal liability under the US federal securities laws.

Firms that offer securities on the NYSE or Nasdaq must fulfill a wide range of disclosure and financial statement requirements. The US Securities Act of 1933 (US Securities Act) and the Securities Exchange Act of 1934 (US Exchange Act) state the main disclosure requirements.[37] Under both Acts, the US Securities and Exchange Commission (SEC) require firms (level 2 and 3 ADR) to file an annual report on Form 20-F, which contains detailed financial and non-financial disclosure

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[37] After our sample period, on July 30 2002, the US Sarbanes-Oxley Act was signed into law, which significantly modified the securities laws (see the website of the SEC; http://www.sec.gov/about/laws.shtml). With this Act, firms must fulfill even more stringent disclosure requirements (for more details on the disclosure requirements, see Title IV of the Act).

requirements. Firms also have to file a current report on Form 6-K, which contains all required material information on 1) information made or required to be made public under their local (in our case Dutch) Law; 2) information filed or required to be filed publicly with the exchange where the securities are listed; or 3) information distributed or required to be distributed to security holders. The firms with ADR level 2 or 3 listings are subject to SEC enforcement and civil liability under Section 18 of the US Exchange Act, which subjects an issuer to liability for making false or misleading statements in its Form 20-F.[38] SEC Rule 10b-5, promulgated under the Exchange Act, provides a broader basis for liability in securities transactions and also includes a firm's annual report prepared under local GAAP.[39]

The second type of exchange cross listing is a UK listing on the London Stock Exchange Main Market (LSE) or on the Alternative Investment Market (AIM). The Financial Services and Markets Act 2000 (FSM Act 2000), which replaced the Financial Services Act 1986 in November 2001, contains a wide range of provisions concerning the regulation of financial markets and listing of firms in the UK.[40] The Financial Services Authority (FSA) is the principal regulator under the Act.

Under both the old Financial Services Act and the new FSM Act 2000, investors that suffer from incorrect or misleading statements can hold persons that are responsible for listing particulars or prospectuses liable. The legal liability exposure of cross-listed firms depends on which market they are cross listed. Firms with a listing on the LSE have to comply with the listing rules from the FSA. The FSA has published listing rules that contain detailed instructions for disclosing profit forecasts. If listed firms publish a forecast, they must either update or repeat the statement in the listing particulars (Section 81 FSM Act 2000). Particularly relevant for management forecasts is Section 47(2) of the Financial Services Act 1986 (superseded by section 397 of the FSM Act 2000), which states in Paragraph 3 that "any person who does any act or engages in any course of conduct which creates a false or misleading impression as to the market in or the price or value of any relevant investments is guilty of an offence if he does so for the purpose of creating that impression and of thereby inducing another person to acquire, dispose of, subscribe for or underwrite those investments or to refrain from doing so or to exercise, or refrain from exercising,

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[38] Exchange Act Rule 12g3-2(b) provides an exemption from the registration and periodic reporting requirements. The foreign issuer must submit an application to the SEC and must furnish certain (financial) information that the issuer has made public. This exemption, however, does not relieve a firm from other anti-fraud provisions contained in the securities laws.

[39] Rule 10b-5 prohibits (a) employing any device, scheme, or artifice to defraud, (b) making any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading, or (c) engaging in any act, practice, or course of business which operates or would operate as a fraud or deceit upon any person, in connection with the purchase or sale of any security.

[40] The FSM Act 2000 is available on: http://www.opsi.gov.uk/acts/acts2000/ukpga_20000008_en_1.

any rights conferred by those investments." [41] Apart from providing relevant information, which is not misleading or inaccurate, it is a fundamental principle of the UK Listing Rules that the market should be informed without delay of all relevant information or any new developments which may affect the value of the securities.[42] The Disclosure Rules and Transparency Rules (DTR) of the FSA contain also a specific dissemination of information requirement (DTR 6.3). [43]

The Alternative Investment Market (AIM) is a submarket of the LSE that has a more flexible regulatory system compared to the main market.[44] Firms listed on the AIM are not bound to the full disclosure and listing rules of the FSA, though AIM firms have to comply with the AIM Rules which contain extensive disclosure requirements.[45] An AIM firm must take reasonable care to ensure that any information it notifies is not misleading, false, or deceptive and does not omit anything likely to affect the import of such information (AIM Rule 10). Under the AIM rules, firms must also issue a notification of price sensitive information without delay which, if made public, would be likely to lead to a substantial movement in the price of its AIM securities (AIM Rule 11). The exchange maintains its own rules. The exchange may suspend the trading of AIM securities (AIM Rule 40). If the exchange considers that an AIM firm has contravened the rules, the exchange can issue a warning notice, fine the firm, censure the firm, publish the fact that it has been fined or censured, and cancel the admission of its AIM securities (AIM Rule 42).

The third and fourth distinguished levels are the non-regulated over-the-counter (OTC) markets in the US and the UK, respectively. The unregistered transactions on the OTC do not require the firm to meet the aforementioned specific disclosure and financial statement requirements. In the US, firms can trade Level 1 ADRs in an OTC market, where they have to meet a minimum amount of requirements.[46] In the case of trading securities in a non-regulated UK market, such as in the International Order Book (IOB), the FSA leaves the legal responsibility with the home countries.

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[41] Section 397(3), FSMA; formerly section 47(2), FSA 1986.

[42] http://www.fsa.gov.uk.

[43] On July 2005 the DTR and the listing and prospectus rules came into effect. The previous versions of the rules where changed in order to implement the European Market Abuse Directive (2003/6/EC) and the European Prospectus Directive (2003/71/EC). Before July 2005, Chapter 9 (Continuing Obligations) of the old Listing Rules contained the requirements about the disclosure of information. The Directive regime is conceptually and operationally similar to the former Listing Rules regime.

[44] The AIM, which replaced the Unlisted Securities Market (USM) in June 1995, is regulated by the London Stock Exchange (LSE). The FSA supervises LSE.

[45] The AIM Rules for companies are available on the website of the LSE: http://www.londonstockexchange.com.

[46] During 1999, the SEC accepted a new rule requiring OTC-listed firms to file the same documents as US exchange listed firms. See for example Bushee and Leutz (2005), who investigate the effects of these new disclosure requirements. In our empirical analyses we conduct tests to examine whether these regulatory changes impact our results (see footnote 55).

We expect that the strongest bonding impact arises for Dutch firms with an exchange cross listing in the US or UK, as these firms expose themselves to stricter legal standards. According to Skinner (1994), investors mostly sue US firms and managers after disclosures that are followed by large share price declines. Coffee Jr. (2002) argues that more enforcement occurs by means of informal contacts, warnings, and administrative enforcement. Although Siegel (2005) argues that SEC actions against cross-listed firms are rare, some Dutch firms have been confronted with the consequences of the increased legal liability as a consequence of their cross listing in the US.[47] As for UK cross listings, Frost (2004) characterizes the UK as a country where legal liability is relatively high, which makes firms more hesitant to release forward looking information, yet we are not aware of any suits against Dutch firms in the UK.

Cross listing on the OTC market in the US and UK probably have a weaker impact on management forecasts. Coffee (2002) argues that, in spite of not exposing themselves to stricter legal requirements, OTC-listed firms still bond themselves by their presence in the market, though to a lesser extent than exchange-listed firms. Moreover, similar to exchange-listed firms, OTC-listed firms experience the additional scrutiny by 'reputational intermediaries'. These arguments are consistent with Miller's (1999) results that firms that announce a US exchange cross listing generate higher abnormal returns than firms that announce a US OTC cross listing. However, the accounting quality of US OTC-listed firms is more similar to local non-cross-listed firms than to US exchange-listed firms (Lang, Ready, and Yetman, 2003).

4.3.3   The scale of Mock

The scale of Mock is a unique feature of the Dutch setting, which we have to take into account in our analyses on management forecasts. In 1984, investor relations advisor Harry Mock defined a scale of qualitative words and corresponding percentages. Within several years after its publication, the scale became a generally accepted standard within the Netherlands (*Algemeen Dagblad* of 29 March 1997 and *Het*

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[47] Over the past two decades, investors filed charges against Dutch listed firms for not immediately disclosing price sensitive information in four cases (Effect, 2004; 2006). In 1990, investors sued Philips for being too optimistic about future earnings. This ended up in a settlement with US investors of $9.25 million in 1990 and a settlement with Dutch investors of €4.54 million in 1999. In a second case, Dutch investors sued Content for insider trading and agreed on a settlement of €1.32 million in 2000. Baan Company was involved in an accounting scandal in 1998 and reached a settlement of $32.5 million with US investors in 2003. There is still no settlement for the Dutch investors. In 2006, US and Dutch investors agreed on a settlement of $1.1 million with Ahold in a US class action suit for issuing false and misleading information and for the firm's failure to disclose material information that makes its prior statements not misleading in the period 2001-2003. The fact that three out of the four cases concerns firms with a cross listing in the US suggests that such a cross listing enhances a Dutch firm's legal liability exposure.

Financieele Dagblad of 28 August 1999). CFOs, investor relations managers, analysts, and investors use the scale to translate adjectives into percentages. An English version of the scale appeared in 1997 (Mock, 1999).

The Mock scale consists of eight qualitative statements, such as 'limited' and 'significant', and allocates exact percentages to these statements. Appendix 4A shows the scale of Mock. For example, according to the scale of Mock a prediction of 'significantly' higher net earnings is equivalent to a forecast of an earnings increase of 12 to 20%. An investor that is not aware of the scale of Mock would interpret this prediction as an open-ended forecast in which the earnings are predicted to be higher. However, Dutch investors know that managers may refer to the scale of Mock and interpret the prediction as a range forecast in which the earnings will increase 12 to 20%.

While the percentages on the scale of Mock are more informative than the qualitative statements, the adjectives and percentages are nearly synonymous for the Dutch financial community. At the same time, the use of the scale is a specific from of 'soft talk' (Hutton, Miller, and Skinner, 2003) as investors can only speculate about whether managers actually use the Mock scale. Clearly, the Mock scale provides Dutch managers a degree of freedom in exercising discretion in their forecasts, because managers can introduce ambiguity.

4.4   Data and variables

This section discusses the data sources and the definitions of the variables that we use in our empirical examination.

4.4.1   Data

We obtain management forecasts for the period from 1997 until 2001, which we collect from the press releases disclosed by firms listed on Euronext Amsterdam. We perform a keywords search and read the title of each press release. We consider each press release that includes a forecast that is attributable to the management of the forecasting firm. We include all annual forecasts of EPS, net income, EBIT, EBITA, EBITDA, and sales that firms disclosed between the start of the fiscal year and the annual earnings announcement. If one press release contains several management forecasts, we record all of them. Furthermore, we analyze all forecast specificity

levels, i.e., point, range, open-ended, and qualitative forecasts. [48] This procedure provides us with a sample of 2,951 management forecasts disclosed in 2,014 press releases by 177 firms.

Throughout the chapter, our level of analysis is a press release. If a press release contains more than one forecast for the same period, we apply the following ordering: EPS, net income, EBIT, EBITA, EBITDA, sales. In 46 press releases, firms disclose a preannouncement for the current year and an initial forecast for the next year. Since both forecasts apply to different fiscal years, we treat these forecasts as two observations. Our results do not change if we choose to include the preannouncements or the initial forecasts only.

For each firm we obtain information on cross listings from the yearly *Gids bij de Officiële Prijscourant.* We obtain accounting data from the REACH database (Review and Analysis of Companies in Holland) and WorldScope. We first derive prior period results and final results from press releases. For the results that firms do not report in press releases, we use REACH or WorldScope. We derive analyst information from I/B/E/S and stock returns from Datastream. The ownership data is from yearly handbooks of Dutch listed firms (*Handboek Nederlandse Beursfondsen*).

4.4.2 Variables

Table 4.1 provides an overview of the definitions and sources of the variables in our study. We use a dummy variable *Cross listing in US or UK* with the value of one when firms are cross listed in the US and/or the UK, and zero otherwise. We expect that cross listings in the US have a stronger impact on forecast decisions than UK cross listings and that the impact of an exchange cross listing outweighs the impact of an OTC cross listing. Based on this hierarchy we define four additional dummy variables. First, we define the dummy variable *US Exchange listing* to have a value of one in case the firm has an ADR 2 or 3 listing in the US, and zero otherwise. Second, the dummy variable *UK Exchange listing* has a value of one in case the firm is listed in the UK on the LSE or AIM market and does not have a US exchange cross listing, and zero otherwise. Third, the dummy *US OTC listing* equals one in case the firm has a level 1 ADR listing (including OTC Bulletin Board companies) and does not have a UK exchange listing, and zero otherwise. Fourth, the dummy *UK OTC listing* equals

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[48] We find that 9 firms explicitly refer to the scale of Mock in 44 forecasts. In our analysis we consider forecasts with the qualitative Mock adjectives and without any reference to the scale of Mock as a separate group. It is not clear whether the forecasts where managers explicitly refer to the scale of Mock must be divided into this separate group of Mock forecasts or into the group range forecasts, as the percentage increase/decrease in predicted earnings is already established by explicitly referring to the Mock scale. Therefore, we exclude these observations.

Table 4.1
Explanation of variables

Variable	Explanation
Cross listing in US or UK	Dummy variable equals one when the firm has a cross listing in the US or UK, zero otherwise. With a cross listing, we refer to ADR level 1, 2, and 3 listings, LSE listings, AIM listings, and the UK OTC listings. *Source: 'Gids bij de Officiële Prijscourant 1997/1998-2001/2002'*
US exchange listing	Dummy equals one if the Dutch listed firm has an exchange cross listing in the US. With an exchange cross listing, we refer to the ADR 2 and ADR 3 listings. If the firm has an exchange listing or OTC listing in the UK in addition to the exchange listing in the US, the dummy remains one. In all other cases, the dummy equals zero. *Source: see cross listing in US and UK.*
UK exchange listing	Dummy equals one if the Dutch listed firm has an exchange cross listing in the UK. With an exchange cross listing, we refer to a listing on LSE and AIM. If the firm also has an OTC listing in the US, the dummy remains one. However, if the firm also has an exchange listing in the US, the dummy becomes zero. In all other cases, the dummy equals zero. *Source: see cross listing in US and UK.*
US OTC listing	Dummy equals one if the Dutch listed firm has an OTC listing in the US via an ADR 1 listing. If the firm has an exchange listing in the UK, the dummy becomes zero. In all other cases, the dummy equals zero. *Source: see cross-listing in US and UK.*
UK OTC listing.	Dummy equals one if the Dutch listed firm has an OTC listing in the UK. If the firm has an exchange listing or OTC listing in the US, the dummy becomes zero. In all other cases, the dummy equals zero. *Source: see cross-listing in US and UK.*
Specificity type	Forecast specificity type equals one for qualitative forecasts, two for open-ended forecasts, three for open-ended forecasts that contain Mock words, four for range forecasts with Mock words, five for the other range forecasts, and six for point forecasts.
Management forecast error	(Realised earnings - forecasted earnings)/absolute (forecasted earnings). We can only measure forecast errors of point, range, and open-ended forecasts. When an open-ended forecast is incorrect, we take the lower bound (upper bound) of the minimum (maximum) forecast as forecast value. *Source: Press releases as provided by Euronext, Worldscope, and REACH.*
Declining earnings trend	Dummy variable equals one when the firm's earnings decline in the year of the forecast relative to the previous year. The dummy equals zero otherwise. *Source: Worldscope and REACH*
Earnings variability	Variance of a firm's net income standardised by its market capitalisation over a period of four years prior to the fiscal year to which the forecast pertains. *Source: Worldscope and REACH*
Firm size	Natural log of the beginning of the year market capitalisation. *Source: Worldscope*
Horizon	The number of days between the management forecast disclosure and the fiscal year end to which the forecast pertains.

Number of analysts following	The number of analysts that follow a firm during the fiscal year of the forecast. *Source: I/B/E/S.*
Sign of the news	Dummy variable that equals one if the forecast is good news and zero in case of bad news. We classify news as good (bad) news when the cumulative abnormal returns over three days around the forecast are positive (negative). We calculate the cumulative abnormal returns via the market model as described by MacKinlay (1997). The estimation period starts 120 days prior to the forecast until 20 days prior to the forecast. We use the market index of Euronext Amsterdam to estimate the market returns. *Source: Datastream*
Timeline of the forecast	The timeline of the forecast equals one for initial forecasts, two for maintenance or revisions of previous forecasts, and three for preliminary earnings estimates. Preliminary earnings estimates are forecasts that firms disclose after the fiscal period end, but before the official disclosure of the annual results.
Percentage block shareholders	The total percentage of a firm's shares that outside shareholders hold in a block of at least five percent. We exclude block holdings of directors of the firm. *Source: 'Handboek Nederlandse Beursfondsen 1996-2002'*
Tobin's q	A proxy for a firm's growth opportunities is the Tobin's q, which we calculate as the market value of a firm divided by the book value of the firm as defined by Perfect and Wiles (1994). In the Netherlands, firms base the value of their assets either on its replacement value or on its historical costs. In case of the replacement value, no change was necessary. However, in case of historical costs, we adjust this value towards its replacement value as described in the study of De Jong (2002). *Source: Worldscope and REACH.*

one in the case of a listing on the OTC market in the UK and no other cross listings in the UK or US, and zero otherwise.

In the definition of the variable *Specificity type* we illustrate the relevance of the scale of Mock, because Mock words make open-ended forecasts more precise. For example, 'a modest increase' implies an open-ended minimum forecast (minimum 0% increase), while, when we take into account the scale of Mock, the forecast becomes the range from 2 to 4% increase. Alternatively, 'a sharp increase' is an open-ended forecast without and with Mock (i.e., minimum 0% increase and an increase of more than 45%, respectively). The inclusion of Mock interpretations always makes the forecast more informative. This effect induces two groups for Mock: one group where the scale of Mock turns an open-ended forecast into a range forecast and one group where open-ended forecasts remain open-ended when interpreting the scale. The variable Specificity type takes on a value of one for qualitative forecasts, two for open-ended forecasts (minimum and maximum), three for open-ended forecasts that include words from the scale of Mock, four for range forecasts that include words from the scale of Mock, five for range forecasts, and six for point forecasts.

We include several variables that capture characteristics of the forecast. The variable *Timeline of the forecast* takes on the value of one for the first forecast disclosed during the fiscal year, two for maintenance or revisions of forecasts, and three for preliminary earnings estimates/preannouncements. Similar to Baginski, Hassel, and Waymire (1994), the preannouncement period starts after the fiscal period end and ends at the earnings announcement day. We define *Horizon* as the number of days between the forecast and the fiscal year end. The *Sign of the news* is based on a classification of forecasts as good (bad) news when investors respond positively (negatively) towards the news (e.g., Baginski, Hassel, and Waymire, 1994; Baginski and Hassell, 1997). The dummy takes on a value of one for good news forecasts and zero for bad news forecasts.

We include several firm characteristics as control variables. We calculate *Firm size* as the natural log of the firm's market capitalisation at the beginning of the fiscal year to which the forecast pertains (see also Baginski and Hassell, 1997; Bamber and Cheon, 1998). To proxy for growth opportunities, we use *Tobin's q*, as defined by Perfect and Wiles (1994). Tobin's *q* is the market value of the firm divided by the replacement value of the assets. In the Netherlands, firms base the value of their assets either on their replacement value or on their historical costs. In the first case, no change was necessary. In the latter case, we adjust this value towards its replacement value as described in the study of De Jong (2002). The variable *Number of analyst following* is defined as the number of analysts that follow a firm during the year of the forecast. We define *Percentage block shareholders* as the percentage of shares held in a block outside the firm. To have a block of shares, a person must directly or indirectly possess at least 5% of the firm's outstanding shares.[49] We focus on outside block holdings and exclude block holdings of directors of the firm. *Earnings variability* is the variance of a firm's net income standardised by its end of the year market capitalisation over four years prior to the forecasting year. If the firm's net income is not available for the previous four years, we move the period one year forward or use three years instead. The dummy variable *Declining earnings trend* gets the value one if firms experience a declining earnings trend during its forecasting year and the value of zero otherwise. Finally, we define dummy variables for each sample year and the industry groups based on two-digit SIC industry codes.

The requirement that all information on firm and forecast characteristics should be available reduces our sample by 98 press releases. In addition, our sample has one firm with an extreme value in its earnings variance (i.e., earnings variance equals 119.6) and four firms with an extreme Tobin's *q* in a forecast year (i.e., Tobin's *q*

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[49] The 5% threshold is incorporated in the *Wet Melding Zeggenschap*, i.e., the Dutch implementation of EU transparency directives. It should be noted that shareholders of real estate agencies have a threshold of 25% above which they have to report their holdings.

greater than 7, which is a deviation of more than four standard deviations from the average Tobin's q). These two firms disclose 20 press releases (i.e., five and 15, respectively) in the year in which we observe the extreme values. After excluding these observations, our final sample consists of 2,781 forecasts disclosed in 1,896 press releases by 168 firms.

