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Corporate Structure and Corporate Control in Europe and the United States
(Under the direction of PETER G. KLEIN)

This dissertation investigates which functions are efficiently combined in one institution. Part I investigates the conflicts of interest ascribed to universal banking, bank equity stakes in issuing firms, and underwriter affiliation with venture capitalists, finding a positive relationship between universal-bank structure and initial IPO[1] returns (underpricing). In the secondary markets, however, universal-bank underwritten and specialized-bank underwritten stocks are indistinguishable, suggesting that underpricing compensates for potential conflicts of interest. The paper also finds that pre-existing bank relationships rather than issuer characteristics determine the underwriter choice.

Part II studies investor valuation of U.S. conglomerates throughout a period of three years at the end of the 1960s. Recent research finds that conglomerates had greater market-to-book ratios than combinations of comparable single-segment firms during 1966-1968 and that diversifying acquisitions generally earned positive abnormal returns in the 1960s. During the 1970s and 1980s, however, conglomerate performance declined sharply. Previous explanations of the conglomerate merger wave fail to account for the conglomerates' initial popularity. This paper argues that investors assign value to corporate structure as such, having systematically overvalued the conglomerate corporate structure during the 1960s and then systematically updated their evaluation. The conglomerates' initial popularity and later decline can be seen as evidence of the systematic struggle to determine the value of corporate structures. I find some evidence of such structural effects that are not explainable by a capital asset pricing model. Firms with the conglomerate structure are clearly related to each other.

Although conflicts of interest can arise and the conglomerate structure appears to have been largely inefficient, neither observation calls for government regulations. Investors are clearly aware of potential conflicts involved with universal banking and require a risk premium as compensation. The study of investor valuation of conglomerates reveals that investors assign value to corporate organization, but that the value of any given structure is hidden and needs to be learned. Only an unrestricted market mechanism can provide the information needed to infer the best allocation of resources.

INDEX WORDS: Corporate Structure, Conglomerates, Relationship banking, Universal bank, Initial Public Offering

[1] initial public offering

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TABLE OF CONTENTS

Page

Chapter I

UNIVERSAL-BANK UNDERWRITING AND CONFLICTS OF INTEREST: EVIDENCE FROM GERMAN INITIAL PUBLIC OFFERINGS

1. Introduction

Recent mergers between commercial banks and investment banks have renewed the interest in analyzing universal banks, i.e. banks that combine commercial banking with transactional banking in one institution. Investors and regulators are concerned about the conflicts of interest often ascribed to universal banks. As the US government has reinterpreted the Glass-Steagall Act, investors are left to themselves to decide from which underwriters they prefer to purchase securities. While US banking institutions are forming more combinations of commercial and investment banking, continental European stock markets are becoming a more liquid and more popular source of financing for corporations, leaving European banks wondering how to adjust to the greater demand for investment-banking services.

Universal banking is often associated with a list of complaints and concerns, involving concerns about the universal bank's influence on financial stability, economic development, the development of other financial institutions, a concentration of political and economic power, consumer choice, and conflicts of interest (Benston (1994)).

Universal banks are said to be particularly vulnerable to financial crises because of their close ties to business, particularly their role in underwriting and distributing

securities. Francke and Hudson (1984) point out that universal banks often lend to businesses in anticipation of their customers' repaying loans with the proceeds of stock issues that the banks underwrite. This, they say, makes the recovery of their liquidity subject to changes in the prevailing sentiment of the stock market. Universal banks might also consider themselves to be too big to be allowed to fail. Expecting government bail-outs, they might take excessive risks and create a moral-hazard problem. As Benston illustrates, this is largely falsified–historical experience and theoretical evidence support the expectation that risks are more likely to be reduced than increased if banks are permitted to engage in securities, insurance, and other products and services.

Will universal banks deploy capital as efficiently as the stock market? Steinherr and Huveneers (1990) argue that universal banks prevent capital from reaching the most efficient uses. But evidence that universal banks reduce stock-market activity is quite weak. There are only superficial comparative studies of the Anglo-American and the German banking system. The studies do not control for other factors that contribute to the development of transactional capital markets. The Japanese experience provides insight into this question, indicating that a lack of capital-markets efficiency is primarily due to government intervention and regulation, rather than the keiretsu system of interlocking financial institutions. In the absence of regulation, crowding out and inefficient concentration of power are unlikely to be problems (Benston (1994)).

On the other hand, universal banking can better finance economic growth because it facilitates the financing and monitoring of small firms and eases their access to the capital markets (Roe (1990), Petersen and Rajan (1994)). Gorton and Schmidt (1999) provide evidence that bank-monitored German firms perform better than non-bank-

monitored firms. Cantillo Simon (1998) documents that share prices suffered a 7% discount when bankers were evicted from corporate boards in the United States in 1914. Calomiris (1993) argues that the German banking system was better able to finance economic growth during the German industrial revolution. Fohlin (1997), on the other hand, fails to demonstrate that bank-related German firms were less liquidity-constrained than other firms during that time. Although the evidence is mixed, the sum of theoretical considerations and the empirical evidence suggests that concentrated bank financing as well as arm's-length financing can each perform monitoring services in a unique way. An unconstrained financial-services market would likely provide financing and monitoring through efficient combinations of bank and arm's-length involvement. While the German model suffers from a lack of arm's-length financing and stock-market control, the US model suffers from a lack of bank monitoring. A comparison of these two systems reveals the need for an unconstrained banking system that can adjust to these needs for bank control and capital-market control. Banks, at the same time, benefit if they can adopt their optimal scale and scope. An unregulated market can also provide these services at lower cost than a constrained market can (Saunders (1985).

The most serious concern involves the universal bank's double role as lender and underwriter. With asymmetric information, conflicts of interest can arise. As creditor of the issuer with a possibly long-standing relationship, the universal bank might be much better informed about the issuer than investors and might be inclined to float and promote a low-quality issue. If investors are unaware of this scheme, the universal bank can transfer its loan risk to shareholders of the issuer. It is unclear why the bank prefers this

arrangement to restructuring loan repayments or why the firm participates in this scheme, since it stands to loose bondholders or stockholders (Benston (1994)).

The universal bank might also give bank loans at favorable rates to third-party investors in the understanding that they will buy securities in the initial public offering (hereafter IPO). This form of cross-subsidization between the departments of the bank can increase the risk of the bank and disbenefit depositors. The bank might also be inclined to make imprudent loans to issuers to avoid the impression that it performed insufficient due-diligence investigations before the IPO and to avoid litigation from shareholders. These arguments are unconvincing since it is unclear why the market would not resolve these conflicts by tying executive compensation to the profit of the bank, by imposing internal control mechanisms, third-party monitoring mechanisms, or self-regulating institutions. The previous arguments also do not make reference to competition, the issuers' self interest, or the bank's reputational capital. Securities disclosure requirements combined with banks' concerns about their long-run reputations, should be sufficient to deal with any potential abuses Minsky (1996). These conflict-of interest concerns are not very convincing theoretically, but were the primary arguments for the separation of commercial banking and securities underwriting in the Glass-Steagall Act (Roe (1990), (1997), Puri (1993)). To my knowledge, no paper relates short-and-long-term IPO returns to the type of underwriter.

This paper examines the double role of lender and underwriter by relating the initial returns (underpricing) and the secondary-markets returns of universal-bank underwritten IPOs to specialized-investment-bank underwritten IPOs by studying 306 recent IPOs to the German stock market. The German banking system provides an

excellent setting for this comparison because it has traditionally permitted any financial services to be carried out by banks. Although the image of the German banking system is that of large universal banks, a great variety of scale and scope exists. Because the German stock market lacked liquidity until a few years ago, empirical studies using stock market data have been infeasible. During 1997-1999, there have been an unprecedented 306 IPOs, which this paper studies.

Section 2 of this paper reviews explanations for initial IPO returns (underpricing) by considering the preferences of each of the main price-setting agents in an IPO, and investigates theoretical differences between the preferences of universal banks and specialized investment banks. Section 3 describes an empirical approach and documents results relating underpricing and secondary-market performance of IPOs to issuer and underwriter characteristics. Section 4 concludes the study.