4.5   Results

We first report summary statistics of Dutch management forecasts in Section 5.1, followed by the results of the models explaining managers' choice for forecast precision in Section 5.2 and forecast accuracy in Section 5.3.

4.5.1   Statistics

To get an impression about the proportion of Dutch listed firms with a cross listing in the US and/or UK, Panel A of Table 4.2 shows the distribution of the number of forecasting firms per type of cross listing.[50]

Out of the total sample of 168 firms, 36 firms (i.e., 21.4%) have a cross listing (i.e., exchange and/or OTC listing) in the US, the UK, or in both countries. The group of firms with a cross listing in both countries consists of eight US exchange-listed firms, out of which six firms also have a UK exchange listing and two other firms also have a UK OTC listing. Eight firms solely have a US exchange listing and two firms solely have a UK exchange listing. The sample further contains 11 firms with only a US OTC listing and seven firms with only a UK OTC listing. In our subsequent analyses, we refer to US exchange-listed firms as the total of 16 US exchange-listed firms, we refer to UK exchange-listed firms as the two UK exchange-listed firms without a US exchange listing, and we refer to UK OTC-listed firms as the seven UK OTC-listed firms without a US exchange or OTC listing (see Section 4.2).

Panel B provides the distribution of press releases per type of cross listing. We find a slightly higher percentage of press releases disclosed by cross-listed firms relative to the percentage of cross-listed firms in our sample (i.e., 26.3% versus 21.4%), which implies that cross-listed firms disclose relatively more press releases with forecasts than non-cross-listed firms. This difference applies to all types of cross listings, except for the UK exchange-listed firms without a US exchange listing. A potential explanation for these differences is that the greater scrutiny forces cross-

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[50] Because 11 out of the 168 firms changed their type of cross listing during our sample period, this table provides the cross-listing status of firms when they first occur in the sample period.

listed firms to disclose forecasts more often. Alternatively, greater potential litigation costs might force US exchange-listed firms to update their forecast more often.

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Table 4.2

Distribution of cross-listed firms
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Panel A presents the number of firms with a US exchange listing, and/or a UK exchange listing, a US OTC listing, and/or a UK OTC listing. Panel B presents the distribution of press releases as disclosed by firms with a US exchange listing, and/or a UK exchange listing, a US OTC listing, and/or a UK OTC listing. The percentages represent the percentage of (press releases from) cross-listed firms relative to the total number of (press releases from) firms in our sample.

Panel A: Distribution of the number of firms

	US exchange listing	UK exchange listing	US OTC listing	UK OTC listing
US exchange listing	8 (4.8%)			
UK exchange listing	6 (3.6%)	2 (1.2%)		
US OTC listing	0 (0.0%)	0 (0.0%)	11 (6.5%)	
UK OTC listing	2 (1.2%)	0 (0.0%)	0 (0.0%)	7 (4.2%)
Total	16 (9.5%)	2 (1.2%)	11 (6.5%)	7 (4.2%)

Total number of cross-listed firms:	36 (21.4%)
Total number of non-cross-listed firms:	132 (78.6%)
Total number of firms:	168

Panel B: Distribution of the number of press releases

	US exchange listing	UK exchange listing	US OTC listing	UK OTC listing
US exchange listing	133 (7.0%)			
UK exchange listing	108 (5.7%)	16 (0.8%)		
US OTC listing	0 (0.0%)	0 (0.0%)	135 (7.1%)	
UK OTC listing	17 (0.9%)	0 (0.0%)	0 (0.0%)	89 (4.7%)
Total	258 (13.6%)	16 (0.8%)	135 (7.1%)	89 (4.7%)

Total number of press releases disclosed by cross-listed firms:	498 (26.3%)
Total number of press releases disclosed by non-cross-listed firms:	1398 (73.7%)
Total number of press releases:	1896

Panel A of Table 4.3 provides statistics per press release for the sample of firms without cross listings and the sample of firms with cross listings. On average, non-cross-listed firms disclose 1.453 forecasts in each press release.[51] Firms in our sample often use the scale of Mock: on average, each press release contains 0.21 forecasts with a word from the scale. This result indicates that firms use a Mock adjective in about one out of seven forecasts (i.e., 1.453/0.21).[52] Cross-listed firms include slightly more forecasts in each press release, but use fewer Mock adjectives. The forecast horizons are similar for cross-listed and non-cross-listed firms, i.e., about 170 days before the firm's fiscal year end. The firm size and the number of analysts show that cross-listed firms are larger than the other firms. For example, the median number of analysts that follow a firm is 38 for cross-listed firms and only 9 for the firms without a US or UK listing. The q's do not differ strongly between the two samples, i.e., an average q of 1.7 and 1.6, respectively. The cross-listed firms have lower blockholdings, i.e., on average 25% versus 40% for the other firms. A potential explanation for this difference is that on average cross-listed firms are larger firms. Finally, the earnings variability and the fraction of firms with a declining earnings trend do not differ strongly between the two samples.

Panel B of Table 4.3 shows the frequencies of forecast characteristics in the press releases. The highest degree of forecast specificity is a point forecast, which is issued in 29% of the press releases of firms without a cross listing and 24% of the press releases of cross-listed firms. Overall, we do not find strong differences in specificity in the bivariate comparison. The messages in which the firms publish their forecasts are mainly earnings announcements. Only 10% (not cross listed) or 6% (cross listed) of the sample consists of press releases of which the main purpose is the forecast. For both sets of firms our observations are almost evenly split between good and bad news.

Over the timeline of the forecast, we find that 35% of the forecasts from non-cross-listed firms are initial forecasts, while 56% are revisions, and 9% are preliminary estimates, i.e., forecasts after the end of the book year. Cross-listed firms disclose initial forecasts less often than non-cross-listed firms (i.e., 29% of their forecasts), while they provide updates in terms of a maintenance or revision of their previous forecast more often (i.e., 63% of their forecasts). This result might explain the relatively larger number of press releases with forecasts disclosed by cross-listed

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[51] The average number of forecasts is higher than one, because some firms disclose more than one forecast in a press release. For instance, if a firm discloses an EBIT forecast and an EPS forecast, we count two forecasts.

[52] The inclusion of Mock adjectives can be coincidental. To test whether this is the case, we collect information on adjectives that the Mock scale does not include. Although many more adjectives outside the scale exist, we find that the number of forecasts with adjectives that do not exist in the scale of Mock is 0.042 for non-cross-listed firms and 0.054 for cross-listed firms. These numbers indicate that non-cross-listed firms use non-Mock adjectives in about one out of 35 forecasts (i.e., 1.452/0.042). For cross-listed firms, this number is one out of 28 (i.e., 1.505/0.054). This is a striking finding, which emphasises the widespread use of the scale of Mock in the Netherlands.

Table 4.3
Descriptive statistics and distribution of management forecasts

Panel A presents the mean, median, minimum, maximum, standard deviation and the number of observations of the variables per press release for the sample of firms with cross listing in the US or UK and for the sample of firms without such a cross listing. If press releases contain forecasts for two different timelines (e.g., initial forecast and preannouncement), we document both forecasts. Mock words are words from the scale of Mock as reported in Appendix 4A. We define the variables more completely in Table 4.1. Panel B provides the distribution of press releases with forecasts from cross-listed and non-cross-listed firms per forecast specificity group, message type, phase in the timeline, and sign of the news.

Panel A: descriptive statistics per press release

	Not cross listed			Cross listed		
	Mean (Median)	St.dev.	N	Mean (Median)	St.dev.	N
Number of forecasts	1.453 (1.000)	0.670	1398	1.506 (1.000)	0.729	498
Number of forecasts with Mock words	0.211 (0.000)	0.507	1398	0.143 (0.000)	0.428	498
Forecast horizon	170 (146)	112	1398	171 (153)	107	498
Firm size	18.683 (18.737)	1.521	1398	22.288 (22.580)	1.609	498
Tobin's q	1.722 (1.261)	1.276	1398	1.648 (1.340)	0.922	498
Number of analysts following	11.476 (9.000)	9.639	1398	34.974 (38.000)	13.407	498
Percentage block shareholders	39.924 (38.240)	27.772	1398	24.877 (23.000)	17.596	498
Earnings variability	0.029 (0.001)	0.187	1398	0.042 (0.000)	0.412	498
Declining earnings trend	0.320 (0.000)	0.467	1398	0.329 (0.000)	0.470	498

Panel B: distribution per press release

	Not cross listed		Cross listed	
	Amount	(%)	Amount	(%)
Total amount	1398		498	
Forecast specificity				
Point	406	(29%)	119	(24%)
Range	100	(7%)	69	(14%)
Range Mock	188	(13%)	46	(9%)
Open ended Mock	28	(2%)	7	(1%)
Open ended	597	(43%)	226	(45%)
Qualitative	79	(6%)	31	(6%)
Total	1398	(100%)	498	(100%)
Message type				
Annual earnings announcement	394	(28%)	113	(23%)
First quarter earnings announcement	59	(4%)	56	(11%)
Half year earnings announcement	428	(31%)	124	(25%)
First 9 months earnings announcement	65	(5%)	69	(14%)
Preliminary earnings estimate	150	(11%)	56	(11%)
Shareholders' meeting	73	(5%)	20	(4%)
Forecast revision/maintenance	135	(10%)	28	(6%)
Other	94	(7%)	32	(6%)
Total	1398	(100%)	498	(100%)
Sign of the news				

Good news forecasts	695	(50%)	242	(49%)
Bad news forecasts	703	(50%)	256	(51%)
Total	1398	(100%)	498	(100%)
Timeline of the forecast				
Initial management forecast	491	(35%)	146	(29%)
Maintenance or revision	777	(56%)	316	(63%)
Preliminary earnings estimate	130	(9%)	36	(7%)
Total	1398	(100%)	498	(100%)

firms relative to non-cross-listed firms. Greater scrutiny and potential litigation costs may induce these firms to disclose updates more often. In untabulated analyses we split the sample of cross-listed firms into the four different types of cross listings and find that US exchange-listed firms disclose most updates (i.e., 67%) and UK OTC-listed firms disclose the least updates (i.e., 56%). As US exchange-listed firms are prone to the highest potential legal liability costs, these findings support the potential litigation costs explanation.

4.5.2   Determinants of forecast specificity

Table 4.4 reports summary statistics of the explanatory variables for forecast specificity for the full sample and per forecast specificity type. The statistics per specificity group show that cross-listed firms disclose relatively more range, open-ended, and qualitative forecasts than point and Mock (open-ended and range) forecasts.

The distribution is similar in the four separate groups of cross-listed firms, with range forecasts that occur most often among US exchange-listed firms, followed by UK exchange-listed firms and UK OTC-listed firms.

We observe that firms that disclose preliminary earnings estimates provide the most precise forecasts, followed by firms that revise or maintain their previous forecast. Firms that release an initial forecast disclose the least precise forecasts. This is consistent with Baginski and Hassell's (1997) result that more precise forecasts tend to be issued later in the period. The average forecast horizon is 170 days, which indicates that firms disclose their average forecast during the third quarter of the fiscal year. Consistent with increased uncertainty early in the fiscal year, the average forecast horizon appears to be longer for less specific forecasts, i.e., 216 days for qualitative forecasts decreasing to 104 days for point forecasts.

We do not observe patterns in the relations between the sign of the news or firm size and specificity. Firms that disclose range-Mock forecasts have a Tobin's q that is remarkably higher than that of firms that disclose other forecast specificity types.

Table 4.4
Statistics per forecast specificity type

This table presents the mean, median, and standard deviation of all explanatory variables in the forecast specificity regression for the total sample and per forecast specificity type. We define the variables more completely in Table 4.1. The number of observations reflects the number of observations available per subsample.

		Full sample	Point	Range	Range Mock	Open-ended Mock	Open ended	Qualitative
Cross listing in US/UK	Mean	0.263	0.227	0.408	0.197	0.200	0.275	0.282
	Median	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	St.dev.	0.440	0.419	0.493	0.398	0.406	0.447	0.452
- US exchange listing	Mean	0.136	0.122	0.254	0.128	0.143	0.124	0.127
	Median	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	St.dev.	0.343	0.327	0.437	0.335	0.355	0.330	0.335
- UK exchange listing	Mean	0.008	0.006	0.047	0.000	0.000	0.006	0.000
	Median	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	St.dev.	0.091	0.075	0.213	0.000	0.000	0.078	0.000
- US OTC listing	Mean	0.071	0.069	0.047	0.043	0.000	0.090	0.064
	Median	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	St.dev.	0.257	0.253	0.213	0.203	0.000	0.286	0.245
- UK OTC listing	Mean	0.047	0.030	0.059	0.026	0.057	0.055	0.091
	Median	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	St.dev.	0.212	0.172	0.237	0.158	0.236	0.227	0.289
Timeline: initial forecast	Mean	0.336	0.185	0.207	0.274	0.314	0.454	0.509
	Median	0.000	0.000	0.000	0.000	0.000	0.000	1.000
	St.dev.	0.472	0.388	0.406	0.447	0.471	0.498	0.502
Timeline: revision/maintenance	Mean	0.576	0.560	0.781	0.688	0.600	0.525	0.482
	Median	1.000	1.000	1.000	1.000	1.000	1.000	0.000
	St.dev.	0.494	0.497	0.415	0.464	0.497	0.500	0.502
Timeline: preannouncement	Mean	0.088	0.255	0.012	0.038	0.086	0.021	0.009
	Median	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	St.dev.	0.283	0.436	0.108	0.193	0.284	0.142	0.095
Forecast horizon	Mean	170	104	173	176	141	204	216
	Median	148	111	149	153	123	230	253
	St.dev.	111	112	94	98	105	99	98
Sign of the news	Mean	0.506	0.501	0.408	0.594	0.400	0.513	0.473
	Median	1.000	1.000	0.000	1.000	0.000	1.000	0.000
	St.dev.	0.500	0.500	0.493	0.492	0.497	0.500	0.502
Ln(firm size)	Mean	19.630	19.754	20.776	19.257	18.716	19.548	18.975
	Median	19.454	19.674	20.387	18.928	17.676	19.337	18.540
	St.dev.	2.214	2.034	2.301	1.998	2.341	2.233	2.479
Tobin's q	Mean	1.702	1.691	1.617	1.877	1.698	1.702	1.515

	Median	1.297	1.324	1.127	1.386	1.104	1.296	1.350
	St.dev.	1.193	1.107	1.189	1.293	1.560	1.229	0.922
Number of analysts following	Mean	17.648	18.219	21.254	15.718	13.857	17.527	15.591
	Median	14.000	16.000	16.000	11.000	8.000	15.000	10.000
	St.dev.	14.920	14.296	16.608	15.117	18.263	14.534	15.445
Percentage block shareholders	Mean	35.972	34.384	32.199	41.720	42.587	35.239	40.496
	Median	32.000	29.980	26.000	37.445	47.750	30.690	39.835
	St.dev.	26.337	24.533	26.291	29.414	20.072	25.950	30.050
Earnings variance	Mean	0.033	0.018	0.128	0.005	0.038	0.031	0.023
	Median	0.001	0.000	0.000	0.000	0.001	0.001	0.001
	St.dev.	0.265	0.150	0.719	0.020	0.164	0.194	0.096
Declining earnings trend	Mean	0.322	0.314	0.266	0.256	0.457	0.344	0.382
	Median	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	St.dev.	0.467	0.465	0.443	0.438	0.505	0.475	0.488
Number of observations		1896	525	169	234	35	823	110

Firms that disclose range forecasts have higher average analyst coverage than firms that disclose point, open-ended, or qualitative forecasts. This result could reflect scrutiny and monitoring by reputational intermediaries. The firms that use Mock words (in both range and open-ended forecasts) have lower analyst following. The relation between block holdings and specificity is most outspoken for the open-ended-Mock, range-Mock, and qualitative forecasts, where the average block holding is greater than 40%, in comparison with 36% in the full sample. Earnings variance and declining earnings trends are both lowest for Mock-range forecasts.

To test our hypotheses, we now examine the relation of the factors that potentially influence managers' choice for forecast specificity in a multivariate setting. Because the forecast specificity type is an ordinal variable, we estimate an ordered-response probit regression. The model is:

$$g(Pr[Specificity < i \mid X]) = \alpha_i + \beta_1 \text{ Cross listing US/UK} + \beta_2 \text{ Initial forecast} + \beta_3$$
Revision/maintenance $+ \beta_4$ Horizon $+ \beta_5$ Sign of news $+ \beta_6$ Ln(firm size) $+ \beta_7$ Tobin's $q + \beta_8$ Analyst following $+ \beta_9$ Percentage block shareholders $+ \beta_{10}$ Earnings variance $+ \beta_{11}$ Declining earnings trend $+ \gamma_{1..5}$ Year $+ \varphi_{1..7}$ Industry $+ \varepsilon_i$ (1)

The dependent variable *Specificity* is an ascending order of forecast specificity and X constitutes the vector of independent values as discussed in the previous section. The forecast specificity logit estimation fits the probability that the forecast is from forecast specificity type category i or lower, given the observed vector of explanatory variables. A positive (negative) coefficient indicates that higher values of the

independent variables are associated with more (less) specific forecasts. We estimate five different regression specifications and present the results in Table 4.5.

In regression models (1) and (2) we estimate equation (1) for the full sample of forecasts with and without an indicator variable for cross-listed firms. The outcomes of model (1) show that managers provide more precise forecasts when they receive new information. Specifically, a revision or maintenance of previous forecasts (significant at 1% level) and initial forecasts (significant at 1% level) are significantly less precise in comparison with preannouncements. The results also show that a longer forecast horizon results in significantly less specific forecasts (at 1% level). For the sign of the news, q, blockholders, earnings variance, and the earnings trend we find no significant coefficients.

The results from this table also show that firm size is positively related with forecast specificity, indicating that larger firms disclose more precise forecasts. Because firm size is highly correlated with analyst coverage (0.86), we first orthogonalise analyst coverage on firm size and then put the residuals of this regression into our regression models. This allows us to examine the impact of analyst coverage beyond firm size. Our results show that analyst following does add to the effect of firm size on forecast specificity. The coefficient of orthogonalised analysts yield a small negative effect on specificity.

In model (2) we test our first hypothesis, which states that firms with a cross listing in the US or UK disclose less precise forecasts. As hypothesised, the variable cross listing turns out to have a negative relation with forecast specificity, which is significant at the 1% level.

We further investigate this hypothesis in models (3) to (5), where we discriminate between exchange listings and OTC listings in the US and UK. In all three models, we use the same sample of non-cross-listed firms as a basis. We add one specific type of cross listing per model. That is, in model (3) we add firms with a US exchange listing, in model (4) we add the sample of firms with a US OTC listing, and in model (5) we add firms with a UK OTC listing. Due to the low number of observations for UK exchange-listed firms (see Table 4.2), we do not estimate the regression for this subsample.

Our results indicate that, in each alternative specification, we find that cross-listed firms provide less precise forecasts. Specifically, firms with a listing on a US stock exchange, firms with an OTC listing in the US, and firms with an OTC listing in the UK appear to have incentives to disclose less precise information, which decreases the

Table 4.5
Regression analysis for forecast specificity choice
This table reports ordered response regressions, in which the dependent variable is forecast specificity and takes on the value of one for qualitative, two for open-ended, three for open-ended-Mock, four for range-Mock, five for range, and six for point forecasts. Regression (1) and (2) contain the full sample. Regression (3) contains firms without a cross listing in the US and/or UK and firms with a US exchange listing. Regression (4) contains firms without a cross listing in the US and/or UK and firms with a US OTC listing. Regression (5) contains firms without a cross listing in the US and/or UK and firms with a UK OTC listing. Each regression controls for the forecast year and the major industry groups based on two-digit SIC industry codes. We define the variables more completely in Table 4.1. We orthogonalise the variable Number of analyst following on Ln(firm size). We use Huber/White standard errors for calculating the significance. We document p-values in parentheses.

	(1)	(2)	(3)	(4)	(5)
Cross listing in US/UK		-0.3925 ***	-0.2781 **	-0.5014 ***	-0.7043 ***
		(0.000)	(0.018)	(0.000)	(0.000)
Timeline: initial forecast	-1.1361 ***	-1.1056 ***	-1.0797 ***	-1.1128 ***	-1.1470 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Timeline: revision/maintenance	-0.9930 ***	-0.9740 ***	-0.9181 ***	-0.9964 ***	-1.0182 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Forecast horizon	-0.0024 ***	-0.0025 ***	-0.0026 ***	-0.0026 ***	-0.0026 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sign of the news	0.0413	0.0556	0.1002 *	0.0829	0.0580
	(0.432)	(0.289)	(0.076)	(0.160)	(0.334)
Ln(firm size)	0.0323 **	0.0886 ***	0.0655 ***	0.1189 ***	0.0979 ***
	(0.016)	(0.000)	(0.002)	(0.000)	(0.000)
Tobin's q	-0.0013	-0.0057	-0.0190	-0.0051	-0.0094
	(0.958)	(0.813)	(0.462)	(0.838)	(0.725)
Number of analysts following	-0.0064 *	-0.0038	-0.0046	-0.0058	-0.0062
	(0.084)	(0.285)	(0.329)	(0.185)	(0.223)
Percentage block shareholders	-0.0010	-0.0013	-0.0022 **	-0.0018	-0.0021 *
	(0.317)	(0.205)	(0.042)	(0.104)	(0.051)
Earnings variance	0.0164	0.0450	0.0037	-0.1741	-0.1870
	(0.797)	(0.503)	(0.957)	(0.272)	(0.250)
Declining earnings trend	-0.0677	-0.0558	-0.0535	-0.0406	-0.0596
	(0.266)	(0.358)	(0.417)	(0.548)	(0.394)
N	1896	1896	1656	1533	1487
Pseudo R^2	0.078	0.082	0.084	0.087	0.093

***: p < 1% ; **: p < 5% ; *: p < 10%

probability to mislead investors.[53, 54] Since legal bonding purposes mainly apply to firms with a US or UK exchange listing, these results suggest that not only legal bonding, but also reputational bonding leads firms to disclose less precise forecasts.

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[53] A regression for non-cross-listed firms and firms with a UK listing, independent of whether the firm is also listed in the US, provides a negative, but non-significant, cross-listing coefficient (i.e., coefficient equals -0.242, p-value equals 0.12). However, the two firms with only a listing in the UK drive this non-significant result. When we exclude these two firms from the regression, we find a negative and significant cross-listing coefficient (i.e., coefficient equals -0.415, p-value equals 0.018).

[54] Because the SEC accepted a new rule in 1999 that requires US OTC-listed firms to file the same documents as US exchange-listed firms, we estimate the regression of model (4) for the subsample of firms that disclosed a forecast in the period 1997-1999 and for the subsample of firms that disclosed a forecast in the period 2000-

4.5.3   Accuracy of management forecasts

In this section, we will compare the forecasted earnings and subsequent realisations. We calculate the management forecast errors as follows:

$$Management\ forecast\ error = \frac{Actual\ earnings - Forecasted\ earnings}{\left|Forecasted\ earnings\right|} \qquad (2)$$

A positive forecast error indicates that the forecast underestimates actual earnings. As with forecast specificity, we assume that managers are familiar with the scale of Mock. Therefore, we use the percentages equal to the scale to calculate the forecasted amount of range-Mock forecasts and open-ended-Mock forecasts. Obviously, we can only measure forecast errors of point, range, and open-ended forecasts. When an open-ended forecast is incorrect, we take the lower bound (upper bound) of the minimum (maximum) forecast as forecast value.

We base our forecast error analysis on a sample of 1,756 press releases instead of 1,896 press releases, because we cannot calculate forecast errors for the 110 qualitative forecasts, we have missing values for 22 forecasts, and we exclude 8 forecasts with extreme forecast errors. We consider values as extreme values when they deviate more than four standard deviations from the average forecast errors.

Table 4.6 projects the frequencies of no forecast errors, overestimated forecasts, and underestimated forecasts per forecast specificity type. The results for the total sample show that non-cross-listed firms disclose forecasts that are correct in 51% of our sample. In 21% of the cases the forecasts overestimate realisations and in 28% of the forecasts we find an underestimation. For cross-listed firms, the statistics are very similar (50%, 22%, and 28%, respectively). In both groups, the percentage of underestimations is higher than overestimations for most forecast specificity types. Note that most open-ended forecasts are minimum forecasts and managers can only overestimate earnings if they release minimum forecasts.

We also find that more precise forecasts clearly increase the stake of incorrect forecasts. The high percentage of correct forecasts for the sample of range-Mock forecasts indicates that managers actually apply the scale. Furthermore, the distribution of range forecasts indicates that the probability that cross-listed firms overestimate earnings is lower than that of non-cross-listed firms. In particular, 16% of the range forecasts by cross-listed firms are overestimations versus 31% of the

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2001. The pre-1999 subsample has 75 press releases from US OTC-listed firms and the post-1999 period has 60 press releases from US OTC-listed firms. Both regressions show a negative and significant cross listing coefficient (i.e., coefficient of the pre-1999 sample equals -0.33 with a *p*-value of 0.069; the coefficient of the post-1999 sample equals -0.792 with a *p*-value of zero).

Table 4.6

Distribution of management forecast errors

This table reports the distribution of management forecast errors of the sample of firms with a cross listing in the US and/or UK and the sample of firms without such a cross listing. We provide the number of observations of correct forecasts, underestimations and overestimations. We calculate management forecast errors as realised earnings less management forecast divided by the absolute value of the forecast. Underestimations are forecasts that fall short of the earnings outcome and overestimations are forecasts that are higher than the final outcome. We consider forecast errors that deviate more than four standard deviations from the mean as outliers and exclude these observations from our sample.

Forecast specificity type		Not cross listed		Cross listed	
		N	(%)	N	(%)
Total sample	Correct	657	(51%)	232	(50%)
	Overestimation	273	(21%)	103	(22%)
	Underestimation	361	(28%)	130	(28%)
	Total	1291	(100%)	465	(100%)
Open ended	Correct	471	(81%)	190	(84%)
	Overestimation	101	(17%)	32	(14%)
	Underestimation	8	(1%)	4	(2%)
	Total	580	(100%)	226	(100%)
Open ended-Mock	Correct	26	(93%)	4	(57%)
	Overestimation	0	(0%)	3	(43%)
	Underestimation	2	(7%)	0	(0%)
	Total	28	(100%)	7	(100%)
Range mock	Correct	68	(37%)	8	(18%)
	Overestimation	37	(20%)	15	(33%)
	Underestimation	81	(44%)	22	(49%)
	Total	186	(100%)	45	(100%)
Range	Correct	44	(44%)	19	(28%)
	Overestimation	31	(31%)	11	(16%)
	Underestimation	24	(24%)	39	(57%)
	Total	99	(100%)	69	(100%)
Point	Correct	48	(12%)	11	(9%)
	Overestimation	104	(26%)	42	(36%)
	Underestimation	246	(62%)	65	(55%)
	Total	398	(100%)	118	(100%)

range forecasts by non-cross-listed firms. Cross-listed firms seem more careful in releasing range or range-Mock forecasts than non-cross-listed firms, as they are more likely to underestimate future earnings rather than release correct forecasts. The point forecasts show a slightly different picture. Though both cross-listed and non-cross-listed firms seem conservative by underestimating future earnings more often, cross-listed firms disclose somewhat more overestimations than non-cross-listed firms (i.e., 36% vs. 26% of the overestimations).

Our hypotheses state that the forecast error is smaller and more conservative for

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Table 4.7
Management forecast errors

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The table presents means, medians, standard deviations, and mean differences of management forecast errors for cross-listed and non-cross-listed firms per forecast specificity type. We calculate management forecast errors as realised earnings less management forecast divided by the absolute value of the forecast. Underestimations (i.e., underest.) are forecasts that fall short of the earnings outcome and overestimations (i.e., overest.) are forecasts that are higher than the final outcome. We consider forecast errors that deviate more than four standard deviations from the mean as outliers and exclude these observations from our sample.

		Not cross listed			Cross listed			*P*-value difference		
		All	Overest.	Underest.	All	Overest.	Underest.	All	Overest.	Underest.
Forecast specificity type		(1)	(2)	(3)	(4)	(5)	(6)	(1) - (4)	(2) - (5)	(3) - (6)
Total sample	Mean	-0.106	-0.647	0.109	-0.031	-0.233	0.075	*0.012*	*0.001*	0.241
	Median	0.000	-0.225	0.036	0.000	-0.123	0.029	0.918	*0.000*	*0.092*
	St.dev.	0.633	1.172	0.329	0.229	0.400	0.128			
Open ended	Mean	-0.150	-0.862	0.041	-0.044	-0.333	0.180	*0.017*	*0.032*	0.166
	Median	0.000	-0.368	0.014	0.000	-0.139	0.046	0.163	*0.017*	0.230
	St.dev.	0.646	1.340	0.047	0.256	0.602	0.269			
Range mock	Mean	-0.139	-1.024	0.149	0.005	-0.186	0.137	0.286	*0.067*	0.849
	Median	0.000	-0.460	0.089	0.004	-0.179	0.076	0.847	*0.008*	0.579
	St.dev.	0.897	1.717	0.267	0.217	0.201	0.165			
Range	Mean	-0.115	-0.421	0.069	0.019	-0.142	0.073	*0.016*	0.198	0.904
	Median	0.000	-0.121	0.032	0.007	-0.081	0.025	*0.000*	0.742	0.404
	St.dev.	0.440	0.694	0.086	0.146	0.188	0.136			
Point	Mean	-0.033	-0.370	0.102	-0.042	-0.193	0.048	0.852	0.130	0.236
	Median	0.005	-0.130	0.029	0.003	-0.021	0.016	*0.082*	*0.006*	*0.090*
	St.dev.	0.511	0.726	0.367	0.218	0.298	0.082			

firms with a cross listing in the US or UK. Table 4.7 shows the magnitude of the forecast errors for the sample of firms with and without such a cross listing. In addition, we split the forecasts into a group of overestimations and underestimations and provide the *p*-values for the difference in forecast errors between cross-listed and non-cross-listed firms. We exclude the open-ended-Mock forecasts from the table, as the number of observations is not sufficient to make comparisons.

The results suggest that, in line with our expectations, the mean forecast error of cross-listed firms is smaller than that of non-cross-listed firms (i.e., -3.1% vs. -10.6%, *p*-value of difference equals 0.012), implying that non-cross-listed firms overestimate earnings by 7.5% more than their cross-listed peers. The larger overestimations in the non-cross-listed sample drive this result.

Table 4.7 further provides the forecast errors per specificity type, as the fact that cross-listed firms disclose less precise forecasts may be an explanation for the lower forecast errors. For each forecast specificity type, we find that the forecast error of non-cross-listed firms is greater than that of cross-listed firms. In addition, cross-listed firms are more conservative in their forecasts (i.e., their forecasts are less optimistic

than the forecasts by non-cross-listed firms). Again, these results are in line with the bonding arguments for cross-listings in countries with greater potential liability costs and enhanced scrutiny by reputational intermediaries.

4.6   Summary and conclusions

The purpose of this study is to analyse the influence of cross listings in the UK or US on characteristics of management earnings forecasts disclosed by Dutch firms. Since the UK and US have stricter governance regimes than the Netherlands, Dutch firms expose themselves to a stricter legal environment and greater scrutiny by cross listing in the UK and US, and thereby bond themselves in legal and reputational sense (Coffee Jr., 1999; 2002). Bonding leads cross-listed firms to exhibit higher quality information than non-cross-listed firms (Lang, Ready, and Yetman, 2003). Previous studies on the effect of cross listings document positive value effects (e.g., Foerster and Karolyi, 1999; Miller, 1999; Foerster and Karolyi, 2000) and increased analyst coverage (Lang, Lins, and Miller, 2003). However, Siegel (2005) finds low compliance with US laws, while investors and regulators abstain from taking enforcement actions.

The relatively large number of Dutch firms with a cross listing (i.e., 21% of our sample) provides a unique setting to study the impact of bonding via these cross listings on forecast specificity and *ex post* forecast errors. We analyse both the legal and reputational bonding arguments by investigating: exchange cross listings, where firms experience increased legal exposure as well as increased scrutiny and monitoring (i.e., US ADR level 2 or 3 listings and UK listings on LSE or AIM); and OTC cross listings, where firms only experience increased scrutiny and monitoring (i.e., US and UK over-the-counter market).

In this study, we find that cross-listed firms disclose less specific forecasts. At the same time, the average forecast error of firms with a cross listing in the UK or US is lower than that of firms without such a cross listing. We further show that cross-listed firms are more conservative (i.e., less optimistic) in their forecasts than are non-cross-listed firms. Given that these results apply to both exchange-listed and OTC-listed firms, we argue that legal bonding and reputational bonding play an important role in firms' disclosures of earnings forecasts.

What are the consequences of these results for disclosure quality? A negative interpretation would be that cross-listed firms reduce forecast specificity in order to increase forecast accuracy. Here, the overall effect remains unclear. In our view this interpretation is incomplete and the effects of a cross listing are more positive. First of all, cross-listed firms are more careful in their forecast disclosures by disclosing more

precise forecasts only when they are most certain about their future performance. Still 24% of the forecasts by cross-listed firms are point forecasts relative to 29% of the other firms. Thus, managers' concerns about disclosing incorrect and overly optimistic forecasts could lead them to disclose less precise and more conservative information, particularly in the case of uncertainty about future earnings. This explanation results in a positive effect, as the specificity is an indication of the uncertainty about the earnings of cross-listed firms. Second, the quality of the disclosed information by cross-listed firms is greater than that disclosed by non-cross-listed firms, since their forecasts are more accurate. These interpretations imply that management forecasts disclosed by cross-listed firms are more informative, and thus that legal and reputational bonding has a positive influence on disclosure quality.

APPENDIX 4A
The Frequency of the use of words from the scale of Mock

| Qualitative words | | % increase | | |
Dutch	English	or decrease	N	Percentage
Fractioneel	Marginal	0 - 2%	0	0%
Gering	Modest	2 - 4%	15	4%
Licht	Limited	4 - 7%	40 [+]	10%
Duidelijk	Marked	7 - 12%	59 [++]	16%
Belangrijk	Significant	12 - 20%	107	28%
Sterk	Strong	20 - 30%	52	17%
Aanzienlijk	Considerable	30 - 45%	59	15%
Fors	Sharp	45% or more	34	10%
Total			366	100%

[+] Including two forecasts where a firm mentions 'between modest and limited'
[++] Including one forecast where a firm mentions 'between limited and marked'

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Chapter 5

The demand for corporate financial reporting:
A survey among financial analysts[55]

5.1 Introduction

Firms supply information by reporting earnings and providing additional disclosure to facilitate the demands of current and potential investors. Given the complexity of this information, analysts, as financial intermediaries, play a key role in a firm's reporting and disclosure practices (Brennan and Tamarowski, 2000; Graham, Harvey, and Rajgopal, 2005). In supplying information, CFOs largely base their policies on what they expect analysts value. Graham, Harvey, and Rajgopal (2005) survey CFOs on their reporting strategies and provide a comprehensive overview of their perceptions and behavior on themes like earnings benchmarks, earnings smoothing, and voluntary disclosure. For setting the stock price, 35% of these CFOs views analysts as the most important group and 36% views analysts as the second most important group.

We investigate analysts' view on corporate financial reporting practices by means of a survey among more than 300 sell-side analysts that follow US firms. A survey has added value in the sense that it generates insights into the market's expectations on a firm's financial disclosure policies to the extent that would not be possible by means of an archival study. Despite a tradition in surveying analysts (e.g., Bradish, 1965; Estes, 1968; Chandra, 1974), in the current literature analysts are mainly approached to participate in experiments (e.g., Libby and Tan, 1999; Sedor, 2002; Libby, Tan, and Hunton, 2006). We are aware of one recent study by Block (1999)

that surveys analysts, of which 95 respondents are sell-side analysts. This study uses a less comprehensive questionnaire with a greater focus on analysts' valuation techniques and inputs. Furthermore, by contrasting the preferences of sell-side analysts with the perceptions of CFOs of public firms, as derived from Graham, Harvey, and Rajgopal (2005), we are able to document discrepancies and similarities between the demand side and the supply side of corporate financial information.

Against the general preference in finance studies for cash flows (Brealey, Myers, and Allen, 2006) and in line with accounting research focusing on earnings (Penman, 2007), we find that, similar to CFOs, analysts believe that a firm's earnings are the most important performance measure. Analysts view their own forecast as the most important earnings benchmark, while the consensus analyst forecast comes at the second place. In contrast to CFOs, they do not significantly care about absolute benchmarks, such as the same quarter last year EPS and reporting a profit. Meeting earnings benchmarks is important, as it has implications for analysts' perceptions about the firm's credibility, future growth opportunities, and potential difficulties. Our results also justify CFOs' concern about their reputation in achieving earnings benchmarks.

Given the implications of not meeting earnings benchmarks for firms as well as for the management team, firms can influence these benchmarks by means of earnings management. However, with the exception of share repurchases, analysts believe that firms destroy value by managing their earnings, though they view real actions as less value-destroying actions than within-GAAP accruals actions. This result is consistent with CFOs' preference to take real actions. Apparently, the increased scrutiny after the major accounting scandals and the legal threat of the Sarbanes Oxley Act influence analysts' and CFOs' perceptions of the potential costs related to accruals management.

Firms can also influence earnings benchmarks by means of smoothing earnings, as it makes it easier for analysts to predict a firm's earnings. Other benefits of a smooth earnings path are lower perceived risk, a reduction in the risk premium, and the assurance of a stable business. Even though a smooth earnings path brings about benefits, only 13% of the analysts recommend firms to make a moderate to large value sacrifice to avoid a bumpy earnings path, while 61% of the CFOs are willing to make such a sacrifice. A possible explanation for this remarkable difference is that analysts are less positive about the benefits of a smooth earnings path than CFOs. In addition, CFOs' concern about their personal reputation when missing earnings benchmarks may intensify their positive view leading to a greater difference in opinion between analysts and CFOs.

So, firms can influence the likelihood of meeting analyst earnings forecasts in different ways. However, these different choices could lead analysts to suspect hidden

problems at the firm and to believe that managers lack the ability to foresee future developments when missing an earnings benchmark. These perceptions might be a possible explanation for the severe share price declines after missing earnings benchmarks. Our results suggest that CFOs face a tradeoff, i.e., either experience a severe share price decline due to the general belief that firms manage earnings or sacrifice firm value to meet their earnings benchmarks. Although analysts seem to adopt a long-term view, CFOs' short-term focus might be a result of analysts' expectations.

Apart from earnings management, firms could influence analysts' expectations by voluntarily disclosing financial information. Analysts believe that, by voluntarily disclosing information, firms promote a reputation for transparent reporting, reduce the stock's information risk, and provide additional information beyond mandatory disclosure. Analysts also deduce information about managers' skill level from a firm's voluntary disclosure, while CFOs do not show concerns about the perception of their skill level. This result markedly contrasts CFOs' reputation concerns related to achieving earnings benchmarks.

Overall, our survey provides more insight into the role of analysts as financial intermediaries. According to Healy and Palepu (2001), analysts can help to diminish information asymmetry problems as well as agency problems between firms and investors. Moreover, previous studies find that analyst forecasts and recommendations contain more timely information than time-series models (e.g., Brown and Rozeff, 1978; Givoly, 1982; Brown, Griffin, Hagerman, and Zmijewski, 1987) and affect firms' share prices (e.g., Givoly and Lakonishok, 1979; Francis and Soffer, 1997).[56] Our results indicate that analysts draw inferences on the firm's performance and its management's skills based on the firm's corporate reporting practices, which can have a mitigating impact on the information asymmetries and agency problems between firms and investors. However, we also suggest that analysts can intensify the agency problems, as their demands and expectations might induce managers to make decisions with a short-term focus.

The remainder of the chapter is organized as follows. Section 5.2 discusses the survey design and summary statistics of our survey data. We describe analysts' view on reported earnings and earnings benchmarks in section 5.3. Section 5.4 describes the consequences of a firm's real and accounting actions to meet an earnings benchmark on firm value as perceived by analysts. Subsequently, we explore the perceived implications of a smooth earnings path and the recommended value sacrifice to avoid a bumpy earnings path in section 5.5. Section 5.6 deals with the reasons why firms should voluntarily disclose financial information. Section 5.7 provides a summary of all the results and a conclusion.

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[56] See Ramnath, Rock, and Shane (2008) for an overview of recent evidence.

5.2   Method and survey design

5.2.1   Survey design

In the period July until October 2007, we approached the Heads of Equity Research of eleven of the world's 20 largest investment banks. All institutions were willing to participate after we guaranteed anonymity about the participating banks and sell-side analysts to the compliance departments. Heads of Equity Research encouraged their analysts to participate. Each institution provided us with the number of sell-side analysts that were approached. The total number is 638, with a median of 68. We offer respondents a copy of our results and donate $10 for each completed survey to a charity of the respondents' choice. All responses with less than ten answers were automatically deleted. In the period July 18 until October 30, 2007 we received 306 usable responses. Our response rate is 48%.

Our goal is to collect the opinions of financial analysts that we can confront with the opinions of the US CFOs in Graham, Harvey, and Rajgopal (2005). Therefore, our survey design is strongly influenced by their questionnaire.

A relevant requirement of analysts for our study is that they follow at least one US firm. Therefore, we start with three questions concerning whether the analyst follows at least one firm with an official listing in the US, the number of firms that the analyst follows, and the number of years of experience as a financial analyst. The survey ends in the case the respondent indicates that she does not follow a US firm.