2. Theoretical Differences Between Universal-Bank and Specialized Underwriters

IPO Underpricing

Ibbotson and Jaffe (1975) first rigorously documented the large initial returns (underpricing) of initial public offerings in the US. Studies documenting underpricing exist today for just about any country that has a stock market.

Empirical evidence and practitioners agree: underpricing is deliberate. Hunt-McCool et al. (1996) employ a stochastic frontier to distinguish between random and deliberate mispricing. They construct a frontier to estimate a maximum price based solely on publicly known pre-market characteristics of the issue. The difference between

the maximum and the actual price are decomposed into a stochastic component and the non-stochastic underpricing component. They find that the actual price is significantly lower than the maximum price minus the stochastic component, indicating clearly that underpricing is a deliberate ex-ante phenomenon. This finding provides evidence that that the price-setting agents in the IPO intentionally choose a lower subscription price that will result in initial return in the IPO.

If underpricing is a deliberate ex-ante phenomenon, who supports it? Of the main parties involved with setting a subscription price, who are interested in underpricing and why? The price-setting agents are bankers and issuers on the sell side and investors on the buy side[2].

The Investor's Perspective

In general, all else equal, investors like underpricing. All else equal, the higher the initial return, the better the investment. Some explanations of IPO underpricing focus on the role of investors. In Rock's model (1986), informed and uninformed investors compete for IPO share allocations. Informed investors abstain from bidding for a low-quality issue, but bid for high-quality issues, crowding out the uninformed investors. The probability of being awarded IPO stocks is greatest if the issue is low quality and not pursued by informed investors–the winner's curse. To motivate uninformed investors to participate in bidding against superior information, the initial return is proportional to the risk associated with the issue. Beatty and Ritter (1986) extend Rock's model to show that

[2] There are other actors whose preferences, reputation, compensation etc. might indirectly influence IPO pricing, but they are not the primary actors and are not considered in this study. For an investigation of the role of auditors and legal experts, see Beatty and Welch (1996).

the value of information is higher for uncertain issues. They also document a positive relationship between underpricing and ex-ante uncertainty and informed investor capital. Michaely and Shaw (1994) show that in markets where investors know a priori that they do not have to compete with informed investors, IPOs are not underpriced. Carter and Manaster (1990) build on Rock's model, arguing that informed investors spend most of their research effort on the least-known and most uncertain stocks. These informed investors require compensation for their research effort, resulting in high underpricing and subsequent price run-ups.

Benveniste and Spindt (1989) model underpricing as a consequence of the premarket auction: IPO prices are set low to provide profit to compensate investors for revealing information during the book-building process. This implies that new issues will be underpriced and distributional priority will be given to an underwriter's regular investors. There exists some evidence of rationing, but it is unclear if issuers and underwriters ration shares to reward investors for revealing their demand, for making a credible promise to hold onto shares, or to choose preferred firm monitors.

The Issuer's Perspective

In general, the issuer, as the owner of the firm, prefers a high offer price when selling the firm to shareholders. Signaling hypotheses, however, suggest that high-quality issuers might choose to underprice to advertise a high-quality issue to the market. Underpricing is modeled as an equilibrium phenomenon that separates high-quality firms from low-quality firms. Models by Allen and Faulhaber (1989), Grinblatt and Hwang (1989), and Welch (1989) formalize the explanation given by practitioners and cited by Ibbotson and

Jaffe (1975), suggesting that issuers like leaving a good taste with investors. These signaling models argue that only high-quality issuers can afford to underprice and recoup their cost in seasoned issues. Low-quality issuers cannot expect that the market will not detect their type before further issues and cannot afford the same low subscription prices in IPOs. In addition, underpriced stocks earn particularly high trading commission because the volume of trades is greater and investors accept higher fees if they are awarded IPO stocks. Brokers and analysts therefore have a greater incentive to scrutinize the stock. Only high-quality stocks can afford to attract that kind of attention It is unclear why investors need to see initial returns if the stock is high quality. By the time the firm makes another issue, the secondary market should have identified the good issuers. The signaling hypothesis implies that underpricing is proportional to the number of subsequent offerings in the market. The high-quality firm's post-IPO performance should therefore be significantly better than that of average firms. Jain and Kini (1994) investigate this implication, but fail to find a relationship between post-IPO operating performance and the level of initial underpricing. Michaely and Shaw (1994) also find that issuers with lower underpricing perform significantly better in the long run and return to the issue market less frequently.

Carter and Manaster (1990) and others suggest that low-risk issuers choose prestigious underwriters to signal their low risk instead of discounting the value of the firm. Carter, Dark, and Singh (1998) find that the underperformance of IPOs relative to the market over a three-year holding period is less severe for IPOs handled by a more prestigious underwriter. The same paper, as well as Schmidt et al. (1988) and Michaely and Shaw (1994), finds that issuers with high-reputation underwriters are associated with

lower underpricing. Beatty and Welch (1996) report that the relation between underpricing and high-prestige underwriters in the United States has reversed from the 1980s to the 1990s. While the high-quality underwriters were related to significantly lower underpricing in the 1980s, they were related to higher underpricing in the 1990s, especially if the issuer was a young firm. Jain and Kini (1999) find that higher investment-banker prestige also increases the firm's survival probability.

The issuer might also have set a lower subscription price because investors require up-front compensation for uncertainty. Beatty and Ritter (1986) provide evidence that underpricing is positively related to ex-ante issuer risk. Muscarella and Vetsuypens (1989) investigate reverse LBOs, finding that firms that were once publicly owned, then taken private, and subsequently returned to public ownership are significantly less underpriced than typical IPOs.

Shiller (1990) and Welch (1992) argue that underpricing is supposed to initiate a cascade of buying activity, which is free publicity that might benefit the issuer. Underpricing also increases the number of applications for IPO stocks and can be used by issuers to allocate shares to the preferred controlling parties and to limit the block size of new shareholders. Brennan and Franks (1995) provide evidence that rationing in the IPO discriminates against applicants who apply for large blocks — the greater the underpricing, the smaller the size of new blocks assembled after the IPO.

The Underwriter's Perspective

Underwriters are typically compensated by a commission that is a fixed percentage of the capital raised in the IPO and are consequently interested in minimizing underpricing. In

addition, if the client finds that the underwriter sets a stock price lower than the client prefers, the client might choose a different agent for the IPO as well as for future transactions.

Practitioners often argue that investment bankers underprice IPOs to reduce their risks and costs of underwriting.[3] Tinic (1988), Hughes and Thakor (1992), and Drake and Vetsuypens (1993) argue that underpricing serves as insurance against legal liability and the associated damages to the reputations of investment bankers–the lower offer price reduces the liability of the underwriters. Nanda and Yun (1997) find that negative initial IPO returns have a negative impact on the lead-underwriter's market value. James (1992) documents that underwriter performance has a significant effect on future underwriter choice. Krigman, Shaw, and Womack (1999), on the other hand, fail to find support for the same hypothesis. They document that additional analyst coverage, and higher bank reputation, are determinants of the switching decision. Beatty and Welch (1996) provide evidence that underwriter compensation is greater if the issue is small and uncertain, indicating that the issuer pays the underwriter for the use of reputational capital, the additional difficulty of placing its uncertain issue, and the greater risk due to underwriter liability.

Baron (1982) argues that the issuer delegates the pricing decision to the underwriter. The investment bank has more information than the issuer. The issuer has to compensate the investment bank for the use of the superior information by letting the bank offer the securities at a discount. The discount allows the bank to sell the issue at lower marketing cost and to reap higher earnings from trading commissions of greater

[3] Legal litigation is a much smaller threat for German underwriters, but not is not negligable.

volumes and higher commissions from investors who are eager to overpay on commissions to be allotted shares (Loughran and Ritter (1999)).

Underwriters also benefit from rationing in the allotment process. Booth and Chua (1996) and Fulghieri and Spiegel (1993) argue that the distribution of underpriced securities allows high-quality banks to signal their value to their customers, promoting their other product lines. They show that the total dollar value of underpriced securities distributed rather than the percentage value act as the signal they also find that larger customers and those with more elastic demand functions receive a larger total dollar value of underpricing.