In the case the analyst has at least one US firm in her portfolio, a screen emerges that states: "The goal of this survey is to compare your responses to that of CFOs of US companies. In order to allow such a comparison we like to ask you to answer all subsequent questions for a particular US firm. Please think of a randomly chosen US firm in your portfolio and answer the following questions for this specific firm. We will refer to this firm as *the firm you follow*." This approach allows us to compare the analysts' opinions with the responses of CFOs. After this note, the analyst goes through seven screens with questions about earnings measures, earnings benchmarks, earnings smoothing, and voluntary disclosure. The final screen requests general information about the firm chosen by the analyst. We ask for revenues, industry, number of analysts following this firm, earnings guidance, credit rating, price-earnings ratio, and the number years the CEO has been in office. The questions in this final screen allow us analyze the data for subsamples and to compare our sample of firms followed by analysts with the Graham, Harvey, and Rajgopal (2005) sample of

firms. We incorporate all questions in Graham, Harvey, and Rajgopal (2005), except three questions.[57] Our survey is available on www.rsm.nl/analyst.

We test for non-response bias in the usual manner, i.e., by comparing the responses of early and late respondents. We find no evidence of a non-response bias.

5.2.2   Summary statistics

Table 5.1 panel A provides summary statistics of the analysts that filled out the survey. We find that 46.1% of the analysts have experience as financial analyst for four to nine years, while 34% has experience of at least ten years. The table also shows that 77.8% of the analysts follow at least ten firms.

Panel B of Table 5.1 provides summary statistics of the firms that these analysts had in mind when they filled out the survey. To investigate whether our analyst sample is representative for the public firms of the survey of Graham, Harvey, and Rajgopal (2005), we compare the firm characteristics with the firm characteristics of the CFO survey. This comparison shows that the distribution over the seven industry groups is very similar, except for a larger representation of manufacturing firms in the CFO sample. Although we have observations in each of the five size classes, our analysts have chosen larger firms, a result which is also displayed in the number of analysts following the firms. In our empirical analysis we control for size and industry effects. We further find that relatively few analysts indicate that their firm provides either no guidance (i.e., 7.6%) or a lot of guidance (i.e., 4.4%), while most analysts indicate that their firm provides moderate or more than moderate guidance (i.e., 42.9% and 22.9%, respectively). This result is not surprising, as more disclosure leads to greater analyst following (Lang and Lundholm, 1996). The same effect could apply to earnings guidance. Finally, most CEOs have a tenure of four to nine years (i.e., 44.4%), while CEO tenure of at least ten years occur least (i.e., 15.2%).

We test whether the firms chosen by the responding analysts are representative for the universe of US listed firms. Obviously, we need to control for differences in number of analysts following firms. We downloaded the number of analyst following and sales for all firms with I/B/E/S and Compustat coverage as per September 2007 and weight each firm in the Compustat file with the number of analysts that follow the firm. We compare the summary statistics of this sample with our survey data. We find that our survey has a slight overrepresentation of larger firms. The relatively larger

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[57] The first omitted question is about motives to limit voluntary disclosure and is removed to shorten the survey. The second omitted question contains a hypothetical investment scenario, which cannot be answered by analysts. The third question is about the firm's most important groups in setting the stock price, and included the analysts themselves.

Table 5.1

Characteristics of surveyed analysts and the firm that they follow

Panel A of this table provides the frequencies and the percentage of the total number of observations per group of analyst respondents. Panel B shows these characteristics for the firm that analysts kept in mind when filling out the survey. We also provide the corresponding statistics for the firms in the survey of Graham, Harvey, and Rajgopal (2005). We only consider non-missing values in the calculations.

Panel A: Characteristics of surveyed analysts

Number of years active as financial analyst	N	%	Number of firms you follow	N	%
<4 years	61	19.9%	< 5 firms	20	6.5%
4 - 9 years	141	46.1%	5 - 10 firms	48	15.7%
10+ years	104	34.0%	10 - 15 firms	100	32.7%
			> 15 firms	138	45.1%

Panel B: Characteristics of the firms that the analyst follow

	Analysts		CFOs		Analysts		CFOs
Revenue	N	%	%	*Industry*	N	%	%
<$100 million	5	1.8%	15.1%	Retail/Wholesale	30	10.8%	8.6%
$100 - 499 million	15	5.4%	22.0%	Tech (Software/Biotech)	51	18.4%	13.9%
$500 - 999 million	11	4.0%	12.8%	Bank/Finance/Insurance	38	13.7%	13.2%
$1 - 4.9 billion	83	30.1%	24.6%	Manufacturing	27	9.7%	30.7%
$5 billion +	162	58.7%	25.6%	Public Utility	8	2.9%	3.3%
				Transportation/Energy	27	9.7%	5.3%
Number of analysts				Other	36	13.0%	12.2%
None	0	0.0%	7.8%				
1 - 5	2	0.7%	39.9%	*Guidance provided*			
6 - 10	64	23.4%	21.6%	0. None	21	7.6%	19.3%
11 - 15	89	32.5%	14.1%	1. A little	28	10.2%	18.0%
16+	116	42.3%	16.7%	2.	33	12.0%	8.5%
Don't know	3	1.1%		3. Moderate	118	42.9%	32.0%
				4.	63	22.9%	13.7%
CEO tenure				5. A lot	12	4.4%	8.5%
<4 years	109	39.4%	36.9%				
4 - 9 years	123	44.4%	33.0%				
10+ years	42	15.2%	30.1%				
Don't know	3	1.1%					

firms indicate that our sample captures the bigger players that have the largest effect on the US economy.

In our results sections we compare the average answers of our analyst survey with the averages in the CFO survey in two ways. First, we do a standard difference-of-means *t*-test. Second, since the distribution of our sample firms differs among firm size and industry from the CFO sample, we regress the answer scores of both samples on an analyst dummy that equals one for observations from our analyst sample, the revenue classes, and the industry classes (see Table 5.1, panel B for the different classes). Because the answers are given in distinct categories, we use ordered logit regression models. The tables report the significance of the coefficient of the analyst

dummy, which represents the size and industry corrected difference between the CFO and analyst answers.

5.3   Analysts' demand for reported earnings

In this section, we first discuss analysts' view on the most important performance measures. We subsequently discuss analysts' opinion on the most important earnings benchmarks and why firms should try to achieve these earnings benchmarks. We approach the latter question also from the opposing perspective by discussing analysts' answers to the question why firms should avoid missing an earnings benchmark. We compare the analysts' responses with the responses of CFOs of public firms, as derived from Graham, Harvey, and Rajgopal (2005).

5.3.1   Reported earnings

The main focus on performance benchmarks differs between finance and accounting studies. In finance studies, cash flows seem to be the most accepted performance measure (Brealey, Myers, and Allen, 2006, p.113), while accounting studies generally focus on earnings (Penman, 2007, p.132). In terms of information content, earnings are superior to cash flows in explaining stock returns (e.g., Bowen, Burgstahler, and Daley, 1987; Dechow, 1994). The survey results of Block (1999) among sell-side and buy-side analysts are consistent with this preference. However, DeFond and Hung (2003) argue that cash flows can complement the information contained in earnings, because cash flows are less vulnerable to managers' subjective estimates and opportunistic behavior. Cash flows are also a better measure for evaluating a firm's viability in terms of solvency and liquidity. The authors find that analysts tend to supplement their earnings forecasts with operating cash flow forecasts, when firms have larger accruals, more heterogeneous accounting choices relative to industry peers, more volatile earnings, high capital intensity, and poor financial health. They also find that for firms with analysts that provide both cash flow forecasts and earnings forecasts the abnormal returns around earnings announcements are significantly associated with cash flow forecast errors and not with earnings forecast errors. Previts, Bricker, Robinson, and Young (1994) argue that analysts prefer cash flows to value firms that are highly levered.

Table 5.2 panel A shows the top three rankings of importance that analysts attach to different performance measures. The results indicate that analysts view a firm's earnings as the most important performance measure and a firm's revenues as the

Table 5.2

Survey response to the question:

Rank the three most important performance measures that the firm that you follow reports to outsiders

Panel A shows the number of respondents per ranking, the total points, and the average points for all performance measures. We assign three points to a # 1 ranking, two points to a # 2 ranking, and one point to a # 3 ranking. The panel further provides the average points of the CFOs of public firms as derived from Graham, Harvey, and Rajgopal (2005). We calculate the difference as the analysts' average points minus the CFOs' average points. The first difference test provides the significance of the outcome of a difference-of-means t-test. The second test is the outcome of an ordered logit regression, where the dependent variable is the ranking of the performance measure and the independent variables are an analyst dummy that equals one for observations from our analyst sample, four revenues dummies, and nine industry dummies. The corrected difference $\beta=0$ is the significance of the coefficient of the analyst dummy. Panel B reports the percentage of analysts that agree or strongly agree with each statement for different subsamples. Except for the number of analysts, we use the same thresholds as Graham, Harvey, and Rajgopal (2005). The subsamples are Size, where large firms have revenues higher than \$1 billion; P/E ratio, where a high P/E ratio is larger than 17; Credit rating, where high indicates above investment grade; Tech industry, which are firms from the technology industry; Guidance, where little refers to analysts that indicate that the firm they follow provides no or little earnings guidance; Earnings path, where bumpy refers to the analyst's answer of -2 or -1 on a scale of -2 (bumpy) to +2 (smooth) to the question whether their firm has a smooth earnings path; CEO tenure, where short is a tenure up to four years; Number of analysts, where few stands for one to ten analysts that follow the firm the analyst had in mind; Analyst tenure, where short stands for a tenure as financial analyst for up to four years; and Analyst portfolio, where small indicates a portfolio of up to ten firms that the analyst follows. ***, **, and * denote that the differences are significantly different at the 1%, 5%, and 10% level, respectively. The conditional averages in panel B are based on non-missing observations.

Panel A: Unconditional averages

Measure	Analyst sample					Analysts vs. CFOs			
	# 1 ranking	# 2 ranking	# 3 ranking	Total points	Average points	Average points CFOs	Difference	H_0: Difference =0	H_0: Corrected difference $\beta=0$
(1) Earnings/EPS	118	40	41	475	1.55	2.10	-0.55	***	***
(2) Revenues	40	86	74	366	1.20	1.24	-0.04		
(3) Free cash flows	48	69	64	346	1.13	0.70	0.43	***	***
(4) Pro Forma earnings	50	36	32	254	0.83	0.52	0.31	***	***
(5) Cash flows from operations	21	42	38	185	0.60	1.13	-0.53	***	***
(6) Other measure	21	31	47	172	0.56	n.a.			
(7) EVA	9	2	11	42	0.14	0.06	0.08	**	

Table 5.2 (continued)

Panel B: Conditional averages

Measure	Average points	Obs.	Size		P/E ratio		Credit rating		Tech industry		Guidance	
			Small	Large	Low	High	Low	High	Other	Tech	Little	Much
(1) Earnings/EPS	1.55	306	1.32	1.55	1.71	1.33 **	1.67	1.60	1.62	1.12 **	1.65	1.48
(2) Revenues	1.20	306	1.26	1.17	1.17	1.19	0.73	1.10	1.01	1.92 ***	1.20	1.17
(3) Free cash flows	1.13	306	0.97	1.16	1.13	1.08	1.87	1.13 **	1.19	0.86 *	0.94	1.17
(4) Pro Forma earnings	0.83	306	0.87	0.86	0.77	0.98	1.00	0.77	0.77	1.28 ***	0.61	0.92 *
(5) Cash flows from operations	0.60	306	0.74	0.58	0.52	0.73 *	0.27	0.67	0.63	0.49	0.76	0.58
(6) Other measure	0.56	306	0.84	0.54 *	0.54	0.61	0.20	0.60	0.64	0.26 ***	0.71	0.54
(7) EVA	0.14	306	0.13	0.15	0.20	0.07 *	0.27	0.15	0.16	0.08	0.12	0.15

Measure	Average points	Obs.	Earnings path		CEO tenure		Number of analysts		Analyst tenure		Analyst portfolio	
			Smooth	Bumpy	Short	Long	Few	Many	Short	Long	Small	Large
(1) Earnings/EPS	1.55	306	1.45	1.66	1.51	1.54	1.82	1.44 **	1.46	1.58	1.44	1.58
(2) Revenues	1.20	306	1.14	1.25	1.24	1.14	1.00	1.23	1.39	1.15	1.50	1.11 ***
(3) Free cash flows	1.13	306	1.16	1.12	1.10	1.15	1.24	1.10	1.00	1.16	0.90	1.20 *
(4) Pro Forma earnings	0.83	306	0.96	0.69 *	0.88	0.85	0.82	0.86	0.95	0.80	0.94	0.80
(5) Cash flows from operations	0.60	306	0.59	0.68	0.65	0.57	0.56	0.63	0.39	0.66 *	0.52	0.63
(6) Other measure	0.56	306	0.54	0.54	0.48	0.63	0.50	0.60	0.74	0.52 *	0.68	0.53
(7) EVA	0.14	306	0.19	0.07	0.17	0.13	0.06	0.17	0.07	0.16	0.03	0.17 *

second most important performance measure. This result mirrors CFO preferences (Graham, Harvey, and Rajgopal, 2005). Noteworthy is the difference in opinion on cash flows. Specifically, analysts attach significantly more importance to free cash flows, while CFOs attach more importance to cash flows from operations. Though Block (1999) finds that more than half of the buy-side and sell-side analysts view EVA as moderately important, we show that it does not belong to the sell-side analysts' top-three list of performance measures.

In addition to unconditional scores, panel B of Table 5.2 provides analysts' preferences in terms of the average ranking conditional on their own and their firm's characteristics. To facilitate a comparison with Graham, Harvey, and Rajgopal (2005), we show the results of the conditional averages in a similar format as their tables.

We find that analysts of firms with a credit rating below investment grade attach the greatest importance to free cash flows, while earnings is the most important performance measure for firms that have an investment grade credit rating. This result is in line with the notion that cash flows act as a measure for assessing a firm's credit and bankruptcy risks (Beaver, 1966; Ohlson, 1980). It is also consistent with the expectation that analysts rely more on liquidity measures when the firm that they follow is more distressed (Graham, Harvey, and Rajgopal, 2005). Another notable difference is the greater importance that analysts attach to revenues and pro forma earnings, when they follow high-tech firms. Since technology firms typically make large investments that only become profitable in the longer term and have more volatile earnings, pro forma earnings and revenues may serve as complementary information to interpret earnings. The other firm characteristics do not provide remarkable differences in average rankings.

To check whether the answers of analysts differ in terms of their characteristics, we distinguish between analysts with long and short tenures and between a large and small portfolio of firms that they follow. Although the results indicate that analysts with a small portfolio tend to attach more importance to revenues than analyst with a large portfolio, both types of analysts have a high preference for earnings as performance measure.

5.3.2   Earnings benchmarks

Previous studies find that managers prioritize on earnings benchmarks (e.g., Burgstahler and Dichev, 1997; Degeorge, Patel, and Zeckhauser, 1999; Dechow, Richardson, and Tuna, 2003; Brown and Caylor, 2005; Graham, Harvey, and Rajgopal, 2005). Recent evidence shows that, even though CFOs posit that the same quarter last year EPS is the most important earnings benchmark for quarterly earnings

announcements (Graham, Harvey, and Rajgopal, 2005), these CFOs act as if they try harder to meet analyst consensus forecasts of EPS for the current quarter (Brown and Caylor, 2005). In addition, ample evidence indicates that firms guide analysts' earnings forecasts to increase the probability to meet or beat these forecasts (e.g., Bartov, Givoly, and Hayn, 2002; Matsumoto, 2002; Richardson, Teoh, and Wysocki, 2004; Cotter, Tuna, and Wysocky, 2006; Brown and Pinello, 2007). Brown and Caylor (2005) find that the negative market response to missing a threshold is higher for analyst consensus forecasts than for the same quarter last year EPS and avoiding a loss. The authors suggest that CFOs focus on meeting consensus analyst forecasts because their wealth in terms of, for instance, stock, options, and job security greatly depends on reported earnings.

We ask analysts for their opinion about the importance of several earnings benchmarks. In addition to the answers that Graham, Harvey, and Rajgopal (2005) use in their survey, we ask the respondents for the importance of their own EPS forecasts. Table 5.3 provides the analysts' responses in comparison with CFOs' answers.

The results indicate that analysts attach the greatest importance to their own forecast (i.e., 91.7% agree or strongly agree). This result seems trivial; however, it can have considerable implications for firms. Diether, Malloy, and Scherbina (2002) document a persistent relation between dispersion of analyst opinions and stock returns. If several analysts follow a firm and their forecasts are widely dispersed, both the firm and its investors might not know which value to use as a benchmark to evaluate the firm. Moreover, our results imply that especially these firms should prioritize on the most influential analyst forecasts. They could for instance focus on celebrity analysts or analysts with greater previous performance, as these analysts have a greater impact on a firm's share price movements (e.g., Park and Stice, 2000; Gleason and Lee, 2003).

The second most important evaluation benchmark is the analyst consensus forecast followed by the same quarter last year EPS. Remarkably, this third benchmark comes at the first place for CFOs. The difference in average rating for the importance of the same quarter last year EPS is statistically significant. The results further imply that CFOs find previous quarter EPS and reporting a profit significantly more important than analysts. We do not find significant results for the "previous quarter EPS" and "reporting a profit".

Graham, Harvey, and Rajgopal (2005) suggest a positive relation between CFOs' preference for consensus analyst forecasts and the number of analysts that follow their firm. The authors further suggest that the focus of academic studies on larger firms with greater analyst coverage might influence the general perception of the importance of consensus analyst forecasts. In panel B of Table 5.3, we find little

Table 5.3
Survey response to the question:
How important are the following earnings benchmarks for your assessment of the reported quarterly earnings number of the firm you follow?

The answer of the respondents could vary between -2 (i.e., not important) and +2 (i.e., very important). Panel A shows the percentage of respondents that answers not important (i.e., values -2 and -1), the percentage of respondents that answers important or very important (i.e., values +1 and +2), and the average rating. A higher average rating corresponds with more importance. The panel further provides the average rating of the CFOs of public firms as derived from Graham, Harvey, and Rajgopal (2005). We calculate the difference as the analysts' average rating minus the CFOs' average rating. The first difference test provides the significance of the outcome of a difference-of-means t-test. The second test is the outcome of an ordered logit regression, where the dependent variable is the answered value and the independent variables are an analyst dummy that equals one for observations from our analyst sample, four revenues dummies, and nine industry dummies. The corrected difference $\beta=0$ is the significance of the coefficient of the analyst dummy. Panel B reports the percentage of analysts that agree or strongly agree with each statement for different subsamples. Except for the number of analysts, we use the same thresholds as Graham, Harvey, and Rajgopal (2005). The subsamples are Size, where large firms have revenues higher than $1 billion; P/E ratio, where a high P/E ratio is larger than 17; Credit rating, where high indicates above investment grade; Tech industry, which are firms from the technology industry; Guidance, where little refers to analysts that indicate that the firm they follow provides no or little earnings guidance; Earnings path, where bumpy refers to the analyst's answer of -2 or -1 on a scale of -2 (bumpy) to +2 (smooth) to the question whether their firm has a smooth earnings path; CEO tenure, where short is a tenure up to four years; Number of analysts, where few stands for one to ten analysts that follow the firm the analyst had in mind; Analyst tenure, where short refers to a tenure as financial analyst for up to four years; and Analyst portfolio, where small indicates a portfolio of up to ten firms that the analyst follows. ***, **, and * denote that the differences are significantly different at the 1%, 5%, and 10% level, respectively. The conditional averages in panel B are based on non-missing observations.