Universal Banks

The above theories of IPO underpricing apply to universal banks as well as to specialized banks. What's different about relationship banks? Research on bank relationships in commercial banking focuses on the moral hazard and adverse selection of lending. The longer the bank has a relationship with the borrower, the more it knows about the borrower, the lower its information cost and the lower the risk, which should be reflected in lower interest rates for the borrower and easier access to liquidity. Banks supply loans at a rate below their cost of funds to clients in the initial engagement and subsequently increase the loan rate (Greenbaum et al. (1989), Sharpe (1990)). Boot and Thakor (1994) predict that the loan rate may decrease over the duration of the relationship. Petersen and Rajan (1994) find no effect on loan rate but better access to volumes, Berger and Udell (1995) find loan rates decrease over the duration of the relationship between the bank and

its client–ties between a firm and its creditors affect the availability and cost of funds to the firm.

Long-term relationships between commercial banks and their clients produce highly detailed information about the client firm. The less information is hidden to the bank, the smaller the risk of lending to a client firm. The long-term relationship is mutually beneficial if the bank acquires enough information about the client firm's prospects to provide liquidity at a price that appropriately reflects the risks involved. In contrast to commercial banks, transactional banks usually put little of their own capital at risk when advising a client firm. Relationships therefore have different value for securities transactions. The advantages for the bank include low cost of information and origination. The main advantages for the client firm include confidentiality and low transaction costs. The costs of the relationship include potentially higher cost for repeat services once switching becomes costly, being stuck with a firm that might not be the best underwriter or have the best analyst coverage, and potential higher underpricing if investors require compensation for potential conflicts of interest.

Eccles and Crane (1988) and Bloch (1986) observe that relationships are important even for transactional banking services. Srinivasan (2000) finds that transactional banks and clients value relationships. Banks often offer free services as enticement to switch, compensating for switch costs. Allen, Jagtiani, and Saunders (1998) investigate the role of a prior banking relationship for merger advisors. They find that advisors with a commercial-banking relationship increase announcement returns. The market appears to impose a conflict-of-interest discount on commercial banks that advise their own customers in takeovers. James (1992) finds evidence for setup costs in

the spread charged by underwriters for initial public offerings. Nanda and Werther (1998) examine the pattern of underwriter switches for firms with more than 10 issues between 1974-1996, finding that switching is related to a small but significant decrease in fees. Firms with a stronger relationship with their lead bank are less likely to switch.

A principal difference between universal-bank underwriting and specialized-bank underwriting is that conflicts of interest are potentially more serious in the universal-bank setting. The universal bank might be inclined to float a low-quality issue to relieve itself of a bad loan, implying a high subscription price and poor long-term stock performance. The bank might also set a low subscription price to provide depositors and asset-management subsidiaries with high initial returns, implying low underpricing and normal or superior long-term stock performance.

The bank's concern about its reputation, however, could prevent it from exploiting these conflicts. There are a number of sequential models of the reputation effects that mitigate the conflicts of interest present in any agency conflict and especially in banking. Bank reputation evolves endogenously and provides an incentive to behave in the best interest of investors and issuers (John and Nachman (1985), Diamond (1989)). Chemmanur and Fulghierei (1994a, 1994b) demonstrate that investment-bank credibility depends on their equity-marketing history. They also demonstrate that commercial banks' desire to acquire a reputation provides them an endogenous incentive to devote a larger amount of resources than arm's-length investors toward client evaluations.

Ultimately, the bank will set the prices it needs to set to sell to investors. Investors might be more inclined to buy universal-bank underwritten securities if they use information acquired from pre-existing relationships to certify securities issues and to

resolve informationally induced standoffs between insiders and outside investors (Akerlof (1970), Diamond (1984)), implying lower underpricing. Investors might be less inclined to buy universal-bank underwritten securities if they suspect agency problems because the universal bank is involved as a first party (Allen and Faulhaber (1989)), implying higher underpricing.

There are a number of empirical studies of US universal banking in the pre-Glass-Steagall period: Kroszner and Rajan (1994) compare ex-post performance of securities underwritten by commercial banks and non-bank investment houses, finding no evidence that commercial banks systematically fooled the public securities markets. Instead, there is some evidence that the markets have rationally discounted for potential conflicts associated with universal banking. Ang and Richardson (1994) confirm this result. Puri (1994) studies long-term default performance of bank-underwritten issues as compared to non-bank-underwritten issues before the Glass-Steagall Act of 1933 barred commercial banks from underwriting, finding that bank-underwritten issues defaulted less than non-bank underwritten issues. Puri (1996) examines the pricing of bank-underwritten securities and non-bank-underwritten securities, finding that investors were willing to pay higher prices for securities underwritten by banks rather than investment houses. A comparison of in-house investment departments and affiliated outside investment banks does not indicate that greater conflicts of interest were associated with the in-house underwriters. Kroszner and Rajan (1997) find that in-house departments underwrote seemingly higher-quality securities than did comparable affiliates, but obtained lower prices for the issues they underwrote, indicating that rational investors required a risk premium.

Gompers and Lerner (1999) investigate contemporary underwriter affiliation with venture-capital firms as a situation analogous to universal banking and find evidence of a discount related to those affiliations. Ber, Yafeh, and Yosha (2000) investigate 128 Israeli IPOs. They compare IPOs in which the issuing firm has had a significant loan from the underwriter during the year before the IPO to those IPOs that were not characterized by a lending relationship between the underwriter and the issuer during the year before the IPO. The issuers with a lending relationship to the underwriter have significantly better-than-average post-issue accounting performance, indicating that the banks picked good issuers. Surprisingly, however, the stock performance of these IPOs is below average. Hamao and Hoshi (2000) analyze the yield differentials between Japanese corporate bonds underwritten by securities firms and those underwritten by bank-owned subsidiaries, finding that investors discount bonds underwritten by bank-owned subsidiaries.

Venture-Capital and Equity Stakes

As much as universal banking is associated with potential conflicts of interest, underwriter affiliation with a venture capital stake in the issuer might be perceived as first-party certification and be suspect, or as a sign of superior quality of the issue.

There is a growing body of theoretical and empirical investigations of venture capital investments. Chan (1983) develops a model in which venture capital improves allocational efficiency by overcoming asymmetric information. Venture capital firms are particularly well suited to provide third-party certification. Venture capital firms to some extent depend on access to the IPO market on favorable terms and on establishing

enduring relationships with pension fund managers and other institutional investors. They have a strong incentive to establish a trustworthy reputation (Sahlmann (1990), Megginson and Weiss (1991), Admati and Pfleiderer (1994)). Barry et al. (1990) document that venture-capital firms specialize in portfolio firms to provide intensive monitoring services, taking concentrated equity positions, maintaining investments beyond the IPO, and serving on boards. They, as well as Megginson and Weiss (1991), find that venture-capital backing results in significantly lower initial returns. In addition, the presence of a venture capitalist lowers the total costs of going public and helps maximize the net proceeds to the offering firm. Venture-capital-backed issues can also work with better auditors and receive greater attention from institutional investors.

3. Hypotheses

Both, universal banks and specialized banks, have reasons to set high offer prices as well as various reasons to underprice. But universal banks might be more interested in promoting a low-quality security to raise cash for the firm. The universal bank might, on the other hand, be more inclined to underprice to promote its other product lines or to favor its investing depositors and asset-management subsidiaries.

To find out whether investors perceive universal banks as better certifyers or underwriters with conflicts of interest, this paper investigates the relationship between underpricing, issuer risk, secondary market performance of the stock, and underwriter type. If investors are naive, we expect to find normal underpricing and significantly different (worse or better) long-term performance. If investors are rational and worried

about conflicts of interest, we expect to find lower subscription prices (higher underpricing) and worse or neutral long-term performance. If investors are rational and perceive universal banks to be certifyers of high quality, we expect higher subscription prices (lower underpricing) and neutral or superior long-term stock performance. If universal banks underprice to promote their other services, we expect low subscription prices and normal or better long-term performance.