Panel A: Unconditional averages

Question	Analyst sample				Analysts vs. CFOs			
	% important or very important	% not important	Average rating	H₀: Average rating =0	Average rating CFOs	Difference	H₀: Difference =0	H₀: Corrected difference β=0
(1) My forecast of EPS for current quarter	91.7	2.6	1.50	***	0.96	0.09	***	
(2) Analyst consensus forecast of EPS for current quarter	79.3	9.5	1.05	***	1.28	-0.58	***	***
(3) Same quarter last year EPS	65.8	16.8	0.70	***	0.49	-0.51	***	***
(4) Previous quarter EPS	42.8	37.8	-0.02		0.84	-0.71	***	***
(5) Reporting a profit (i.e., EPS>0)	42.1	29.6	0.13					

Table 5.3 (continued)

Panel B: Conditional averages

Question	% agree or strongly agree	Obs.	Size		P/E ratio		Credit rating		Tech industry		Guidance	
			Small	Large	Low	High	Low	High	Other	Tech	Little	Much
(1)	91.7	303	83.9	93.4*	91.2	94.4	93.3	91.9	91.1	98.0	95.9	91.9
(2)	79.3	305	83.9	79.2	77.3	83.3	86.7	78.2	77.0	92.2**	75.5	81.0
(3)	65.8	304	54.8	67.5	66.2	68.5	73.3	70.7	69.0	53.1**	63.3	66.5
(4)	42.8	304	51.6	42.6	49.7	38.0*	40.0	45.7	43.1	47.1	59.2	40.0**
(5)	42.1	304	45.2	41.4	40.5	42.9	33.3	42.6	41.2	46.0	36.7	43.2

Question	% agree or strongly agree	Obs.	Earnings path		CEO tenure		Number of analysts		Analyst tenure		Analyst portfolio	
			Smooth	Bumpy	Short	Long	Few	Many	Short	Long	Small	Large
(1)	91.7	303	92.9	93.0	93.5	91.6	95.5	92.2	85.2	93.4**	83.8	94.0***
(2)	79.3	305	78.9	79.3	76.1	82.1	90.9	76.9**	83.6	78.3	68.7	82.4**
(3)	65.8	304	69.2	63.2	71.6	62.7	63.6	67.5	65.0	66.0	61.8	66.9
(4)	42.8	304	41.2	49.4	45.0	43.1	40.9	44.9	41.7	43.0	34.3	45.1
(5)	42.1	304	44.3	38.8	44.8	40.4	30.8	45.8**	31.7	44.7*	39.1	42.9

support for this suggestion, as analysts of smaller firms and of firms that are followed by a few analysts[58] maintain their opinion about the importance of the analyst consensus forecasts.

We find a greater importance of analyst consensus forecasts of EPS and a smaller importance of the same quarter last year EPS for analysts of the technology industry relative to analysts of other industries. Apparently, analysts depend more on forecasts of other analysts and on less static earnings benchmarks when firms are more difficult to value and experience more uncertainties. Ramnath, Rock, and Shane (2008) suggest that a potential reason for analysts' herding behavior is uncertainty about a firm's future performance. The greater reliance on consensus forecasts in the technology sector provides preliminary evidence of this behavior.

The conditional averages also indicate that analysts with a longer tenure rely more on their personal EPS forecast than analysts with a tenure up to four years. This is in line with the argument that less experienced analysts are motivated to rely more on the consensus forecasts, as they are more likely to be fired for providing inaccurate forecasts (Hong, Kubik, and Solomon, 2000). Our results further indicate that, even though analysts with larger portfolios tend to make less accurate forecasts (Clement, 1999), they rely more on their own forecast than analysts with a small portfolio of firms. Their greater reliance on the consensus forecasts may help them to provide more accurate forecasts.

5.3.3 Meeting earnings benchmarks

Accounting studies document several incentives for firms to target earnings benchmarks. Graham, Harvey, and Rajgopal (2005) investigate incentives related to stock prices, stakeholders, employee bonuses, career concerns, and debt covenants, as derived from Healy and Wahlen (1999), Dechow and Skinner (2000), and Fields, Lys, and Vincent (2001). Their survey findings suggest that CFOs mainly consider stock price driven motivations to meet earnings benchmarks, followed by their reputation concerns and the firm's stakeholders. Table 5.4 documents analysts' answers to the question why the firms that they follow should try to meet earnings benchmarks.

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[58] Note that we classify firms with a few analysts as firms with up to ten analysts, while the threshold for the results of Graham, Harvey, and Rajgopal (2005) is up to five analysts. For our two observations of firms with up to five analysts, the analysts find the analyst consensus forecast strongly important for the assessment of the reported quarterly earnings of the firm that they follow.

5.3.3.1 Stock price driven motivations

Previous studies suggest that the market views meeting and beating earnings benchmarks to be important. Investors reward firms that meet and beat earnings benchmarks, while they punish firms that fall short of earnings benchmarks (e.g., Skinner and Sloan, 2002; Athanasakou, Strong, and Walker; 2007). In addition, firms that achieve earnings benchmarks consistently over time are priced at a premium (Barth, Elliott, and Finn, 1999; Kasznik and McNichols, 2002). The market also values firms that beat earnings benchmarks in the form of analyst forecasts at a premium, when this premium is an indicator for future performance (Bartov, Givoly, and Hayn, 2002; Kasznik and McNichols, 2002; Athanasakou, Strong, and Walker; 2007). However, this market premium is lower or even absent for firms that meet or beat analyst forecasts as a result of earnings or expectations management (Bartov, Givoly, and Hayn, 2002; Athanasakou, Strong, and Walker; 2007). Skinner and Sloan (2002) show that growth firms get more severely punished when they miss analyst forecasts than value firms.

The analyst survey results in Table 5.4 support the importance of stock price related motivations for meeting earnings benchmarks, which appear on the top of the analysts' list. That is, 88.2% of the analysts believe that meeting earnings benchmarks helps firms to build credibility with capital markets. A high majority of the analysts (i.e., 87.5%) also believe that it helps to convey the firm's future growth prospects to investors. Finally, analysts agree on the argument that it helps to maintain or increase the stock price (i.e., 77.1%) and reduce stock price volatility (57.8%). Analysts and CFOs broadly agree on the information content of meeting and beating earnings benchmarks.

5.3.3.2 Stakeholder motivations

Bowen, DuCharme, and Shores (1995) and Burgstahler and Dichev (1997) argue that firms can get better terms of trade with stakeholders, such as customers, suppliers, and lenders, when showing higher earnings, since higher earnings can enhance their reputation for fulfilling the claims with their stakeholders. Meeting earnings benchmarks can have the same implication. Our results show that 41.2% of the analysts view the assurance of a stable business to customers and suppliers as a meaningful reason to meet earnings benchmarks. This percentage increases to 60.8% for firms that operate in the technology industry. Relative to CFOs, the average ratings indicate that CFOs attach more importance to the stakeholder motivation to meet earnings benchmarks than analysts suggest CFOs should do.

Table 5.4

Survey response to the question:

Do these statements describe why the firm you follow should try to meet earnings benchmarks?

The answer of the respondents could vary between -2 (i.e., strongly disagree) and $+2$ (i.e., strongly agree). Panel A shows the percentage of respondents that answers agree or strongly agree, the percentage of respondents that answers disagree or strongly disagree, and the average rating. A higher average rating corresponds with more agreement. The panel further provides the average rating of the CFOs of public firms as derived from Graham, Harvey, and Rajgopal (2005). We calculate the difference as the analysts' average rating minus the CFOs' average rating. The first difference test provides the significance of the outcome of a difference-of-means t-test. The second test is the outcome of an ordered logit regression, where the dependent variable is the answered value and the independent variables are an analyst dummy that equals one for observations from our analyst sample, four revenues dummies, and nine industry dummies. The corrected difference $\beta=0$ is the significance of the coefficient of the analyst dummy. Panel B reports the percentage of analysts that agree or strongly agree with each statement for different subsamples. Except for the number of analysts, we use the same thresholds as Graham, Harvey, and Rajgopal (2005). The subsamples are Size, where large firms have revenues higher than $1 billion; P/E ratio, where a high P/E ratio is larger than 17; Credit rating, where high indicates above investment grade; Tech industry, which are firms from the technology industry; Guidance, where little refers to analysts that indicate that the firm they follow provides no or little earnings guidance; Earnings path, where bumpy refers to the analyst's answer of -2 or -1 on a scale of -2 (bumpy) to $+2$ (smooth) to the question whether their firm has a smooth earnings path; CEO tenure, where short is a tenure up to four years; Number of analysts, where few stands for one to ten analysts that follow the firm the analyst had in mind; Analyst tenure, where short stands for a tenure as financial analyst for up to four years; and Analyst portfolio, where small indicates a portfolio of up to ten firms that the analyst follows. ***, **, and * denote that the differences are significantly different at the 1%, 5%, and 10% level, respectively. The conditional averages in panel B are based on non-missing observations.

Panel A: Unconditional averages

Meeting earnings benchmarks helps…	Analyst sample				Analysts vs. CFOs			
	% agree or strongly agree	% disagree or strongly disagree	Average rating	H_0: Average rating $=0$	Average rating CFOs	Difference	H_0: Difference $=0$	H_0: Corrected difference $\beta=0$
(1) this firm to build credibility with the capital market	88.2	3.4	1.26	***	1.17	0.09		
(2) this firm to convey its future growth prospects to investors	87.5	2.7	1.22	***	0.90	0.32	***	***
(3) the external reputation of the firm's management team	82.2	3.4	1.08	***	0.95	0.13	**	
(4) this firm to maintain or increase its stock price	77.1	7.4	1.07	***	1.06	0.01		
(5) this firm to maintain or reduce stock price volatility	57.8	15.3	0.53	***	0.74	-0.21	***	**
(6) this firm to assure customers and suppliers that its business is stable	41.2	24.3	0.20	***	0.50	-0.31	***	***
(7) this firm to achieve or preserve a desired credit rating	30.2	28.5	-0.04		0.07	-0.11		***
(8) this firm to avoid violating debt-covenants	29.9	31.3	-0.06		-0.28	0.22	**	**
(9) this firm's employees to achieve bonuses	27.8	34.2	-0.14	**	0.06	-0.20	**	***

Table 5.4 (continued)

Panel B: Conditional averages

Question	% agree or strongly agree	Obs.	Size		P/E		Credit rating		Tech industry		Guidance	
			Small	Large	Low	High	Low	High	Other	Tech	Little	Much
(1)	88.2	297	90.3	89.4	87.3	93.5	86.7	91.0	89.8	88.2	83.7	90.7
(2)	87.5	296	83.9	88.5	84.0	92.5**	93.3	85.6	86.7	92.2	91.8	87.1
(3)	82.2	297	77.4	83.3	82.7	82.4	86.7	83.0	82.7	82.4	75.5	84.5
(4)	77.1	297	74.2	78.0	72.7	84.3**	73.3	79.3	77.9	74.5	71.4	78.8
(5)	57.8	294	70.0	56.4	56.4	56.1	73.3	55.4	57.4	58.8	66.0	55.6
(6)	41.2	296	41.9	41.0	35.6	43.5	26.7	36.9	36.4	60.8***	42.9	40.4
(7)	30.2	295	16.1	32.5*	28.9	31.5	33.3	31.6	30.7	30.0	30.6	30.4
(8)	29.9	294	26.7	31.3	32.7	25.0	33.3	30.3	31.8	25.5	30.6	30.5
(9)	27.8	295	16.1	29.6	25.5	32.7	33.3	31.2	29.9	21.6	30.6	27.2

Question	% agree or strongly agree	Obs.	Earnings path		CEO tenure		Number of analysts		Analyst tenure		Analyst portfolio	
			Smooth	Bumpy	Short	Long	Few	Many	Short	Long	Small	Large
(1)	88.2	297	89.5	85.1	87.2	91.1	89.4	89.4	84.5	89.1	79.7	90.6**
(2)	87.5	296	90.0	86.2	87.2	88.0	92.4	86.5	87.9	87.4	89.1	87.1
(3)	82.2	297	83.0	82.8	80.7	83.9	78.8	83.7	79.3	82.8	79.7	82.8
(4)	77.1	297	77.8	77.0	72.5	80.4	75.8	77.4	72.4	78.2	81.3	76.0
(5)	57.8	294	60.6	53.5	52.3	61.1	64.1	56.0	56.1	58.2	61.9	56.7
(6)	41.2	296	42.4	41.4	33.0	46.1**	43.1	40.4	50.0	39.1	43.8	40.5
(7)	30.2	295	31.2	24.4	33.9	28.3	28.8	30.6	31.0	30.0	20.3	32.9*
(8)	29.9	294	29.0	30.2	29.0	31.7	37.9	28.3	41.4	27.1**	28.1	30.4
(9)	27.8	295	28.2	27.6	28.7	28.1	27.3	28.6	14.0	31.1***	29.7	27.3

5.3.3.3 Employee bonuses

Following Healy (1985), there is considerable evidence that managers exercise discretion in their accounting choices to increase their compensation.[59] In relation to earnings benchmarks, Matsunaga and Park (2001) show that executives are more likely to experience a reduction in their bonus compensation after their firm fails to meet analyst earnings forecasts or after a decrease in quarterly EPS relative to the previous year EPS two times in a row. However, according to Graham, Harvey, and Rajgopal (2005), CFOs do not find their bonus to be a major consideration for achieving an earnings benchmark. The authors derive two explanations from their interviews with CFOs. First, most CFOs do not necessarily receive a bonus after meeting earnings benchmarks due to the frequent use of internal targets or internal "stretch goals" to receive bonuses, which are normally higher than earnings benchmarks. Second, CFOs mentioned that their bonus is not as important as their standard salary and stock remuneration that typically are of much higher value. Another possible issue why CFOs might posit the unimportance of achieving bonuses as a reason to achieve earnings benchmarks is a tendency to provide socially desirable answers. In line with this reasoning, our results show that analysts do not agree with the argument that firms should try to meet earnings benchmarks for employees to achieve bonuses.

5.3.3.4 Career concerns

Career concerns can be a major reason for achieving earnings benchmarks. Previous studies show that executives are more likely to be replaced when their firm does not achieve analyst forecasts (e.g., Puffer and Weintrop, 1991; DeFond and Park, 1999; Farrell and Whidbee, 2003). These executives should be concerned about being dismissed, as their subsequent job is often significantly inferior to their previous position (Fee and Hadlock, 2004). Moreover, executives that meet or slightly beat analyst forecasts can enhance their reputation (Feng, 2004). The CFO survey results of Graham, Harvey, and Rajgopal (2005) show that CFOs posit their external reputation as one of the most important reasons to hit earnings benchmarks. Our analyst results justify CFOs' position. Specifically, 82.2% of the analysts agree that firms should achieve earnings benchmarks for the external reputation of the firm's management team.

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[59] See Fields, Lys, and Vincent (2001) for an overview.

5.3.3.5   Debt covenants

A possible reason for managing earnings is to reduce the probability of violating debt covenants, thereby reducing the expected costs of debt (Watts and Zimmerman, 1990). In line with this reason, DeFond and Jiambalvo (1994), for instance, show that in the year prior to covenant violation, firms report positive abnormal accruals. Dechow and Skinner (2000) are rather sceptical about the importance of the violation of debt covenants to practitioners. Our analyst survey results as well as the CFO survey results (Graham, Harvey, and Rajgopal, 2005) are consistent with the unimportance of earnings benchmarks regarding debt covenants. The average rating for the debt covenant argument is not significant and equals -0.06.

5.3.4   Missing earnings benchmarks

Graham, Harvey, and Rajgopal (2005) ask CFOs why their company tries to avoid missing an earnings benchmark. CFOs' two main concerns are that it creates uncertainty about the firm's future prospects and that it is an indication of previously unknown problems in the firm. The authors explain their results by means of their subsequent interviews with CFOs. Most of the CFOs' answers relate to the market's perception of why the firm is not being able to meet the earnings targets. In particular, they state that the market generally expects that well-managed and stable firms should be able to find the money to achieve the earnings benchmarks, also when these firms operate in down periods. Especially when the firm has previously guided analysts to an earnings target, not meeting this benchmark signals poor management. Clearly from CFOs' perspective, financial markets are ill-informed and analysts are important in the interpretation and dissemination of firm information.

To examine how analysts, as participants of the market, do evaluate firms that miss earnings benchmarks, we ask them why the firms that they follow should try to avoid missing an earnings benchmark. Table 5.5 shows that their view mainly confirms CFOs' survey answers and interview statements. In particular, 88.5% of the analysts agree with the statements that missing earnings benchmarks creates uncertainty about the firm's future prospects. This percentage becomes even 98% for analysts that follow firms in the technology sector. Almost 80% of the analysts believe that firm that fail to meat earnings benchmarks may have previously unknown problems.

Though CFOs refer in interviews explicitly to the role of analysts in that these analysts might doubt the underlying assumptions of their model if their firm fails to

Table 5.5

Survey response to the question:

Do these statements describe why the firm you follow should try to avoid missing an earnings benchmark?

The answer of the respondents could vary between -2 (i.e., strongly disagree) and +2 (i.e., strongly agree). Panel A shows the percentage of respondents that answers agree or strongly agree, the percentage of respondents that answers disagree or strongly disagree, and the average rating. A higher average rating corresponds with more agreement. The panel further provides the average rating of the CFOs of public firms as derived from Graham, Harvey, and Rajgopal (2005). We calculate the difference as the analysts' average rating minus the CFOs' average rating. The first difference test provides the significance of the outcome of a difference-of-means t-test. The second test is the outcome of an ordered logit regression, where the dependent variable is the answered value and the independent variables are an analyst dummy that equals one for observations from our analyst sample, four revenues dummies, and nine industry dummies. The corrected difference $\beta=0$ is the significance of the coefficient of the analyst dummy. Panel B reports the percentage of analysts that agree or strongly agree with each statement for different subsamples. Except for the number of analysts, we use the same thresholds as Graham, Harvey, and Rajgopal (2005). The subsamples are Size, where large firms have revenues higher than $1 billion; P/E ratio, where a high P/E ratio is larger than 17; Credit rating, where high indicates above investment grade; Tech industry, which are firms from the technology industry; Guidance, where little refers to analysts that indicate that the firm they follow provides no or little earnings guidance; Earnings path, where bumpy refers to the analyst's answer of -2 or -1 on a scale of -2 (bumpy) to +2 (smooth) to the question whether their firm has a smooth earnings path; CEO tenure, where short is a tenure up to four years; Number of analysts, where few stands for one to ten analysts that follow the firm the analyst had in mind; Analyst tenure, where short stands for a tenure as financial analyst for up to four years; and Analyst portfolio, where small indicates a portfolio of up to ten firms that the analyst follows. ***, **, and * denote that the differences are significantly different at the 1%, 5%, and 10% level, respectively. The conditional averages in panel B are based on non-missing observations.

Panel A: Unconditional averages

Missing an earnings benchmark hurts this firm because…	Analyst sample				Analysts vs. CFOs			
	% agree or strongly agree	% disagree or strongly disagree	Average rating	H_0: Average rating =0	Average rating CFOs	Difference	H_0: Difference =0	H_0: Corrected difference $\beta=0$
(1) it creates uncertainty about the firm's future prospects	88.5	4.7	1.31	***	0.97	0.34	***	***
(2) there may be previously unknown problems at the firm	79.7	7.8	0.99	***	0.49	0.50	***	***
(3) it leads to increased scrutiny of all aspects of the firm's earnings releases	54.4	16.2	0.48	***	0.07	0.41	***	***
(4) the firm may lack the flexibility to meet the benchmark	42.0	23.7	0.19	***	-0.14	0.33	***	***
(5) it increases the possibility of lawsuits	8.5	58.3	-0.74	***	-0.20	-0.53	***	***

Table 5.5 (continued)

Panel B: Conditional averages

Question	% agree or strongly agree	Obs.	Size		P/E		Credit rating		Tech industry		Guidance	
			Small	Large	Low	High	Low	High	Other	Tech	Little	Much
(1)	88.5	295	90.3	89.3	87.2	90.7	86.7	89.8	87.5	98.0**	85.7	90.6
(2)	79.7	295	64.5	81.5**	80.5	79.4	60.0	83.3**	80.8	74.5	79.6	79.5
(3)	54.4	296	54.8	54.5	51.3	59.8	60.0	54.3	52.4	64.7	58.3	54.0
(4)	42.0	295	41.9	42.4	41.6	42.1	46.7	44.9	43.1	40.0	42.9	42.4
(5)	8.5	295	16.1	8.2	9.4	6.5	13.3	7.5	8.0	13.7	4.1	9.8

Question	% agree or strongly agree	Obs.	Earnings path		CEO tenure		Number of analysts		Analyst tenure		Analyst portfolio	
			Smooth	Bumpy	Short	Long	Few	Many	Short	Long	Small	Large
(1)	88.5	295	90.6	86.0	89.9	89.2	87.7	89.9	86.0	89.1	87.5	88.7
(2)	79.7	295	80.5	77.0	81.5	78.4	73.8	81.6	86.2	78.1	87.5	77.5*
(3)	54.4	296	57.1	49.4	50.9	57.1	62.1	52.7	44.8	56.7	59.4	53.0
(4)	42.0	295	47.1	39.5	46.7	39.9	43.1	42.0	36.2	43.5	42.2	42.0
(5)	8.5	295	8.8	8.1	7.5	10.1	12.1	7.8	3.4	9.7	4.7	9.5

achieve an earnings benchmark (Graham, Harvey, and Rajgopal, 2005), they do not believe that it leads to increased scrutiny of all aspects of the firm's earnings releases (average rating equals 0.07). On the contrary, more than 50% of the analysts believe that missing earnings benchmarks leads to increased scrutiny (average rating equals 0.48). In addition, 42% suspects a lack of flexibility to meet the benchmark, while the average surveyed CFO does not agree with that statement.

Firms can experience a sharp share price decline after missing an earnings benchmark (e.g., Skinner and Sloan, 2002) and such share price declines around earnings announcements can lead to increased litigation threat (Skinner, 1994; Kasznik and Lev, 1995). Therefore, we would expect that the increase in the possibility of lawsuits would be an important reason for not missing an earnings benchmark. However, neither analysts nor CFOs agree with this statement.