4. Empirical Approach

This paper examines the double role of lender and underwriter by IPOs by studying 306 recent IPOs to the German stock market. The model relates the initial returns (underpricing) and the secondary-markets returns to the type of underwriter. The German banking system is an excellent setting for this comparison because it has traditionally permitted any financial services to be carried out by banks. Although, the image of the German banking system is that of large universal banks, there exists a great variety of scale and scope. Due to the lack of liquidity in the German stock market until a few years ago, empirical studies using stock market data have been infeasible. Over the three years, 1997-1999, there have been an unprecedented 306 IPOs, allowing us to study the hypotheses of this paper.

A cross-sectional regression analysis can help quantify the relation between underpricing, the type of underwriter, and issuer characteristics. The data set comprises the 306 initial public offerings to the German stock exchange between 1997 and 1999. The German stock exchange (Deutsche Börse AG) publishes information on issue dates,

subscription prices, first-day-closing prices, industry of the issuer, revenue of the issuer, lead underwriters, secondary market prices, and venture-capital investments in its monthly reports. All other information about the issuers, including the distribution of debt, has been collected from the issuers' prospectuses.

This study aims to explore the relationship between bank structure and the quality of underwritten securities. After a careful review of each underwriter's scope of financial services, a bank is classified as a universal bank if commercial banking and investment banking are carried out in one institution. In recent years the demand for investment-banking services has prompted a number of banks to emphasize their expertise in this area. The institution, however, is considered a specialized bank only if the primary SIC code of the institution indicates investment banking services, the balance sheet of the underwriter does not indicate income from lending business, and organigrams and self-descriptions of the institutions indicate either that the institution does not carry out commercial banking that is separated into distinct legal entities. Even with this strict classification criterion, 20% of the IPOs in the sample are underwritten by specialized banks. The variable classifying the underwriter as a universal bank or specialized bank (UBANK) equals 1 if the institution is a universal bank and 0 if the institution is a specialized bank.

Underpricing (UPRICE) is defined as the difference between the first-day price and the subscription price as a percentage of the subscription price. Secondary-market performance is measured in two ways: as the difference between the price recorded on March 17, 2000, and the subscription price relative to the subscription price. An alternative approach considers the difference between the price recorded on March 17,

2000, and the closing price on the first trading day as a percentage of the first-day-closing price. The date of March 17, 2000, is intentionally entirely random. This study uses the closing prices on March 17, 2000 as the benchmark, avoiding the need to choose an individual benchmark for each stock to purge the data of systematic market movements. The buy-and-hold returns used to measure secondary-market performance are appropriate for this paper since the German stock market, in spite of the recent boom of IPOs, is still rather illiquid. Industry benchmarks or samples of similar companies researchers could construct, would likely be biased. Loughran and Ritter (1996) investigate secondary stock prices in the United States and find very little difference whether they employed cumulative abnormal returns or simple buy-and hold returns. To account for the different time periods that have elapsed since the individual IPO dates throughout 1997-1999 and any cohort-specific effects, the empirical models include the dummy variables for 1997 and 1998.

The specification includes variables that proxy for unobservable issuer-specific risk. As is common in the IPO literature, the issue size is used to proxy for the level of information available about an issuer (ISIZE). The larger the firm, the more information is available about it; smaller issues are typically offered by small start-up companies that are considered to be speculative issues (Ritter (1987), Tinic (1988)). In the German market, the most publicized issues of the most seasoned firms have more than one lead bookrunner, coordinating the offering in different countries. The variable (KONSO) controls for these issues with more than one lead underwriter. A great number of IPOs in the German market are (co)underwritten by foreign banks. Since many of these issues are spin-offs or subsidiaries of foreign parent firms, the level of uncertainty associated

with these issues is likely particularly low. A variable representing the presence of a foreign lead underwriter (FOREI) is included to control for the lower degree of uncertainty associated with these issues. The ability to acquire venture capital can be an indicator of high quality (Brav and Gompers (1997)). The pre-IPO ownership percentage of a venture-capital[4] firm (VCPER) is included in the specification to proxy for third-party certification. To distinguish between third-party and first-party certification, the specification includes a dummy variable representing an affiliation between a venture capital firm and one of the (lead)underwriters (VCAFF). Only 26 issuers have underwriters that have an affiliation with a venture capital firm or own pre-IPO equity. These affiliations are mixed between universal banks and specialized banks, but specialized banks are overproportionally represented in this category. This could be interpreted as a substitute for a lending relationship.

Four dummy variables (SOFT=software and internet, TECH=technology, PHARM=pharmaceuticals, FIN=financial services) are included to represent the most common industries. One might expect that so-called "new-economy stocks" are more risky and require higher up-front investor compensation. An alternative specification includes a dummy representing new-economy stocks (NEWE=new economy).

Ritter (1984) and others have documented that underpricing can vary with time. To control for cohort-specific effects, dummy variables represent the year 1997 and the year 1998.

To determine if banks hand-pick the issues they underwrite or if issuers self-select to reputable banks, the model includes variables, representing each bank that underwrote at least 10 IPOs as lead underwriter during 1997-1999. Alternative models not reported

[4] This includes directly-held bank-equity stakes.

here include a variable representing the banks with the largest market shares, finding no relationship between underpricing and the market share of the underwriter. The results of the underpricing regressions are reported in Table 1 along with White heteroskedasticity-corrected standard errors (Greene 1993, p. 391). Model 1 includes industry dummy variables. Model 2 substitutes a new-economy dummy for the industry dummies.

The coefficient on universal banks (UBANK) is positive and significant at the 5% level, indicating that universal banking is associated with higher average underpricing. Higher underpricing is inconsistent with the certification hypothesis. As a group universal banks are not selling securities at higher prices. The finding is also inconsistent with investor irrationality, allowing universal banks to exploit conflicts of interest. The results are consistent with investor rationality and their discounting for the possibility of a conflict of interest. Higher underpricing is also consistent with universal-bank promotion of their other product lines as well as with favoring depositors and the investors of their mutual-fund subsidiaries. Without further knowledge about the stock price performance in the secondary market, this finding could also be interpreted to be due to unobservable, intrinsic issuer-specific risks that bankers are aware of.

Venture-capital backing (VCPER) is also associated with significantly higher average underpricing. This is surprising considering that the research cited previously on venture-capital backing in the US finds that venture-capital backing is a sign of a high-quality issue. Since the venture-capital variable is not significant in the specification with the new economy variable (NEWE), it appears that venture capital is overproportionally associated with the more risky new-economy issues. The initial return might be an up-front risk premium. The underwriter's venture capital stake (VCAFF) is

also associated with higher underpricing. The initial returns earned for IPOs underwritten by venture-capital affiliates and universal banks could be interpreted as up-front compensation for potential conflicts of interest.

The proxies for risk coincide with the expectations. Larger issues (ISIZE) are associated with statistically significant lower underpricing, indicating that investors consider those issues safer. The issues underwritten by more than one lead underwriter (KONSO) as well as the dummy controlling for the foreign (FOREI) underwriter command a negative sign, indicating lower risk of the issue. Both coefficients, however, are not statistically significant.[5]

The industry dummies for pharmaceutical issuers are negative and significant. This is plausible since pharmaceutical companies are relatively low risk since demand for their products and market structure of the industry are comparatively straight forward to evaluate. The reader might be surprised that technology IPOs are also associated with significantly lower underpricing. The category technology, however, comprises a large number of manufacturing firms and so-called old economy firms and a small number of speculative high-tech firms such as biotechnology. The new-economy variable, as would be expected, is associated with statistically significant abnormally high underpricing.

The year dummy for 1998 is statistically significant and positive, indicating higher underpricing in 1998 than in 1997 and 1999. This is consistent with the arguments provided in Loughran and Ritter (1995), that investors are temporarily overoptimistic about IPO prospects.

[5] FOREI is negative and significant in a model without other risk proxies.

Although universal banks, as a group, are associated with lower subscription prices, the two largest, (most reputable) universal banks, Deutsche Bank and Dresdner Bank,[6] set above-average subscription prices. This could be interpreted in a number of ways: One possibility is that these large universal banks can exploit conflicts of interest, setting higher subscription prices to raise cash on behalf of the issuer for normal or worse securities. It appears strange, though, that these two universal banks could underwrite lower-quality stocks for higher prices while all other universal banks have to include a discount in their subscription prices. Another possibility is that these issues are better quality and that intrinsic characteristics not controlled for in the underpricing model are apparent to investors and bankers. This is roughly consistent with the certification hypothesis−the bank uses the knowledge acquired in previous banking relationships to select and certify the best issues. It is also consistent with Gompers and Lerner (1999), who find that reputation can mitigate the conflict of interest.