5.4   Value implications of a firm's actions to avoid missing earnings benchmarks

The previous section discussed the importance of earnings benchmarks and the most important reasons why firms should try to meet or beat these benchmarks. Given this importance, firms can take either accounting or real actions to reduce the probability of missing earnings benchmarks. Firms that engage in accounting actions manipulate accruals without an impact on cash flows. Several papers provide evidence that firms engage in accruals management (see Healy and Wahlen, 1999; Dechow and Skinner, 2000; Beneish, 2001; and Fields, Lys, and Vincent, 2001 for surveys), though more recent evidence shows a decrease in this type of earnings management, as it is associated with huge accounting scandals (e.g., Enron and Worldcom) and the introduction of the 2002 Sarbanes-Oxley Act (SOX) (e.g., Bartov and Cohen, 2007; Koh, Matsumoto, and Rajgopal 2007).

Firms that engage in real actions to manage earnings mainly affect cash flows. Some papers provide evidence that firms take real actions to meet or beat earnings benchmarks. For instance, firms often reduce R&D expenditures to meet earnings benchmarks (e.g., Baber, Fairfield, and Haggard, 1991; Dechow and Sloan, 1991; Bushee, 1998). Another example is the timing of asset sales during periods in which firms would have to report a decline in earnings (Bartov, 1993). Roychowdhury (2006) suggests that firms are more likely to overproduce, reduce discretionary expenditures, or manipulate sales to improve reported margins and thereby avoid reporting losses or missing analyst forecasts. Another real action that firms take to achieve analyst earnings forecasts is repurchasing shares. Hribar, Jenkins, and Johnson (2006) find a higher than expected number of EPS-increasing stock

repurchases for firms with pre-repurchase earnings numbers that are slightly lower than analyst forecasts, while they find a lower than expected number of EPS-increasing stock repurchases for firms with pre-repurchase earnings number that are slightly higher than analyst forecasts. In addition, Myers, Myers, and Skinner (2006) show that firms strategically time share repurchases to maintain reporting a string of earnings increases.

Some real actions may be optimal, while other real actions might destroy value as it could have a negative impact on future cash flows (Roychowdhury, 2006). Accruals management can also be costly. Previous studies find that accruals management prior to secondary equity offerings and stock-for-stock mergers is negatively related with post-transaction stock returns and positively related with the incidence of post-transaction lawsuits (DuCharme, Malatesta, and Sefcik, 2004; Gong, Louis, and Sun, 2008. Bartov and Cohen (2007) argue that managers could perceive accruals management as more costly due to the increased scrutiny for earnings management after the accounting scandals and the stricter requirements and legal consequences as introduced by SOX. The authors show a decrease in both expectations management and accruals management and an increase in real earnings management in the Post-SOX Period relative to the Pre-SOX Period. In a related study, Koh, Matsumoto, and Rajgopal (2007) show that managers use expectations management as a substitute for accruals management in the Post-SOX Period. We ask for analysts' opinion about the value implications of actions that firms can take to avoid missing earnings benchmarks and relate these results to CFOs' willingness to take these actions as derived from Graham, Harvey, and Rajgopal (2005). Table 5.6 displays the results.

In line with greater scrutiny and potential legal liability costs of accruals management in the Post-SOX Period, our results indicate that analysts view real actions to meet the desired earnings target as most value enhancing or least value destroying relative to the accruals actions. In particular, the top four of most value-creating/least value-destroying choices are repurchasing common shares (i.e., number 1), decreasing discretionary spending (i.e., number 2), providing incentives for customers to buy more products this quarter (i.e., number 3), and delaying starting a new project, even if this entails a small sacrifice in value (i.e., number 4), which are all real actions. Except for the decision to sell investments or assets to recognize gains this quarter (i.e., number 7), the bottom of the list contains accruals actions. When relating analysts' view on the value implications of the different choices, CFOs' preferences generally go in the direction of the least value-decreasing actions. Graham, Harvey, and Rajgopal's (2005) interviews with CFOs corroborate CFOs' fear for legal actions when regulators suspect earnings management. Real actions to manage earnings are less apparent to regulators and thereby relatively less costly.

Table 5.6

Survey response to the question:

Hypothetical scenario: Near the end of the quarter, it looks like the firm you follow might come in below the desired earnings target. Within what is permitted by GAAP, what are the value implications of the following choices for the firm you follow?

The answer of the respondents could vary between -2 (i.e., value destroying) and +2 (i.e., value creating). Panel A shows the percentage of respondents that answers value creating (i.e., value +1 or +2), the percentage of respondents that answers value destroying (i.e., value -2 or -1), and the average rating. A higher average rating corresponds with more value creation. The panel further provides the average rating of the CFOs of public firms as derived from Graham, Harvey, and Rajgopal (2005). We calculate the difference as the analysts' average rating minus the CFOs' average rating. The first difference test provides the significance of the outcome of a difference-of-means t-test. The second test is the outcome of an ordered logit regression, where the dependent variable is the answered value and the independent variables are an analyst dummy that equals one for observations from our analyst sample, four revenues dummies, and nine industry dummies. The corrected difference β=0 is the significance of the coefficient of the analyst dummy. Panel B reports the percentage of analysts that agree or strongly agree with each statement for different subsamples. Except for the number of analysts, we use the same thresholds as Graham, Harvey, and Rajgopal (2005). The subsamples are Size, where large firms have revenues higher than $1 billion; P/E ratio, where a high P/E ratio is larger than 17; Credit rating, where high indicates above investment grade; Tech industry, which are firms from the technology industry; Guidance, where little refers to analysts that indicate that the firm they follow provides no or little earnings guidance; Earnings path, where bumpy refers to the analyst's answer of -2 or -1 on a scale of -2 (bumpy) to +2 (smooth) to the question whether their firm has a smooth earnings path; CEO tenure, where short is a tenure up to four years; Number of analysts, where few stands for one to ten analysts that follow the firm the analyst had in mind; Analyst tenure, where short stands for a tenure as financial analyst for up to four years; and Analyst portfolio, where small indicates a portfolio of up to ten firms that the analyst follows. ***, **, and * denote that the differences are significantly different at the 1%, 5%, and 10% level, respectively. The conditional averages in panel B are based on non-missing observations.

Panel A: Unconditional averages

Question	Analyst sample				Analysts vs. CFOs			
	% value creating	% value destroying	Average rating	H0: Average rating =0	Average rating CFOs	Difference	H0: Difference =0	H0: Corrected difference β=0
(1) Repurchase common shares	58.0	13.6	0.55	***	-1.02	1.57	***	***
(2) Decrease discretionary spending	30.0	45.9	-0.28	***	1.00	-1.28	***	***
(3) Provide incentives for customers to buy more products this quarter	17.8	56.8	-0.55	***	-0.11	-0.44	***	**
(4) Delay starting a new project, even if this entails a small sacrifice in value	17.4	58.5	-0.56	***	0.33	-0.89	***	***
(5) Book revenues now rather than next quarter	15.0	50.3	-0.53	***	-0.12	-0.41	***	***
(6) Draw down on reserves previously set aside	9.4	53.1	-0.63	***	-0.45	-0.18	*	*
(7) Sell investments or assets to recognize gains this quarter	8.3	59.4	-0.77	***	-0.77	0.00		
(8) Postpone taking an accounting charge	6.9	43.9	-0.55	***	-0.72	0.17	**	
(9) Alter accounting assumptions (e.g., allowances, pensions, etc.)	2.1	78.0	-1.26	***	-1.22	-0.04		

Table 5.6 (continued)

Panel B: Conditional averages

Question	% value creating	Obs.	Size		P/E		Credit rating		Tech industry		Guidance		Analyst portfolio	
			Small	Large	Low	High	Low	High	Other	Tech	Little	Much	Small	Large
(1)	58.0	286	54.8	58.1	56.8	62.3	53.3	57.1	57.7	56.9	48.9	58.9	52.5	59.5
(2)	30.0	290	32.3	29.2	27.5	32.7	20.0	28.0	23.7	56.9***	18.8	32.4*	33.3	29.1
(3)	17.8	287	25.8	16.9	15.4	19.8	6.7	17.3	15.7	27.5**	18.8	17.4	25.4	15.8*
(4)	17.4	287	6.5	19.0*	15.4	19.8	20.0	16.7	15.2	30.0**	16.7	18.3	20.3	16.7
(5)	15.0	286	10.0	16.1	12.2	17.9	0.0	14.6	13.5	24.0*	12.8	15.6	17.2	14.5
(6)	9.4	286	6.5	9.5	8.7	9.4	0.0	12.4	8.9	10.0	10.4	8.9	8.6	9.6
(7)	8.3	288	9.7	7.8	9.4	4.7	13.3	7.5	8.5	5.9	10.4	7.1	11.9	7.4
(8)	6.9	289	6.5	7.4	6.7	6.5	13.3	5.4	6.7	9.8	14.6	5.8**	3.3	7.9
(9)	2.1	286	3.2	2.1	2.0	0.9	0.0	2.2	2.7	0.0	4.2	1.3	1.7	2.2

Question	% value creating	Obs.	Earnings path		CEO tenure		Number of analysts		Analyst tenure	
			Smooth	Bumpy	Short	Long	Few	Many	Short	Long
(1)	58.0	286	57.1	61.6	57.0	57.8	58.5	58.0	50.9	59.7
(2)	30.0	290	27.6	35.6	30.6	29.3	33.8	28.5	26.8	30.8
(3)	17.8	287	20.8	11.5*	15.0	19.8	21.5	17.0	20.0	17.2
(4)	17.4	287	21.3	9.3**	13.0	21.1*	27.7	15.0**	23.6	15.9
(5)	15.0	286	16.1	14.9	15.0	15.7	15.6	15.0	16.4	14.7
(6)	9.4	286	7.1	13.8*	11.1	7.8	4.7	10.6	5.6	10.3
(7)	8.3	288	7.1	9.2	5.6	9.6	12.3	6.8	12.7	7.3
(8)	6.9	289	7.1	8.0	9.3	6.0	9.2	6.8	5.4	7.3
(9)	2.1	286	2.4	1.2	1.9	2.4	4.7	1.5	5.5	1.3*

One choice where analysts and CFOs do not agree on is share repurchases. Share repurchases could have an impact on firm value in two ways. On the one hand, share repurchases can be value decreasing, because the costs of external financing can lead firms that use cash to repurchase shares to pass up value-enhancing investment projects (Myers, 1984). On the other hand, share repurchases can be value enhancing due to the reduction in agency costs associated with the otherwise retained earnings (Jensen, 1986). In relation to meeting earnings benchmarks, Hribar, Jenkins, and Johnson (2006) show that investors put a discount on firms that meet or beat analyst earnings forecasts due to share repurchases, though it helps to avoid an extreme share price decline. Our results indicate that analysts view a share repurchase as the most value-enhancing action that firms could take to meet their earnings target (average rating equals 0.55), while CFOs posit that they are not willing to choose this option to reach an earnings target (average rating equals -1.02).[60] A possible explanation for this result is that analysts may view share repurchases as a reduction in agency costs, regardless of the purpose of the share repurchase.

The conditional results in panel B suggest that analysts that follow high-tech firms have a significantly less pessimistic view on several real actions that firms can take (see number 2, 3, and 4). Given that 98% of analysts following high-tech firms agrees with the statement that missing an earnings benchmark creates uncertainty about the firm's future prospects (see Table 5.5), they might perceive greater benefits of meeting earnings targets and lower costs of real actions to meet these targets than analysts of firms that operate in other industries. The conditional analyses further suggest that analysts who follow firms with a smooth earnings path believe that providing incentives to buy more products this quarter and delaying starting a new project is less value destroying than analysts that follow firms with a bumpy earnings path.

5.5   Smooth earnings paths

Smoothing earnings is a specific form of earnings management, where firms aim to diminish the fluctuations in their reported earnings. This section discusses how analysts perceive the consequences of earnings smoothing and whether they recommend firms to sacrifice value to accomplish a smooth earnings path.

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[60] However, in another survey, about three quarters of the CFOs maintain that an increase in EPS is important for their share-repurchase decisions (Brav, Graham, Harvey, and Michaely, 2005). In addition, 69% of the CFOs of firms that had seriously considered an equity issue view EPS dilution as an important factor that influences their equity issue decision (Graham and Harvey, 2005).

5.5.1   The consequences for firms that smooth their earnings path

According to Previts, Bricker, Robinson, and Young (1994), analysts prefer to follow firms with a smooth earnings path. The authors argue that smooth earnings bring about a "low-risk earnings platform" for making forecasts and recommendations. From a firm's perspective, Graham, Harvey, and Rajgopal (2005) show that 96.9% of their surveyed CFOs have a preference for a smooth earnings path. There is considerable evidence that many firms put this preference into practice by actually smoothing their earnings path (e.g., Beidleman, 1973; Ronen and Sadan, 1981; Hand, 1989; Barth, Elliot, and Finn, 1999; Myers, Myers, and Skinner, 2006). Managers have incentives to smooth their earnings, as it can lead to higher share prices (e.g., Ronen and Sadan, 1981; Myers, Myers, and Skinners, 2006) and to a lower cost of equity (Francis, LaFond, Olsson, and Schipper, 2004). Firms also smooth their earnings to reduce their cost of debt and to get better trade terms with suppliers and customers (Trueman and Titman, 1988). A more personal reason for managers is to achieve their bonus targets (Healy, 1985) or to protect their job (Fudenberg and Tirole, 1995). Goel and Thakor (2003) argue that firms smooth earnings for uninformed investors that need to trade for liquidity reasons and can experience large losses if the firm's earnings were more volatile.

Since one of the major tasks for analysts is to predict a firm's future performance, we inquire about the consequences of earnings smoothing for the firm that they follow. Table 5.7 provides the results. The results show a high agreement among analysts who view earnings as easier to predict for smoothing firms (i.e., 83% agree). Moreover, the non-significant difference between the average ratings of analysts and CFOs (i.e., 1.01 vs. 0.99, respectively) suggests that CFOs share this view. A majority of the analysts further consider smooth earnings to be less risky (i.e., 56.7% agree) and that demand a lower return (i.e., 42.2% agree). CFOs seem to share this opinion, though they are more optimistic about the risk and return consequences.

In line with the better trade terms with customers and suppliers as theorized by Trueman and Titman (1988), 43.8% of the analysts agree that a smooth earnings path would assure customer and suppliers that the business is stable. Trueman and Titman (1988) also argue that smooth earnings could decrease the cost of debt. However, analysts vary in their opinion about the consequences of earnings smoothing for a firm's desired credit rating. In particular, 34.2% agrees on a positive impact on a firm's desired credit rating, while 20.6% disagrees. The conditional analyses in panel B suggest that the positive impact is mainly important for firms with a credit rating below investment grade.

Previous studies argue that managers smooth earnings to reveal their private information about future earnings (e.g., Ronen and Sadan, 1981; Kirschenheiter and

Table 5.7

Survey response to the question:

If the firm you follow would smoothen its earnings path, what would be the consequences?

The answer of the respondents could vary between −2 (i.e., strongly disagree) and +2 (i.e., strongly agree). Panel A shows the percentage of respondents that answers agree or strongly agree, the percentage of respondents that answers disagree or strongly disagree, and the average rating. A higher average rating corresponds with more agreement. The panel further provides the average rating of the CFOs of public firms as derived from Graham, Harvey, and Rajgopal (2005). We calculate the difference as the analysts' average rating minus the CFOs' average rating. The first difference test provides the significance of the outcome of a difference-of-means *t*-test. The second test is the outcome of an ordered logit regression, where the dependent variable is the answered value and the independent variables are an analyst dummy that equals one for observations from our analyst sample, four revenues dummies, and nine industry dummies. The corrected difference β=0 is the significance of the coefficient of the analyst dummy. Panel B reports the percentage of analysts that agree or strongly agree with each statement for different subsamples. Except for the number of analysts, we use the same thresholds as Graham, Harvey, and Rajgopal (2005). The subsamples are Size, where large firms have revenues higher than $1 billion; P/E ratio, where a high P/E ratio is larger than 17; Credit rating, where high indicates above investment grade; Tech industry, which are firms from the technology industry; Guidance, where little refers to analysts that indicate that the firm they follow provides no or little earnings guidance; Earnings path, where bumpy refers to the analyst's answer of −2 or −1 on a scale of −2 (bumpy) to +2 (smooth) to the question whether their firm has a smooth earnings path; CEO tenure, where short is a tenure up to four years; Number of analysts, where few stands for one to ten analysts that follow the firm the analyst had in mind; Analyst tenure, where short stands for a tenure as financial analyst for up to four years; and Analyst portfolio, where small indicates a portfolio of up to ten firms that the analyst follows. ***, **, and * denote that the differences are significantly different at the 1%, 5%, and 10% level, respectively. The conditional averages in panel B are based on non-missing observations.

Panel A: Unconditional averages

If the firm that I follow would smoothen its earnings path…	Analyst sample				Analysts vs. CFOs			
	% agree or strongly agree	% disagree or strongly disagree	Average rating	H_0: Average rating =0	Average rating CFOs	Difference	H_0: Difference =0	H_0: Corrected difference β=0
(1) it would be easier to predict this firm's future earnings	83.0	8.5	1.01	***	0.99	0.02		
(2) this firm would be less risky	56.7	22.3	0.37	***	1.18	−0.81	***	***
(3) this firm would assure customers/suppliers that business is stable	43.8	24.9	0.17	***	0.61	−0.44	***	***
(4) this firm would reduce the return that investors demand	42.2	25.9	0.16	***	0.55	−0.39	***	***
(5) this firm would promote a reputation for transparent and accurate reporting	35.1	33.3	−0.06		0.32	−0.38	***	***
(6) this firm would achieve or preserve a desired credit rating	34.2	20.6	0.10	*	0.21	−0.11		***
(7) this firm would convey higher future growth prospects	22.6	38.4	−0.22	***	0.42	−0.64	***	***
(8) this firm would clarify true economic performance	19.9	42.4	−0.32	***	−0.05	−0.27	***	***

Table 5.7 (continued)

Panel B: Conditional averages

Question	% agree or strongly agree	Obs.	Size		P/E		Credit rating		Tech industry		Guidance	
			Small	Large	Low	High	Low	High	Other	Tech	Little	Much
(1)	83.0	282	83.9	83.5	83.2	85.0	93.3	83.4	80.9	96.0***	76.6	85.0
(2)	56.7	282	51.6	58.0	49.7	68.2**	60.0	55.6	53.3	74.0****	55.3	58.0
(3)	43.8	281	32.3	45.0	41.6	47.2	46.7	43.0	40.6	58.0**	40.4	44.4
(4)	42.2	282	35.5	44.4	40.9	51.4*	46.7	46.0	42.7	46.0	51.1	42.0
(5)	35.1	282	32.3	35.8	32.9	37.4	46.7	33.2	32.4	48.0**	27.7	36.7
(6)	34.2	281	25.8	35.5	33.8	36.4	60.0	38.0*	35.1	32.7	31.9	34.7
(7)	22.6	279	25.8	22.5	15.5	32.1***	13.3	15.7	18.9	40.0***	10.6	25.6**
(8)	19.9	276	22.6	19.4	15.9	22.9	7.7	18.9	17.2	31.3**	12.8	21.4

Question	% agree or strongly agree	Obs.	Earnings path		CEO tenure		Number of analysts		Analyst tenure		Analyst portfolio	
			Smooth	Bumpy	Short	Long	Few	Many	Short	Long	Small	Large
(1)	83.0	282	84.8	80.2	82.2	84.5	81.8	84.5	77.4	84.3	80.7	83.6
(2)	56.7	282	59.1	55.8	53.3	59.5	54.5	57.8	49.1	58.5	61.4	55.6
(3)	43.8	281	47.6	37.2	37.4	47.9*	31.8	47.3**	45.3	43.4	38.6	45.1
(4)	42.2	282	43.9	41.9	43.0	43.5	34.8	46.1	37.7	43.2	42.1	42.2
(5)	35.1	282	39.8	30.2	32.7	36.9	33.3	35.4	32.1	35.8	35.1	35.1
(6)	34.2	281	38.8	24.4**	37.4	32.9	31.8	35.1	24.5	36.4	31.6	34.8
(7)	22.6	279	27.4	15.1**	24.0	22.0	26.2	21.1	15.1	24.3	22.8	22.5
(8)	19.9	276	20.4	24.7	20.0	19.5	20.3	18.8	17.6	20.4	25.9	18.5

Melumad, 2002). In addition, Tucker and Zarowin (2006) empirically show that the stock price of firms that smooth their earnings reflects more information on future earnings than that of firms that do not smooth their earnings. In contrast to these studies, we find that analysts do not perceive a smooth earnings path as being informative about the firm's growth prospects (i.e., average rating equals -0.22). Yet, CFOs posit that a smooth earnings path reveals information about the firm's growth prospects (i.e., average rating equals 0.42). Interestingly, there is a discrepancy between analysts and CFOs. CFOs smoothen their earnings to signal their future expectations, while analysts do not pick up the signal. This conjecture is in line with analysts' disbelieve that smooth earnings clarify true economic performance (i.e., average rating equals -0.32). However, though more CFOs agree that a smooth earnings path would reveal true economic performance, the average rating remains negative (i.e., average rating equals -0.05).