The variation among the group of universal banks is inconsistent with universal-bank underpricing intended as promotion of other product lines or as a favor to depositors and mutual fund subsidiaries. Of the group of universal banks one would expect the banks with the greatest variety of products, depositors, and mutual fund subsidiaries to cross subsidize.

The regression model controls for ex-ante issuer risks, and the results point toward investor rationality and underpricing as compensation for issuer-specific and underwriter-specific risk. To resolve uncertainty about the true market performance of the stocks, it is useful to relate secondary-market performance of the issues to issuer as

[6]A regression of only universal-bank underwritten IPOs' underpricing on issuer and underwriter characterisitics confirms this variation among universal banks.

well as underwriter characteristics: If universal-bank underwritten IPOs perform better in the secondary markets, this would be consistent with signaling as well as with cross subsidization. If the long-term performance of universal-bank-underwritten securities is normal, then underpricing would be interpreted as an up-front-risk premium, compensating for underwriter-specific conflicts of interest. If universal-bank underwritten securities perform worse in the long run, then underpricing would be interpreted as up-front compensation for issuer-specific risk.

Deutsche Bank and Dresdner Bank are associated with lower underpricing. If their IPOs are normal or have better long-term performance, this would indicate that they underwrite superior securities, requiring lower up-front risk compensation due to lower issuer-specific risk. This would be consistent with positive self-selection. The bank's reputation would be interpreted to mitigate the underwriter-specific conflicts of interest. If these IPOs have worse long-term performance, it would indicate that these underwriters sell worse securities at higher prices, consistent with the conflict-of-interest hypothesis.

The model that specifies the relationship between long-term performance and issuer and underwriter characteristics is equivalent to the underpricing specifications, except for the dependent variable. Table 3 documents the results. The dependent variable in models 1 and 2 includes the initial return (underpricing). The dependent variable in models 2 and 3 excludes the initial return.

The most important result is that the stock-price performance in the secondary market is not systematically related to either bank type or venture-capital affiliation. This suggests that IPOs cannot be distinguished in the secondary markets whether they are

underwritten by universal banks or by underwriters with a venture-capital affiliation. But universal banks and underwriters with a venture-capital stake set significantly lower subscription prices for these IPOs that are otherwise indistinguishable from other IPOs. This indicates that investors are concerned about underwriter-specific risks and require underpricing as an up-front risk premium. The findings are inconsistent with the signaling hypotheses. If underpricing were intended as a sign of high quality, higher initial returns would be associated with higher long-term returns.

The long-term regressions also confirm that investors consider underpricing as compensation for issuer-specific risk. The dummy for the pharmaceutical industry is positive and statistically significant−consistent with the assumption that investors require lower underpricing if the issue is high-quality (low risk). The size of the issue (ISIZE) has a negative and statistically significant coefficient estimate in models 1 and 2, but not in models 3 and 4, indicating that these stocks are normally successful in the long term, but can achieve higher initial capitalization. The presence of a foreign underwriter is associated with significantly superior long-term performance.

The year dummies for 1997 and 1998 are both negative and statistically significant; the longer the stock has been trading the worse is the average performance. This is consistent with Ritter's (1991) findings that IPOs are poor performers in the medium to long term.

As in the underpricing regressions, there is some variation across individual banks. The coefficient estimate for Deutsche-Bank underwritten IPOs is positive and significant, indicating that the negative, significant coefficient estimate on underpricing reflects better-quality issues, rather than an attempt to cross-subsidize or to float poor-

quality issues at high subscription prices. The Dresdner-Bank coefficient is not significant, suggesting that the secondary-market returns of those IPOs are normally distributed. These two big universal banks can underwrite normally or superior performing securities at higher subscription prices. These banks appear to select their IPO candidates and to mitigate the conflict of interest associated with universal banking, consistent with Carter and Manaster (1990) Carter, Dark, and Singh (1998), and Gompers and Lerner (1999).

This raises a puzzling question: Why do clients of average universal banks accept lower subscription prices? Why would anyone choose a universal bank or a bank with a venture-capital stake as underwriter? If a portion of underpricing is due to uncertainty about universal-bank underwritten issues, and universal banks raise less cash for the issuers of stocks that by observable standards are indistinguishable in the secondary markets, why do issuers choose universal banks as their agents? Further, why do banks in Europe and elsewhere seek to integrate commercial and investment banking?

One possibility is self-selection of lower-quality issuers to universal banks. Subscription prices and underwriter choice could be determined endogenously. If lower-quality issuers selected to universal banks, this could be the real reason for higher underpricing. The underpricing and long-term performance regressions both already control for unobservable risk factors. The results do not indicate that universal banks underwrite less- well performing stocks.

An alternative explanation of underwriter choice focuses on costs related to switching and dissipating sensitive firm information among several banks. Relationship banking offers the client not only one-stop banking and reduced transaction costs, but

confidentiality. Srinivasan (2000) documents that switching costs increase a client's propensity to keep an underwriter for repeat issues and as adviser. Banks trying to entice clients to switch underwriters offer free services to compensate for the switch cost incurred by the client who makes firm-specific information available to a new bank.

What determines the choice of a specialized bank as underwriter–collusion between issuer and underwriter or pre-existing relationships? A probit model can help quantify the relationship between issuer characteristics, pre-existing relationships, and underwriter type. The specification includes variables from the previous specifications describing the issuer along with a variable quantifying the issuer's pre-IPO revenue (REVE) and two variables representing short-term and long-term bank debt (SHORT, LONG) to proxy for bank relationships.[7] While most firms have current accounts with some banks, long-term debt (more than 5 years until maturity) is a useful proxy for a significant banking relationship. Because superficial inspection of the data appeared to indicate that specialized banks are overproportionally involved with issuers through equity stakes they hold directly rather than through an affiliated venture capital firm, we distinguish between the lead underwriter's venture capital and equity stakes (LEADVC, LEADEQ).

Table 4 documents the probit results. A number of variables are associated with statistically significant coefficients, but rather small probabilities. Larger issues (ISIZE) appear to be a bit more likely to choose a universal bank as lead underwriter. Firms with short-term debt (SHORT) and higher revenue (REVEN) are slightly less likely to choose

[7] Unfortunately, the available dataset quantifies only the amount of bank debt reported in the annual report of the issuer. It does not contain information whether or not the issuer is related to the underwriter or another bank through these loans. The information on bank-debt and revenue was available only for 111 observations.

a universal bank as underwriter. Interestingly, the industry of the issuer is not related to its choice of underwriter. The selection of issuers to either universal banks or specialized banks does not appear to be related to very clear-cut quality distinctions. Universal-bank association with larger issues might be interpreted as a sign of self-selection of the bigger, better-known issuers to universal banks. Firms, which can borrow more money in current accounts and generate higher revenue, on the other hand, might be considered more mature. Their association with specialized investment banks might be considered proof of the opposite relationship. This provides additional strong support that self-selection to either bank type is not motivated by the universal bank's special ability or incentive to float lower-quality issues.

The most interesting result is the large and significant probability of choosing a universal bank if the issuer has long-term bank debt. This suggests that pre-existing banking relationships are a stronger determinant of underwriter choice than other issuer characteristics, such as accounting numbers, industry, or firm maturity. Issuers are more inclined to accept lower subscription prices if they have extensive banking relationships. This is consistent with the hypothesis that issuers incur switch costs if they choose a third party as underwriter. Apparently, avoiding the switch costs along with the savings associated with using a related underwriter exceeds the opportunity cost of discounting the IPO subscription price.