About one third of the analysts agrees with the statement that earnings smoothing promotes the firm's reputation for transparent and accurate reporting, while one third disagrees, leading to an average rating of -0.06. With an average rating of 0.32, CFOs seem to have a more optimistic view on the implications for their firm's reputation. This finding together with our finding on the revelation of the future growth prospects suggests that CFOs have different reasons to smoothen earnings that are not significantly recognized by analysts.

The conditional analyses in panel B indicate that analysts are more positive about the consequences of a smooth earnings path for the high-tech industry. Relative to analysts of other industries, more analysts of high-tech firms believe that a smooth earnings path makes it easier to predict the firm's future earnings, makes the firm less risky, assures that the firm's business is stable, promotes the firm's reputation for transparent and accurate reporting, and reveals more information about the firm's future growth prospects and true economic performance. Overall, the difficulty to value technology firms and the uncertainty about these firms' future performance may make the role of a smooth earnings path more important for analysts.

5.5.2 Value sacrifice to avoid bumpy earnings path

As discussed in the previous section, a smooth earnings path can bring about advantages for the firm's value as well as for its managers. Graham, Harvey, and Rajgopal (2005) ask CFOs how much value they are willing to sacrifice to avoid a bumpy earnings path. We contrast CFOs answers with analysts' answers to the question how much value a firm should sacrifice to avoid a bumpy earnings path. Table 5.8 displays the results. Panel A shows the results for the separate groups of

value sacrifice. Panel B also displays the value sacrifice, but in an aggregated format. For instance, instead of reporting the percentage of respondents that recommends a moderate sacrifice, panel B shows the percentage of respondents that recommends *at least* a moderate sacrifice. Panel C displays the conditional averages.

The results imply remarkable differences. Analysts recommend firms to sacrifice much less value than CFOs are willing to do. Of all analyst respondents, only 13.2% (i.e., 12.1% plus 1.1%) believe that firms should make a moderate to large sacrifice to avoid a bumpy earnings path. This percentage highly contrasts the 60.9% of CFOs (i.e., 46.9% plus 14%) that are willing to make a moderate to large sacrifice. CFOs claim that "the market hates uncertainty" (Graham, Harvey, and Rajgopal, 2005, p.47) and provide share-price related arguments to give up value for a smooth earnings path. The authors relate CFOs' arguments to the risk premium that investors demand as a result of estimation risk in expected returns (e.g., Klein and Bawa, 1976; Xia, 2001), the firm's cost of capital (e.g., Miller, 1977; Anderson, Ghysels, and Juergens, 2005), idiosyncratic return volatility (e.g., Goyal and Santa-Clara, 2003), and information asymmetry (e.g., Barry and Brown, 1985, 1986; Merton 1987).

Though analysts recognize some advantages of a smooth earnings path, they seem to be much more focused on the long-term value of the firm. About one third of the analysts believe that firms should not sacrifice value and about half of the analysts believe that firms should sacrifice only a small amount of money to avoid a bumpy earnings path. Given CFOs' more optimistic view about the implications of a smooth earnings path compared to analysts, CFOs might myopically be willing to give up too much value relative to what analysts and other market participants demand.

The conditional analysis in panel C shows that a higher proportion of analysts believe that high-tech firms should sacrifice small (i.e., 63.3%) or moderate value (i.e., 22.4%) to avoid a bumpy earnings path, suggesting that these firms enjoy greater benefits with a smooth earnings path. Furthermore, though neither analysts with a short or a long tenure favor a moderate or large sacrifice in value to avoid a bumpy earnings path, a significantly smaller proportion of analysts with a long tenure believe that firms should not sacrifice value at all (i.e., 28.5% vs. 54.9%).

5.6   The reasons to voluntarily disclose information

In addition to mandatory financial disclosure, firms can communicate information to the market on a voluntarily basis. Press releases, investors and analyst meetings, conference calls, newsletters, field visits with institutional investors, and disclosure in regulatory filings beyond the mandatory disclosure are channels for voluntary information disclosure. Analysts have a preference to follow firms that provide more

Table 5.8

Survey response to the question:

How large a sacrifice in value should the firm you follow make to avoid a bumpy earnings path?

The answer of the respondents could vary between 0 (i.e., none) and +3 (i.e., large sacrifice). Panel A shows the percentage of respondents per answer. The panel further provides the percentage of respondents of the CFOs of public firms as derived from Graham, Harvey, and Rajgopal (2005). We calculate the difference as the analysts' average rating minus the CFOs' average rating. The first difference test provides the significance of the outcome of a difference-of-means t-test. The second test is the outcome of a binary logit regression, where the dependent variable is a dummy that equals one if the analyst provided that value as answer. E.g., for the answer no sacrifice in value, the dummy is one if the analyst checked "none" and zero otherwise. The independent variables are an analyst dummy that equals one for observations from our analyst sample, four revenues dummies, and nine industry dummies. The corrected difference $\beta=0$ is the significance of the coefficient of the analyst dummy. The corrected difference of all groups is the analyst coefficient and its significance of an ordered logit regression with the same independent variables as the previous regression, but with the value of the answer that ranges from 0 to 3 as dependent variable. Panel B provides similar statistics as panel A, but for the aggregate groups. Panel C reports the percentage of analysts that agree or strongly agree with each statement for different subsamples. Except for the number of analysts, we use the same thresholds as Graham, Harvey, and Rajgopal (2005). The subsamples are Size, where large firms have revenues higher than $1 billion; P/E ratio, where a high P/E ratio is larger than 17; Credit rating, where high indicates above investment grade; Tech industry, which are firms from the technology industry; Guidance, where little refers to analysts that indicate that the firm they follow provides no or little earnings guidance; Earnings path, where bumpy refers to the analyst's answer of -2 or -1 on a scale of -2 (bumpy) to +2 (smooth) to the question whether their firm has a smooth earnings path; CEO tenure, where short is a tenure up to four years; Number of analysts, where few stands for one to ten analysts that follow the firm the analyst had in mind; Analyst tenure, where short stands for a tenure as financial analyst for up to four years; and Analyst portfolio, where small indicates a portfolio of up to ten firms that the analyst follows. ***, **, and * denote that the differences are significantly different at the 1%, 5%, and 10% level, respectively. The conditional averages in panel B are based on non-missing observations.

Panel A: Unconditional averages

	Analyst sample	Analysts vs. CFOs			
	% of respondents	% of respondents CFOs	Difference	H_0: Difference =0	H_0: Corrected difference β =0
None	33.5	5.5	27.9	***	***
Small sacrifice	53.3	33.6	19.8	***	***
Moderate sacrifice	12.1	46.9	-34.8	***	***
Large sacrifice	1.1	14.0	-12.9	***	***

H_0: Corrected difference all groups (β) =0   -2.318 ***

Table 5.8 (continued)

Panel B: Unconditional average of aggregated groups

	Analyst sample	Analysts vs. CFOs			
	% of respondents	% of respondents CFOs	Difference	H_0: Difference =0	H_0: Corrected difference β =0
Total sample	100.0	100.0	0.0		
Large, moderate or small sacrifice	66.5	94.5	-27.9	***	***
Large or moderate sacrifice	13.2	60.9	-47.7	***	***
Large sacrifice	1.1	14.0	-12.9	***	***

Panel C: Conditional averages

	% of resp.	Obs.	Size		P/E		Credit rating		Tech industry		Guidance	
			Small	Large	Low	High	Low	High	Other	Tech	Little	Much
None	33.5	272	41.4	31.4	35.6	29.1	35.7	35.4	36.9	14.3***	31.8	33.2
Small sacrifice	53.3	272	48.3	55.1	54.1	54.4	57.1	54.1	52.1	63.3	56.8	53.6
Moderate sacrifice	12.1	272	10.3	12.3	8.9	15.5	7.1	8.8	9.7	22.4**	9.1	12.3
large sacrifice	1.1	272	0.0	1.3	1.4	1.0	0.0	1.7	1.4	0.0	2.3	0.9

	% of resp.	Obs.	Earnings path		CEO tenure		Number of analysts		Analyst tenure		Analyst portfolio	
			Smooth	Bumpy	Short	Long	Few	Many	Short	Long	Small	Large
None	33.5	272	30.9	31.4	33.0	32.5	30.0	33.8	54.9	28.5***	39.3	31.9
Small sacrifice	53.3	272	54.5	55.8	51.5	55.8	53.3	53.9	39.2	56.6**	46.4	55.1
Moderate sacrifice	12.1	272	13.9	10.5	13.6	11.0	16.7	10.8	5.9	13.6	14.3	11.6
large sacrifice	1.1	272	0.6	2.3	1.9	0.6	0.0	1.5	0.0	1.4	0.0	1.4

extensive financial information (e.g., Lang and Lundholm, 1996; Botosan and Harris, 2000) and strongly rely on information that they receive from the management team (e.g., Previts, Bricker, Robinson, and Young, 1994). In our survey, we ask analysts why firms should voluntarily disclose financial information and group the different reasons into information asymmetry, analyst coverage, stock compensation, management talent, and limits to mandatory disclosure.[61] Table 5.9 provides the results.

5.6.1   Information asymmetry

Investors demand a risk premium for bearing information risk as a result of information asymmetry between firms and investors (Barry and Brown, 1985, 1986; Merton, 1987). By voluntarily disclosing information, firms reduce this information asymmetry, which on its turn decreases their cost of capital. Another effect of voluntary disclosure is that firms reduce the information asymmetry between informed and uninformed investors and thereby increase their stock's liquidity (Diamond and Verrecchia, 1991; Kim and Verrecchia, 1994).

We ask analysts whether firms should voluntarily disclose information for reasons related to a reduction in information asymmetry. Accordingly, 87% of the analysts believe that voluntarily communicating information would reduce the "information risk" that investors assign to the firm's stock. Although information risk is related to the firm's cost of capital, just 43.3% of analysts believe that voluntary disclosure reduces a firm's cost of capital. Another motive that is closely related to the firm's cost of capital is the firm's P/E ratio. More than half of the analysts believe that voluntary disclosure increases the firm's P/E (i.e., 51.6%). Furthermore, 78.2% believes that voluntary communication increases the predictability of the firm's future prospects, 51.5% of the analysts agrees that it corrects the firm's under-valued stock price, and 43% believes that it increases the overall liquidity of the firm's stock. The comparison with CFOs indicates that analysts and CFOs share their view on the information-asymmetry-related consequences of corporate disclosure.

According to Graham, Harvey, and Rajgopal (2005), 92.1% of the CFOs agree with the statement that they disclose financial information voluntarily to promote the firm's reputation for transparent and accurate reporting. These CFOs have a reason to do so, as analysts believe that this is the main reason to voluntarily disclose financial information. Although the CFOs' average rating is higher (i.e., 1.39), the average rating for analysts still equals 1.27 with 89.9% of analysts agreeing with the statement.

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[61] See Healy and Palepu (2001) for a survey.

Table 5.9

Survey response to the question:

Do these statements describe why the firm that you follow should voluntarily communicate financial information?

The answer of the respondents could vary between -2 (i.e., strongly disagree) and $+2$ (i.e., strongly agree). Panel A shows the percentage of respondents that answers agree or strongly agree, the percentage of respondents that answers disagree or strongly disagree, and the average rating. A higher average rating corresponds with more agreement. The panel further provides the average rating of the CFOs of public firms as derived from Graham, Harvey, and Rajgopal (2005). We calculate the difference as the analysts' average rating minus the CFOs' average rating. The first difference test provides the significance of the outcome of a difference-of-means *t*-test. The second test is the outcome of an ordered logit regression, where the dependent variable is the answered value and the independent variables are an analyst dummy that equals one for observations from our analyst sample, four revenues dummies, and nine industry dummies. The corrected difference $\beta=0$ is the significance of the coefficient of the analyst dummy. Panel B reports the percentage of analysts that agree or strongly agree with each statement for different subsamples. Except for the number of analysts, we use the same thresholds as Graham, Harvey, and Rajgopal (2005). The subsamples are Size, where large firms have revenues higher than $1 billion; P/E ratio, where a high P/E ratio is larger than 17; Credit rating, where high indicates above investment grade; Tech industry, which are firms from the technology industry; Guidance, where little refers to analysts that indicate that the firm they follow provides no or little earnings guidance; Earnings path, where bumpy refers to the analyst's answer of -2 or -1 on a scale of -2 (bumpy) to $+2$ (smooth) to the question whether their firm has a smooth earnings path; CEO tenure, where short is a tenure up to four years; Number of analysts, where few stands for one to ten analysts that follow the firm from the analyst had in mind; Analyst tenure, where short stands for a tenure as financial analyst for up to four years; and Analyst portfolio, where small indicates a portfolio of up to ten firms that the analyst follows. ***, **, and * denote that the differences are significantly different at the 1%, 5%, and 10% level, respectively.

Panel A: Unconditional averages

Voluntarily communicating financial information…	Analyst sample				Analysts vs. CFOs			
	% agree or strongly agree	% disagree or strongly disagree	Average rating	H_0: Average rating $=0$	Average rating CFOs	Difference	H_0: Difference $=0$	H_0: Corrected difference $\beta=0$
(1) promotes this firm's reputation for transparent/accurate reporting	89.9	1.8	1.27	***	1.39	-0.12	**	***
(2) reduces the "information risk" that investors assign to this firm's stock	87.0	2.5	1.18	***	1.03	0.15	**	
(3) provides important information to investors that is not included in this firm's mandatory financial disclosures	81.0	4.0	1.09	***	0.86	0.24	***	
(4) increases the predictability of this firm's future prospects	78.2	5.1	0.91	***	0.53	0.38	***	***
(5) reveals to outsiders the skill level of the managers of this firm	54.2	13.4	0.48	***	0.16	0.32	***	***
(6) increases this firm's P/E ratio	51.6	14.4	0.41	***	0.27	0.15	*	
(7) corrects the firm's under-valued stock price	51.5	15.0	0.42	***	0.37	0.05		
(8) attracts more financial analysts to follow this firm's stock	50.0	16.5	0.40	***	0.43	-0.03		
(9) reduces this firm's cost of capital	43.3	22.4	0.28	***	0.17	0.11		

Table 5.9 (continued)

Question								
(10) increases the overall liquidity of this firm's stock	43.0	18.8	0.31	***	0.31	0.01	***	***
(11) reduces the risk premium this firm's employees demand for holding stock granted as compensation	30.1	23.2	0.09	***	-0.57	0.66	***	***

Panel B: Conditional averages

Question	% agree or strongly agree	Obs.	Size		P/E		Credit rating		Tech industry		Guidance	
			Small	Large	Low	High	Low	High	Other	Tech	Little	Much
(1)	89.9	277	90.0	90.0	94.6	87.6**	93.3	91.3	91.0	86.3	89.6	90.1
(2)	87.0	277	82.8	87.6	89.9	86.8	100.0	89.2	90.5	72.0***	80.9	88.3
(3)	81.0	274	75.9	81.6	84.2	80.0	85.7	81.1	80.8	82.0	79.2	81.3
(4)	78.2	275	83.3	77.4	81.0	76.2	73.3	79.3	78.7	75.5	68.1	80.1*
(5)	54.2	277	50.0	54.8	51.7	58.1	40.0	55.1	55.4	48.0	56.3	53.6
(6)	51.6	277	43.3	52.7	54.4	51.9	50.0	50.3	50.2	56.9	45.8	52.3
(7)	51.5	274	46.7	52.1	54.1	50.5	60.0	49.2	49.3	60.4	36.2	54.5**
(8)	50.0	278	60.0	47.9	49.7	50.9	46.7	51.1	49.8	48.0	31.3	53.4***
(9)	43.3	277	43.3	43.2	42.9	41.5	35.7	45.7	43.2	42.0	52.1	41.4
(10)	43.0	277	50.0	41.5	43.2	41.5	64.3	40.3*	41.9	46.0	35.4	43.7
(11)	30.1	276	40.0	29.2	27.7	31.4	20.0	27.6	28.4	38.8	33.3	29.4

Question	% agree or strongly agree	Obs.	Earnings path		CEO tenure		Number of analysts		Analyst tenure		Analyst portfolio	
			Smooth	Bumpy	Short	Long	Few	Many	Short	Long	Small	Large
(1)	89.9	277	91.2	87.1	87.7	91.6	90.9	90.2	88.5	90.2	84.5	91.3
(2)	87.0	277	89.3	83.7	81.3	90.9**	89.2	86.8	88.5	86.7	81.0	88.6
(3)	81.0	274	81.9	77.6	79.4	82.1	79.4	81.9	74.0	82.6	79.3	81.5
(4)	78.2	275	79.6	77.6	79.2	77.4	78.8	78.2	90.4	75.3**	79.3	77.9
(5)	54.2	277	55.6	55.3	52.3	55.2	51.5	54.9	63.5	52.0	56.9	53.4
(6)	51.6	277	53.5	50.0	46.2	54.8	43.1	54.1	36.5	55.1**	41.4	54.3*
(7)	51.5	278	52.1	53.6	51.9	50.9	58.5	49.0	53.8	50.9	48.3	52.3
(8)	50.0	277	52.1	48.8	44.9	52.4	54.5	47.8	42.3	51.8	50.0	50.0
(9)	43.3	277	38.5	50.6*	34.6	48.5**	43.1	42.9	40.4	44.0	44.8	42.9
(10)	43.0	276	43.2	44.7	43.0	42.4	38.5	43.9	34.6	44.9	36.2	44.7
(11)	30.1	274	31.1	24.4	33.0	28.5	31.8	29.6	21.2	32.1	24.1	31.7

The conditional averages in panel B indicate that the reputation argument matters more for analysts of low P/E firms. A reduction in the cost of capital is more important for firms with a bumpy earnings path and increased liquidity is more important for firms with a lower credit rating. Analysts of non-high-tech firms and analysts of firms with longer-tenured CEOs care more about the information risk motivation. The predictability of the firm's future earnings is more important for the less experienced analysts and for analysts that follow firms that provide more guidance. A possible explanation for the latter result is that analysts select guiding firms to decrease the likelihood of making inaccurate predictions and analyses.

5.6.2   Analyst coverage

Previous studies argue that mandatory disclosure is not sufficient for the communication of a manager's private information (e.g., Bhushan, 1989a, 1989b; Lang and Lundholm, 1996). Analysts play an important role in information acquisition for investors. According to Lang and Lundholm (1996), more transparent disclosure can result in more valuable reports that analysts can sell and in a lower cost of information acquisition, leading to an increase in analyst coverage. Our results show that 50% of the analysts agrees with the statement that voluntarily communicating financial information attracts more financial analysts to follow the firm's stock, while 16.5% does not agree. We find no significant difference between CFOs' and analysts' answers. The conditional averages suggest that analysts of firms that provide more earnings guidance agree more on the argument of increased disclosure.

5.6.3   Stock compensation

Firms can have stock-compensation related reasons to voluntarily release financial information, as previous studies find voluntary disclosure to be associated with insider trading (Noe, 1999) and share-based compensation (Aboody and Kasznik, 2000; Nagar, Nanda, and Wysocki, 2003). According to Healy and Palepu (2001), firms can reduce the contracting costs that go hand in hand with stock compensation of new employees by releasing financial information voluntarily. The underlying reason for a reduction in contracting costs is that new employees will demand a risk premium for facing the risk of mispriced stock. The CFO respondents of Graham, Harvey, and Rajgopal (2005) do not view the demand for a risk premium of the firm's employees as a reason to voluntarily communicate financial information (i.e., average rating

equals -0.57). Though the average rating of 0.09 from analysts is significantly different from zero, they do not show much agreement on this argument either (i.e., 30.1% of the analysts agrees vs. 23.2% disagrees).

5.6.4   Management talent signalling

Because managers cannot directly communicate their ability to the market, they can signal their type by voluntarily disclosing financial information (Trueman, 1986). Consistent with this theory, our results show that 54.2% of the analysts believes that voluntarily communicating financial information reveals the skill level of the managers. However, CFOs posit that their skill level is not their main concern when voluntarily disclosing information (Graham, Harvey, and Rajgopal, 2005). The average ratings of analysts' and CFOs' answers are significantly different. This result is remarkable, especially given our earlier findings on the importance of achieving earnings benchmarks for CFOs' external reputation. Apparently, analysts deduce more information on managers' skills from voluntary disclosures than CFOs are aware of.

5.6.5   Limitations of mandatory disclosures

Less informative mandatory disclosure can be a motivation for firms to voluntarily communicate financial information (e.g., Tasker, 1998; Bushee, Matsumoto, and Miller, 2003; Jones, 2007). Graham, Harvey, and Rajgopal (2005) show that 72.1% of the CFOs agrees with this statement. From an analyst's point of view, previous studies suggest that disclosure beyond that required is informative, as it improves analysts' forecast accuracy (Bowen, Davis, and Matsumoto, 2002; Jones, 2007). We find that analysts care about voluntary disclosure due to deficiencies of required financial disclosure. We show that 81% of the analysts believe that voluntarily communicating information provides important information that is not included in the firm's mandatory financial disclosure, and thus agree with the CFO point of view.

5.7   Summary and conclusions

In this chapter, we examine analysts' views on a corporate financial reporting practices concerning earnings benchmarks, earnings smoothing, and voluntary disclosure. We conduct a survey among 306 analysts and compare these analysts'

preferences with the preferences and actions of CFOs from public firms, which we derive from the survey data used by Graham, Harvey, and Rajgopal (2005). Since analysts play a key role in reporting and disclosure practices (Brennan and Tamarowski, 2000; Graham, Harvey, and Rajgopal, 2005), this comparison provides a unique view on the similarities and discrepancies between the supply and demand side of financial information. Our findings suggest that CFOs and analysts share their opinion on many reporting issues, but they also have dissenting views on some fundamental issues.

An important finding is that not only CFOs, but also analysts view earnings as the most important performance measure. This finding is in line with accounting studies who find that, for the average firm, earnings have superior information content relative to cash flows. However, it goes against finance studies, who view cash flows as the most important performance measure. We further find that analysts view their own EPS forecast as the most important one, which is important for firms with highly dispersed analyst earnings forecasts. The result implies that these firms might have to prioritize on the most influential analyst forecasts. The results also indicate that analysts prioritize earnings benchmarks in a different way than CFOs do. Analysts mainly focus on benchmarks that take into account future earnings, while CFOs also heavily focus on absolute benchmarks, such as the same quarter last year EPS and reporting a profit.

Analysts believe that the main reasons why firms should meet their earnings benchmarks are that it helps (1) firms to build credibility with the capital market; (2) firms to convey their future growth prospects to investors; (3) the external reputation of these firms' management teams; and (4) firms to maintain or increase their stock price. CFOs posit the same reasons why they try to meet earnings benchmarks. The top two reasons for both analysts and CFOs to avoid missing an earnings benchmark are the increased uncertainty about the firm's future prospects and the market's suspicion that the firm experienced previously unknown difficulties. Surprisingly, CFOs are not concerned about the increased scrutiny of their firm's earnings releases, while most analysts become suspicious and expect an increase in scrutiny. Also, analysts seem to suspect a lack of flexibility if firms fail to hit earnings benchmarks, while CFOs posit that a lack of earnings flexibility is not a reason to avoid missing an earnings benchmark. This difference in opinion might be caused by analysts' common belief that firms manage earnings to hit earnings benchmarks.

Given the importance of hitting earnings benchmarks, firms can take accounting and real actions to meet formalized expectations. We find that, except for share repurchases, the average analyst perceives all surveyed actions as value destroying, suggesting that they do not believe the benefits of earnings management to outweigh its costs. Remarkably, CFOs are very reluctant to repurchase shares to achieve their

desired earnings target, while analysts perceive this as the only value-enhancing action. Surprisingly, CFOs maintain to take real actions, such as decreasing discretionary spending or delaying a new project, rather than employing within-GAAP accounting actions. However, in line with CFOs' preference, analysts view real actions as the least value-destroying actions, suggesting that also analysts attach greater costs to accounting discretion. It is likely that the greater scrutiny and risk of legal actions associated with the accounting scandals and the Sarbanes Oxley Act play an important role here.

A smooth earnings path could help CFOs to achieve earnings benchmarks in the form of analyst forecasts, as analysts perceive the earnings of firms with a smooth earnings path as more predictable. However, the results also indicate that CFOs have a different intention to smooth earnings than perceived by analysts. In particular, CFOs posit that a smooth earnings path enhances the information about a firm's growth prospects, while analysts do not deduct this information from smooth earnings. Both analysts and CFOs believe that a smooth earnings path makes a firm less risky, reduces a firm's risk premium, and assures a stable business, though CFOs are more optimistic about these benefits. CFOs' willingness to sacrifice value reflects this more optimistic view, as 61% is willing to make a moderate to large sacrifice in value, while just 13% of the analysts recommends such a value sacrifice.

Instead of earnings management or earnings smoothing, firms can voluntarily disclose financial information to influence analyst forecasts. Our results indicate that voluntary disclosure has added value for analysts. Analysts and CFOs have the same top three list of reasons why firms voluntarily disclose financial information, i.e., (1) to promote a reputation for transparent reporting; (2) to reduce the stock's information risk; and (3) to provide information beyond that mandatory to provide additional clarification. We further find a surprising difference that analysts derive information about the management teams' skill level, while CFOs do not show much concern about their perceived skills. This result highly contrasts with their career concerns associated with meeting earnings benchmarks.

Overall, our results on the analysts' views on financial reporting complement the CFO results of Graham, Harvey, and Rajgopal (2005) well. Our survey provides insight into what the market expects from firms and what drives managers to have such a short-term focus. We show that analysts have a greater tendency to adopt the long-term view. In particular, their most important performance measures contain future earnings expectations, they view accounting and real earnings management actions as value destroying, and they suggest not to sacrifice value or to make a small sacrifice to avoid a bumpy earnings path.

However, even though analysts have a focus on the longer term, their demands and expectations might motivate CFOs to take actions with more short-term

consequences. First, these actions can be caused by analysts' notion of the underlying implications (a) when a firm does not meet an earnings benchmark, such as the uncertainty about the firm's future prospects or the suspicion of hidden problems within the firm; and (b) when a firm has a bumpy earnings path, such as more risk and a higher cost of capital. Second, meeting earnings benchmarks and voluntarily disclosing news influence analysts' view on the management's reputation. In the case managers think they cannot fulfill analysts' expectations, they might take short-term actions to positively influence analysts' perception.

Academic studies view the role of analysts not only as a financial intermediary, but also as the provider of additional scrutiny on a firm's reporting practices leading to lower agency costs. Though analysts, as financial experts, are an obvious group for providing such scrutiny, we also find some limitations. For instance, analysts reckon the benefits of a smooth earnings path and thereby suggest firms to sacrifice value, yet to a much lesser extent than managers opt for. Besides, analysts are on the same line as CFOs in that they view real actions to manage earnings as the least value-destroying ones relative to within-GAAP accounting actions. Our results suggest that if analysts' scrutiny can result in a reduction in agency problems, their role needs to be taken into account, for instance, when considering regulation changes. As long as firms and analysts are on the same line on issues that do not support value-maximizing behavior, analysts' influence on firms' reporting practices might result in no change in behavior.

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Nederlandse samenvatting (Summary in Dutch)

Dit proefschrift bestaat uit vier empirische studies, waarvan de eerste twee studies zich richten op het deelgebied ondernemingsfinanciering en de laatste twee studies zich richten op externe verslaggeving. De eerste studie analyseert de invloed van persoonlijke kenmerken van topbestuurders op hun beslissingen om onderdelen van hun onderneming af te stoten. In de tweede studie wordt de selectie van financiële adviseurs door ondernemingen die een buitenlandse acquisitie plegen bestudeerd. Vervolgens richt de derde studie zich op winstvoorspellingen van Nederlandse beursgenoteerde ondernemingen. De laatste studie analyseert de voorkeuren van analisten op het gebied van de externe verslaggeving door ondernemingen die zij volgen. Hierna volgt een korte samenvatting van deze vier empirische studies.

Na de introductie, wordt in Hoofdstuk 2 onderzocht in hoeverre de achtergrond van topbestuurders van invloed is op hun beslissingen omtrent het afstoten van bedrijfsonderdelen. Hoewel persoonlijke kenmerken van managers een belangrijke rol spelen op het gebied van financiële en strategische beslissingen (Bertrand en Schoar, 2003), bestaan relatief weinig studies op het gebied van ondernemingsfinanciering die deze beslissingen vanuit het perspectief van de managers onderzoeken (Baker, Ruback, en Wurgler, 2004). Dit hoofdstuk richt zich op topbestuurders van ondernemingen met meerdere bedrijfssegmenten en onderzoekt in hoeverre deze topbestuurders geneigd zijn om minder snel onderdelen af te stoten van segmenten waar zij bekend mee zijn dan andere, voor hen minder bekende segmenten. Topbestuurders zijn bekend met de bedrijfssegmenten van hun onderneming door hun werkervaring voordat zij als topbestuurder worden benoemd.

Er worden drie argumenten gegeven voor het bovengenoemde bekendheidseffect. Ten eerste wordt beargumenteerd dat topbestuurders minder snel van hun bekende segmenten desinvesteren doordat hun kennis van deze segmenten veel meer omvattend en diepgaander is dan van de segmenten waar zij geen werkervaring in hebben. Het tweede argument stelt dat meer bekendheid met segmenten leidt tot een grotere illusie van het hebben van controle over deze segmenten, met als gevolg dat

topbestuurders de rendementen van bekende segmenten overschatten en de risico's hiervan onderschatten. Als laatste argument wordt gesuggereerd dat topbestuurders meer macht binnen de onderneming krijgen en moeilijker zijn te ontslaan door het relatieve aandeel van bekende segmenten te vergroten. Dit doen zij door onbekende onderdelen af te stoten.

In het hoofdstuk wordt verder beredeneerd dat afstotingsbeslissingen onderdeel zijn van een onderhandelingsproces tussen topbestuurders en de segmentmanagers in een interne kapitaalmarkt. Omdat segmentmanagers de voorkeur hebben voor het managen van zo groot mogelijke segmenten, zijn zij geneigd om tegen elke poging van afstoting(en) te onderhandelen. Zij ontlenen hun onderhandelingsmacht aan hun private informatie over het segment dat zij managen en aan hun persoonlijke vaardigheden en connecties. Deze onderhandelingsmacht is het sterkst voor managers van segmenten waar topbestuurders niet bekend mee zijn, terwijl dit juist de segmenten zijn waar topbestuurders bij voorkeur onderdelen van afstoten. Voorts wordt verwacht dat de afhankelijkheid van informatie en persoonlijke vaardigheden minder worden als de topbestuurders hun huidige functie een aantal jaren bekleden, waardoor zij hun voorkeur voor het afstoten van onbekende segmenten pas later tijdens hun ambtstermijn tonen.

Uit een analyse van afstotingen van 1,182 bedrijfssegmenten van Amerikaanse ondernemingen in de periode van 1996 tot en met 2004 blijkt, dat topbestuurders met een ambtstermijn van minimaal drie jaar half zo vaak onderdelen van bekende segmenten afstoten dan van onbekende segmenten. De resultaten ondersteunen de argumenten dat topbestuurders minder snel onderdelen van bekende segmenten afstoten door hun superieure kennis van deze segmenten en door hun illusie dat ze controle hebben over de gebeurtenissen in deze segmenten. De bevindingen bevestigen tevens dat afstotingsbeslissingen onderdeel uitmaken van een onderhandelingsproces, waarbij segmentmanagers met een sterkere onderhandelingspositie het voor elkaar krijgen om geen onderdelen af te stoten. Naast de kans op afstoting bestudeert het hoofdstuk ook de waarde-effecten voor aandeelhouders rond de dagen dat de onderneming de afstoting aankondigt. Uit de resultaten komt naar voren dat het bekendheidseffect kostbaar kan zijn, aangezien afstotingen van bekende segmenten door topbestuurders die minimaal drie jaar hun huidige positie bekleden de hoogste rendementen opleveren. Kortom, de achtergrond van topbestuurders is van invloed op hun beslissingen, die negatieve gevolgen kan hebben voor de waarde van hun onderneming.

In Hoofdstuk 3 wordt onderzocht hoe ondernemingen die een grensoverschrijdende acquisitie plegen hun financiële adviseurs selecteren. Deze selectie is vooral belangrijk voor de waardecreatie bij buitenlandse acquisities, omdat de overnemende partij de ervaringen en vaardigheden van hun adviseurs nodig hebben

om hen wegwijs te maken met de buitenlandse economische en juridische gewoontes en condities. Er worden drie selectiestappen in aanmerking genomen. Ondernemingen beslissen eerst in hoeverre zij een adviseur inhuren. Als ze een adviseur inhuren, dan selecteren zij de nationaliteit van hun adviseur. De nationaliteitskeuze bestaat uit het land van de onderneming zelf, het land van de over te nemen partij of een derde land. Afhankelijk van de nationaliteitskeuze van de adviseur, maken zij vervolgens hun selectie op basis van de ervaring van adviseurs, dat wil zeggen wereldwijde ervaring en/of ervaring in het land van het over te nemen bedrijf.

De dataset die in dit hoofdstuk onderzocht wordt, bestaat uit 3,537 buitenlandse acquisities die plaatsvinden in de periode van 1995 tot en met 2005. In deze dataset komen de overnemende partijen uit 46 verschillende landen en de overgenomen partijen uit 92 verschillende landen. De uitkomsten van de eerste stap, waarin onderzocht wordt in hoeverre ondernemingen een adviseur inhuren, onderschrijven eerdere bevindingen van studies die de adviseurkeuze van binnenlandse acquisities onderzoeken. Zo huren ondernemingen eerder een adviseur in als de over te nemen partij zelf een adviseur inhuurt, de over te nemen partij beursgenoteerd is, de onderneming zelf minder acquisitie-ervaring heeft, de transactiewaarde hoger is, de acquisitie met aandelen wordt betaald en als er juridische goedkeuring verleend dient te worden.

Bij de keuze van de nationaliteit komt in de resultaten naar voren dat landkenmerken van zowel de overnemende als van de over te nemen partij van invloed zijn. Zo huren ondernemingen bij voorkeur adviseurs in het land met de hoogste ontwikkelingsgraad van de financiële markten en met het grootste aantal juridische procedures binnen het rechtssysteem. Daarnaast huren ondernemingen bij voorkeur adviseurs uit eigen land in als hun eigen land of het land van het over te nemen bedrijf een betere bescherming van de aandeelhouders kent. Tevens zijn ondernemingen geneigd om een adviseur in het land van de over te nemen partij in te huren als dit land minder open staat voor buitenlandse acquisities. De resultaten tonen verder aan dat zowel de wereldwijde ervaring van adviseurs als de specifieke ervaring van adviseurs in het land van de over te nemen partij als substituut kunnen dienen voor de buitenlandse acquisitie-ervaring van een onderneming. Echter, adviseurs uit eigen land evenals het land van de over te nemen partij creëren de meeste waarde bij buitenlandse acquisities, zelfs als deze adviseurs minder ervaring hebben.

Hoofdstuk 4 analyseert de kenmerken van winstvoorspellingen die door het management van Nederlandse ondernemingen met een beursnotering aan Euronext Amsterdam worden afgegeven en in hoeverre een additionele beurnotering in de Verenigde Staten of het Verenigd Koningrijk deze kenmerken beïnvloeden. Hierbij ligt de nadruk op de specificiteit en nauwkeurigheid van de winstvoorspellingen. Relatief gezien hebben veel Nederlandse ondernemingen een additionele

beursnotering in de Verenigde Staten of het Verenigd Koningrijk. Een dergelijk additionele beursnotering kan bestaan uit een beursnotering op een officiële beurs of uit een notering op de zogenaamde "over the counter" (OTC) markt. Ondernemingen met een additionele officiële beursnotering in één van beide landen stellen zich aldus bloot aan strengere wet- en regelgeving. Daarnaast brengen beide typen additionele beursnoteringen strenger toezicht van onder andere analisten en investeerders met zich mee. Deze implicaties maakt het mogelijk om te onderzoeken in hoeverre het vrijwillig committeren aan een grotere dreiging van juridische vervolging en grotere potentiële reputatieschade, zoals beschreven door Coffee Jr. (1999; 2002), van invloed is op het vrijwillig communiceren van informatie naar de markt.

Deze vraagstelling wordt empirisch onderzocht door middel van 1,896 persberichten waarin winstvoorspellingen van Nederlands beursgenoteerde ondernemingen voorkomen. Uit de resultaten komt naar voren dat ondernemingen met een additionele beursnotering in de Verenigde Staten of het Verenigd Koningrijk minder specifieke voorspellingen afgeven dan ondernemingen zonder een dergelijke beursnotering. Een vergelijking van de voorspellingen met de gerealiseerde winsten toont aan dat ondernemingen met een additionele beursnotering nauwkeurigere en minder optimistische winstvoorspellingen publiceren. Deze bevindingen zijn consistent voor beide typen beursnoteringen (d.w.z., officiële en OTC noteringen). Kortom, de resultaten suggereren dat strengere wet- en regelgeving en strenger toezicht de inhoud van de informatie die ondernemingen vrijwillig communiceren naar de markt beïnvloeden.

Hoofdstuk 5 analyseert voorkeuren van analisten voor de externe verslaggeving van ondernemingen door middel van een vragenlijst die is beantwoord door 306 analisten die ondernemingen in de Verenigde Staten volgen. In het hoofdstuk worden de voorkeuren van de analisten vergeleken met de percepties en acties van de financiële topbestuurders van ondernemingen uit de Verenigde Staten, die ondervraagd zijn door Graham, Harvey en Rajgopal (2005). Aangezien analisten bij financiële verslaggeving een belangrijke rol spelen voor ondernemingen (Brennan en Tamarowski, 2000; Graham, Harvey en Rajgopal, 2005), creëert deze vergelijking meer inzicht in de gelijkenissen en verschillen tussen de vraag naar en het aanbod van financiële informatie van ondernemingen.

De bevindingen tonen aan dat analisten en financiële topbestuurders op veel punten op één lijn zitten. Echter, er zijn er ook aantoonbare verschillen aan te duiden. Zo suggereren de resultaten dat analisten zich meer op de lange termijn richten, terwijl financiële topbestuurders de neiging hebben om beslissingen op het gebied van financiële verslaggeving evenals gerelateerde investerings- en financieringsbeslissingen te nemen met korte termijn consequenties. Slechts 13% van de analisten geeft aan dat ondernemingen middelmatig tot veel waarde dienen te

vernietigen om een gelijkmatige winstontwikkeling ten opzichte van voorgaande jaren te kunnen rapporteren. Echter, dit percentage is 61% voor de financiële topbestuurders. Daarnaast geven analisten aan dat ondernemingen waarde creëren door eigen aandelen in te kopen op het moment dat zij hun beoogde winstdoel niet kunnen halen, terwijl financiële topbestuurders deze optie niet in ogenschouw nemen.

Biography

Marieke van der Poel (1980) is assistant professor at the Finance Department of the Rotterdam School of Management, Erasmus University. She received her Master's degree in Business Administration from the Erasmus University in 2003. Subsequently, she joined the ERIM PhD program to carry out doctoral research at the Department of Financial Management at the Rotterdam School of Management, Erasmus University. During this period, she held a visiting position at the College of Business, Florida State University, for three months. Marieke's research interests are in the area of (behavioral) corporate finance and financial reporting. Her work has been presented at several seminars and international conferences. Her teaching experience involves courses in the area of Corporate Finance, both at a bachelor and master level.

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EMPIRICAL ESSAYS IN CORPORATE FINANCE AND FINANCIAL REPORTING

This thesis consists of four studies in the areas of corporate finance and financial reporting. The first study in the area of corporate finance analyzes CEOs' familiarity with business segments and how that familiarity affects their divestiture decisions. Though managers' characteristics play an important role in the areas of investment, financial, and organizational practices, relatively few (behavioral) corporate finance studies examine the CEO's perspective. This chapter aims to fill this gap by making the connection between CEOs' working experiences with firms' divestment decisions. The subsequent corporate finance study empirically examines a firm's selection procedure of financial advisors, including the choice of advisor nationality and experience, when making a cross-border acquisition. The selection of a financial advisor is an important determinant of the value created in cross-border deals, particularly in case acquirers need the experience and skills of their advisors to navigate the foreign economic and regulatory practices and conditions. In the area of financial reporting, the first study investigates the impact of a cross listing in the United States or United Kingdom on managers' forecast specificity choice and the ex post forecast errors of management earnings forecasts disclosed by Dutch firms. A relatively large number of Dutch firms have a cross listing in the United States or United Kingdom, which brings about greater legal exposure and greater scrutiny by regulators, analysts, and investors. This setting provides an opportunity to investigate whether legal and reputational bonding have an impact on a firm's voluntary information disclosure. The final chapter investigates analysts' preferences for firms' corporate financial reporting practices by means of a survey. Analysts' preferences are confronted with the perceptions and actions of CFOs. Since analysts play a key role in a firm's reporting and disclosure practices, this comparison provides more insight in the similarities and discrepancies between the demand side and supply side of corporate financial information.

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