5. Conclusion

This paper investigates the relationship between underpricing, secondary market returns of IPOs and the lead underwriter's bank structure. Because of their double role as lender and underwriter, universal banks face additional potential conflicts of interest when they underwrite equity. The empirical results documented in this paper suggest that universal banks underwrite stocks that perform normally in the secondary markets. As a group, universal banks set lower subscription prices, suggesting that investors require compensation for potential conflicts of interest. This paper further demonstrates that bank reputation can mitigate the effect of conflicts of interest. Variation of underpricing and secondary market performance among universal banks indicates self-selection of the better-quality issuers to the most reputable banks. Finally, the paper demonstrates that issuer characteristics do not determine the choice of the underwriter. Instead, pre-existing banking relationships increase the probability that issuers choose universal banks as underwriters in spite of the lower IPO capitalization achieved with a universal-bank underwriter. While the market recognizes that conflicts of interest can arise if commercial banking and investment banking are combined in one institution, the results of this paper suggest that investors are fully aware of this potential problem and require an appropriate discount. There is no reason to prevent combinations of commercial banking and investment banking if the intention is to protect investors. The question which banking services to combine in one institution is best left to banks and issuers, who will weigh the benefits associated with combinations against the cost associated with lower capitalization in an IPO.

Further investigations will have to try to quantify the quality of a pre-existing banking relationship. Duration and relative volumes of loans could be proxies for the quality of information the relationships produces. It would be interesting to relate this information to a measure forgone IPO capitalization to infer the relative value of the relationship. Further research could also benefit from more extensive comparisons of investment-banking relationships with lending relationships. In addition, the relationships between IPO returns and parent-firm sponsoring, corporate investors and institutional investors might offer some insights into the role of these corporate monitors and their value as certifyers.

Table 1: Sample Banks

Lead underwriter	# of IPOs	0 = universal bank, 1= specialized bank	0= domestic bank, 1= foreign bank
Baader Wertpapierhandelsbank	5	1	0
Baden Wuerttemberg Bank	5	0	0
BancBostonRobertsonStephens	2	1	1
Bank Vontobel	5	0	1
Bankgesellschaft Berlin	4	0	0
Bay Hypobank	3	0	0
Bay Landesbank	3	0	0
Bayersiche Vereinsbank	2	0	0
Bayerische Hypo-und Vereinsbank	12	0	0
Berliner Effektenbank	4	1	0
Berliner Freiverkehr	4	1	0
BHF Bank	10	0	0
Boersenmakler Schnigge	1	1	0
Commerzbank	17	0	0
Concord Effekten	7	1	0
Credit Suisse First Boston	7	0	1
Deutsche Bank	32	0	0
DG Bank	31	0	0
Dresdner	29	0	0
Fleming	1	0	1
German Brokers	1	1	0
Goldman	16	1	1
Gontard	7	0	0
Bontard & Metallbank	6	0	0
Hanseatisches Wertpapierhandels	2	1	0
Hauck	2	0	0
HSBC Trinkhaus Burkhardt	4	0	0
ICE	1	1	1
J. Henry Schroder	1	1	1
JPMorgan	2	0	1
Kling, Jelko, Dr. Dehmel	4	1	0
LB Baden Wuer	2	0	0
Lehman Brothers	3	1	1
M.M. Warburg	5	0	0
Merck Finck & Co.	1	0	0
Merril	2	1	1
Metall	5	0	0
Morgan Stanley	3	1	1
Nord LB	4	0	0
Paribas	3	0	1
Raiffeisen Zentralbank Oesterreich	2	0	1

Robert Fleming	2	0	1
Sal. Oppenheim	10	0	0
Salomon Smith Barney	1	1	1
Schmidt Bank	1	0	0
SGZ	2	0	0
Societe Generale	1	0	1
Stadtsparkasse Koeln	1	0	0
Trinkhaus Burkhardt	3	0	0
UBS	5	0	1
Vereins- und Westbank	3	0	0
West LB Panmure	19	0	0

Table 2: Underpricing

OLS regressions of initial IPO returns on issuer and bank characteristics. ** and * represent statistical significance at the 5 and 10 percent levels. (**) and (*) represent heteroskedasticity-consistent statistical significance at the 5 and 10 percent levels.

Model	1			2		
R-Square	0.18			0.18		
	est	stderr	h-err	est	stderr	h-err
INTERCEPT	20.3(*)	13.0	11.4	-0.3	13.0	9.5
UBANK	29.9**	12.3	10.0	23.4*	12.2	9.5
VCPER	0.4*	0.24	0.24	0.3	0.2	0.2
VCAFF	55.4**	13.6	18.4	51.5**	13.4	16.9
ISIZE	-0.07*(**)	0.04	0.02	-0.06	0.04	0.1
KONS	-0.3	15.3	11.4	6.2	14.8	10.9
FORE	-8.5	11.7	9.8	-14.6	11.3	9.6
1997	15.0	10.4	9.1	7.9	10.4	9.3
1998	19.9**	8.9	8.9	26.8**	8.7	8.6
SOFT	-1.6	9.7	10.9			
TECH	-19.2*	10.7	10.3			
PHARM	-26.0*(**)	14.4	11.4			
FIN	3.7	13.9	13.6			
NEWE				27.4**	9.4	6.8
DEUBA	-26.6**	13.0	10.4	-28.6**	12.9	10.0
DGBA	-6.9	13.3	14.1	-12.1	13.1	14.5
DRESD	-22.6*(**)	13.8	10.2	-28.4**	13.4	9.7
GOLD	21.7	20.9	14.3	13.9	20.6	13.7
WESTL	-3.1	15.8	20.6	-4.1	15.6	20.8
COMM	-12.3	16.9	14.1	-12.9	16.5	14.1
BAYHY	10.1	18.5	26.4	7.0	18.3	26.0
CONCO	-31.4	26.4	18.0	-43.6**	25.8	17.1
SALOP	-3.9	20.8	21.0	-2.3	20.5	21.2
BHF	18.3	21.0	27.1	10.6	20.6	26.2

Table 3: LongTerm Performance

OLS regressions of secondary-market returns on issuer and bank characteristics. ** and * represent statistical significance at the 5 and 10 percent levels. (**) and (*) represent heteroskedasticity-consistent statistical significance at the 5 and 10 percent levels.

Model	1			2			3			4		
R-square	0.2			0.19			0.19			0.17		
	est	stderr	h-err	est	stderr	h-err	est	stderr	h-err	est	stderr	h-err
INTERCE	428.3**	140.4	90.4	271.3*(**)	142.1	87.9	355.6**	125.9	78.4	250.7*(**)	128.3	74.1
UBANK	67.8	134.0	83.5	42.0	133.4	81.6	-23.9	120.2	71.8	-33.0	120.4	68.9
VCPER	1.2	2.6	2.2	-0.2	2.6	2.4	0.7	2.3	1.8	-0.5	2.4	2.1
VCAFF	16.5	145.6	135.8	45.0	144.6	144.0	-106.1	130.6	107.3	-76.7	130.5	104.2
ISIZE	-0.7*(**)	0.4	0.3	-0.5(**)	0.4	0.2	-0.5	0.4	0.2	-0.4	0.4	0.2
KONS	-154.3(*)	164.9	79.9	-153.0(*)	160.1	82.8	-123.3(**)	147.9	65.9	-142.9(**)	144.5	70.2
FORE	191.3(**)	126.5	91.3	174.8(**)	123.8	88.5	130.9(**)	113.5	63.7	133.2(**)	111.7	61.6
1997	-476.7**	111.3	89.1	-513.7**	112.5	92.9	-401.8**	99.8	84.6	-427.8**	101.6	87.4
1998	-456.9**	96.4	78.1	-444.7**	95.4	80.8	-382.5**	86.5	64.9	-387.7**	86.1	69.2
SOFT	-1.9	103.9	72.5				21.0	93.2	55.9			
TECH	-37.0	114.7	97.5				34.8	102.9	75.0			
PHARM	403.7**(*)	155.2	248.6				427.1**(*)	139.2	257.0			
FIN	1.2	151.6	90.3				-11.3	136.0	68.0			
NEWE				255.4**	102.1	80.8				198.5**	92.2	71.9
DEUBA	336.9**	139.8	163.2	335.9**	139.0	169.9	269.5**	125.4	125.8	275.7**	125.5	50.5
DGBA	49.8	143.3	123.6	18.9	141.9	119.8	28.8	128.6	86.4	12.9	128.1	12.6
DRESD	34.0	148.3	89.2	64.0	144.7	77.0	83.7	133.0	79.4	131.3(**)	130.6	30.5
GOLD	107.8	225.7	156.8	87.7	223.9	154.9	68.4	202.4	146.3	67.5(**)	202.1	16.5
WESTL	320.2*()	170.0	287.6	396.2**()	168.6	331.5	366.5**	152.5	312.7	437.9**	152.2	27.4
COMM	-2.3	181.8	140.4	-2.0	178.7	128.2	2.9	163.0	124.1	3.5	161.3	113.4
BAYHY	44.4	198.6	108.2	-21.0	198.2	105.3	45.9	178.2	97.1	-9.4	178.9	97.2
CONCO	474.0*()	284.1	407.0	471.4*()	280.1	414.8	398.8	254.8	278.7	430.4*	252.8	281.2
SALOP	-147.4	223.4	122.5	-99.5	221.7	110.5	-102.9	200.4	102.6	-58.5	200.1	99.2
BHF	339.1	225.8	213.9	294.7	222.9	200.1	349.8**(*)	202.5	208.6	316.7(*)	201.2	191.5

Table 4: Probit Model

Probit regression model with universal-bank underwriter as dependent variable.

	Coefficient	P-value
INTERCPT	0.97	0.48
SHORT	-0.04**	0.02
LONG	0.12*	0.07
REVEN	-0.002**	0.001
ISIZE	0.02**	0.01
SOFT	-0.68	0.52
TECH	-0.82	0.56
PHARM	-0.58	0.72
FIN	0.23	0.86
LEADVC	-0.95	0.90
LEADEQ	-0.01	0.77
FOREI	0.48	0.40

Chapter II

THE ROUNDTRIP OF THE U.S. AMERICAN CORPORATION: LEARNING ABOUT THE VALUE OF FOCUS DURING THE CONGLOMERATE MERGER WAVE

1. Introduction

Corporate finance research of the past decade overwhelmingly agrees that focused firms in the 1980s and 1990s perform better than diversified firms and that investors reward focused restructuring with positive returns while discounting diversifying acquisitions (Comment and Jarrell 1995, Berger and Ofek 1995, 1996, 1999, Lang and Stulz 1994, Lichtenberg 1992 and others). The breakup of diversified firms into smaller, focused firms appears as a value-enhancing response to poor performance of unfocused firms. The conglomerates formed of unrelated subsidiaries during the conglomerate merger wave of the 1950s and 1960s have either been broken up, separated from unrelated lines of business, or gone out of business. Although many explanations have been offered to explain the popularity of these diversified firms, economists are still puzzled by the phenomenon. Ex-post studies of conglomerate and diversified firm performance find neutral to negative relationships between diversification and performance (Ravenscraft and Scherer 1987, Weston and Mansinghka 1971, Montgomery 1994, Servaes 1996, and Klein 1998, and others). As much as investors in the 1980s and 1990s prefer focus, they responded positively to diversification during the 1960s. Klein (1998) finds that

conglomerates had greater market-to-book ratios 1966-1968 than matches composed of single-product firms. Hubbard and Palia (1998) find that diversifying acquisitions generally earned positive abnormal returns in the 1960s. Matsusaka (1993b) finds that conglomerate acquisitions earned positive abnormal returns if the acquired target was cash constrained. Bradley, Desai, and Kim (1988) find average abnormal returns of 4.1% to diversifying and focused acquisitions during the 1963-1968 period and negative 2.9% returns to acquisitions during 1981-1984.

This paper argues that investors form opinions about corporate structure as such, but that the value of any given corporate structure is hidden. Investors infer the value of a new type and form of corporation from experience. The conglomerates' initial popularity and later decline can be seen not as a sign of irrationality on the part of investors, but as evidence of the systematic struggle to determine the value of corporate structures and to allocate resources to their best use in a market economy. We find evidence of such systematic effects that are not explainable by a capital asset pricing model. Firms with the conglomerate structure are clearly systematically related. Investors pay close attention to news about the success of the corporate form and update the stock prices of the group of conglomerates accordingly. This indicates that investors might be mistaken about the true value of a corporate form or business phenomenon, but there is a systematic tendency for investors to learn about corporate structure.

Section 2 summarizes theoretical and empirical results on corporate diversification and the conglomerate merger wave. Section 3 describes the hypothesis investigated. Section 4 explains the empirical approach of this paper, and section 5 concludes.

2. Firm Diversification and the Conglomerate Merger Wave

The U.S. economy experienced an enormous takeover wave during the 1960s. Fueled by the general bull market, conglomerates acquired often completely unrelated businesses. Most conglomerates grew out of a small manufacturing business and started the merger-and-acquisition game in the 1950s. One of the largest, Gulf &Western grew out of a small auto parts company and expanded into a conglomerate of 130 unrelated companies with $1.3 billion sales in 1968 (Bluhdorn (1973)). ITT was already a multinational company and no stranger to mergers and acquisition, when in 1959 Harold Geneen took over as the chairman of the company. Geneen emphasized growth strategies, giving the company the impetus to expand. By 1968 ITT had acquired some 350 companies around the world with combined sales over $4 billion. The presidents of these conglomerates were charismatic entrepreneurial men, most of whom had started as very small businessmen. Few had attended business schools, or even college. Their financial maneuvers and accounting expertise made conglomerates appear as financial whizzes and their managers as prototypes of "scientific management" (Sobel (1984)). The fraction of single business companies in the Fortune 500 dropped from 22.8 percent in 1959 to 14.8 percent in 1969. The fraction of "unrelated business" companies rose from 7.3 percent to 18.7 percent (Rumelt (1974)). Investors responded euphorically and paid enormous premia to be in the wagon with the conglomerates. Business schools and consultants were stunned, but quickly developed theories affirming the belief in economies of scope and skillful "management by the numbers".

The explanations for firm diversification fall into two basic categories: diversification as a shareholder-value-maximizing choice or as the managers' utility-maximizing choice. The theories of profit-maximizing diversification primarily center on the firm's resource stock, market power and antitrust, financial and accounting benefits, target firm improvement, or internal capital markets. The capabilities or resource view argues that the firm's capacity is not exhausted in the present industry. The firm's profit is a function of its resource stock, not a nexus of contracts or residual ownership. Diversification is a profit-maximizing search for the best allocation of the firm's abundant capabilities, including the human capital (Penrose 1959, Teece 1982, Matsusaka 1999). This explanation fails to illustrate why the abundance of capital cannot more efficiently be corrected by a reallocation of capital.

The economic literature of the 1960s and 1970s is very concerned with the implications of conglomerates for industry structure and competition. Although it is possible that conglomerates would be in a better position to engage in cross-subsidization or reciprocity, there is no evidence of such behavior. Even a report by the Federal Trade Commission on Conglomerate Merger Performance issued in 1972 concludes that conglomerates are no significant market forces in large sectors of the economy (Weston (1972)). A popular argument relates the conglomerates' unrelated diversification to contemporary strict antitrust enforcement with respect to related alliances. Matsusaka (1996) investigates this popular argument and finds that his sample of firms involved in diversifying expansion in 1968 were not constrained or endangered by antitrust enforcement.

Another alleged benefit of diversification argues that diversification enables the firm to pool the risk associated with the different business units it comprises, producing a reliable and smooth cash flow. While investors could easily achieve the same risk-pooling effect with a diversified portfolio, the conglomerate firm could emphasize debt financing, benefiting from the associated tax shield. The empirical evidence, however, does not indicate that diversified firm capital structure relies more on debt financing (Ofek (1993)).

Do conglomerates buy other firms to run them better? The empirical evidence does not support the disciplining hypothesis. Barber, Palmer, and Wallace (1995) find that takeover targets had low q ratios during the 1963-1968 merger wave. Although they interpret this result as support for the disciplinary hypothesis, a firm's relative q ratio is not very indicative of its value at that time. As the studies by Klein, Hubbard and Palia, and Matsusaka demonstrate, q ratios of conglomerates were unusually high, but not associated with high earnings potential as evident in the case of the conglomerates. Matsusaka (1993a) finds that target firms were significantly more profitable than other firms in their industries and size classes. Matsusaka (1993b) adds that bidders who replaced target management had negative announcement returns, while bidders who maintained target management had positive announcement returns, indicating that the target firms were well managed and did not need to be disciplined.

The internal-capital markets theory argues that diversified firms are better able to acquire financing and to allocate liquidity to profitable subsidiaries and projects (Williamson (1975)). The acquisition of subsidiary firms and the creation of internal capital markets could be seen as a corporate-structure answer to shareholder dispersion

and the lack of corporate monitoring through the capital markets. Since the Glass-Steagall Act the absence of bank monitoring has significantly weakened corporate control (Bhide (1993), Roe (1990)). Gertner, Scharfstein, and Stein (1994) and Stein (1997) compare bank lending to internal-capital markets, arguing that direct ownership of the subsidiaries allows internal capital markets to monitor more closely than bank lenders and to more effectively redeploy the assets of poorly performing projects. Matsusaka and Nanda (1999) develop a model of internal capital allocation in which the transaction cost of raising external funds exceeds the cost of internal funds. The benefit of internal resource allocation is then that the firm has an option to avoid external capital markets in more states of the world than single-business firms. A recent article by Hadlock, Ryngeart, and Thomas (1998) argues that diversification reduces asymmetric information and facilitates raising equity capital in the external capital markets.

A number of empirical studies investigate acquirer and target characteristics to understand the relationship between cash constraints and diversification. Hubbard and Palia (1998) point out that external capital markets of the 1960s were less developed, had less company-specific and less operating or production information, and were less able to provide financing and budgeting advice. Internal capital markets were less constrained in these respects. In their empirical study, Hubbard and Palia find that conglomerate acquirers generally retained target management and that acquirer-stock values responded most positively if the acquired target was cash constrained. Both observations are consistent with the suggestion of Hubbard and Palia that target firms benefited from the assistance and financial support provided by the diversified firms' headquarters. Maksimovic and Phillips (1999) find that conglomerates sharply cut the growth of

unproductive peripheral segments. Billet and Mauer (1999) find no evidence that diversified firm value is related to its overall measure of internal capital market value. They find that internal capital market transactions can influence diversified-firm value when resources are transferred to business segments that have above-average peer-group performance and that would be financially constrained if they were standalone firms. Shin and Stulz (1996), on the other hand, find evidence of bureaucratic rigidity rather than allocation of investment funds to the most efficient uses. Rajan, Servaes, and Zingales (1997) argue theoretically and demonstrate empirically for a sample of conglomerates observed during 1979-1993 that conglomerate funds are allocated toward the most inefficient divisions. The more diverse the investment opportunities of the firm, the greater the distortion and the greater the diversification discount.

Internal-capital markets explanations also fail to explain the rapid boom and bust of the conglomerate merger wave. If the relative value of diversification depended on the relative value of the internal capital market, we would expect to observe a significant change in the environment of the firm that could explain the relative attractiveness of internal capital markets. Although Hubbard and Palia demonstrate that external markets control has improved since the 1960s, the question remains why did investors not force these developments earlier if external capital markets were ultimately more efficient?

With hindsight, it is apparent that conglomerates failed. Operating performance and earnings could not keep up with the high expectations (see Table 1 for a trend line of conglomerate-stock returns relative to the market). Throughout the 1980s conglomerates have either been broken up or have been forced to reorganize, involving unprecedented write-offs and spin-offs. The expression "roundtrip of the American corporation", coined

by Shleifer and Vishny (1991), aptly describes the change of paradigm that occurred over three decades since the 1960s.

Agency theory argue that the firm is pursuing diversification in order to maximize the managers' personal gains rather than to maximize shareholder wealth (Berle and Means 1932, Jensen 1986, Shleifer and Vishny 1989). Diversification reduces the risk of the manager's human-capital investment and increases the firm's dependence on the manager's firm-specific skills, also increasing the realm of power of the manager (empire building). The empirical evidence is mixed: Kamerschen (1970) fails to find significant differences between owner- and manager-operated firms. Denis, Denis, and Sarin (1997) find a significant negative relationship between managerial ownership and firm diversification. Morck, Shleifer, and Vishny (1990) find evidence for the years 1975-1987 that suggests managerial objectives may drive acquisitions, reducing the bidding firms' values. During the 1960s, however, investors applauded the diversification strategies (Matsusaka (1993b), Hubbard and Palia (1998), Klein (1998)). Investors either thought that the benefits of diversification outweighed agency cost or agency cost became relatively more costly in the 1970s and 1980s.

Can we find relative changes in the value of diversification? Very recent cross-country investigations indicate that significant variation exists among countries (Khanna and Palepu (1999), Lins and Servaes (1999)). This evidence could be interpreted as proof that the value of diversification is relative to environmental constraints. The result could, on the other hand, also be interpreted as evidence of different investor preferences or expectations. Some studies have attempted to relate changes in the tax code and disclosure regulation to the conglomerate merger wave. The evidence for either the

Williams Act of 1968, the tax reform of 1969, or the SEC disclosure rule of 1968 to have changed the environment for conglomerates is weak. Schipper and Thompson (1983, 1985) conduct event studies to quantify the effect of the regulatory changes, finding moderate negative returns when the Williams Act and the tax reform where announced and no significant returns in response to the announcement of the disclosure rule in their first paper. The second paper, however, finds no significant abnormal returns for any of the institutional changes. Bhide (1993) argues that the development from corporate self-sufficiency to outsourcing of corporate services and the deregulation of fixed commissions on Wall Street in 1974 led to improved corporate control. These arguments, however, suggest that agency problems were even more costly during the period when conglomerates were popular. One point is clear, though: If managerial opportunism caused the conglomerate merger wave, investors would certainly not have applauded diversification strategies. It is evident that they did and so did academics and other commentators.

3. The Learning Hypothesis

The previous literature on conglomerates lacks evidence of the conglomerate firms' superior performance and fails to identify significant changes in the institutional environment that could explain the drastic change of paradigm from diversification to corporate focus.

Neither efficiency explanations nor agency explanations can completely explain the conglomerate phenomenon. An alternative explanation offered by Malkiel (1996)

resorts to investor irrationality to explain the conglomerate craze. Given the ex-post knowledge of losses and the large number of divestitures, Ravenscraft and Scherer (1987) call for government restrictions of merger and acquisition activity. Weston (1989), on the other hand, argues that diversifying mergers and subsequent divestitures perform an important economic role, increasing the mobility of economic resources and providing costly but necessary learning opportunities about the resources' efficient uses.

This paper extends an explanation of the conglomerate merger phenomenon that focuses on investor demand. I argue that investors value corporate structure, but that the value of any corporate structure is unknown and can be learned only over time. Investors systematically overvalued the conglomerate corporate structure during the 1960s, then systematically updated their evaluation at the end of the 1960s. I argue, like Weston (1989), that the conglomerates' initial popularity and later decline can be seen as evidence of the systematic struggle to determine the value of corporate structures and the market's workings in allocating resources to their best use. Although investors may have overestimated the true value of a conglomerate, if we find that during this learning process the group of conglomerates is treated systematically, investors would appear as rational economic agents.

Today's investors clearly prefer focused, streamlined businesses. During the 1960s, however, conglomerate stocks outperformed the market, ex-post results indicating that these conglomerates were not worth the premia investors paid for them. Because conglomerates were a new phenomenon, investors had no relevant experience in evaluating the new corporate structure. Why might investors have had reason to be overly optimistic about a new form of corporate structure? The U.S. corporation had

undergone rapid developments since the late 1800s. Railroads and telegraph companies created massive organizations with novel internal control systems. The unprecedented volume of goods and messages circulating through the economy by railroad and the telegraph at the same time revolutionized the processes of production and distribution for many other businesses, creating the Anglo-American corporation with several layers of managers and the separation of ownership and control. These industries that began to drive economic growth and transformed the U.S. economy in the late 19th and early 20th century had two basic characteristics that differentiated them from existing labor-intensive industries: All the processes of production were far more capital-intensive than the older industries. The ratio of capital to labor per unit of output was much higher, plant sizes larger, with significant cost advantages achieved through the exploitation of economies of scale and scope. In addition, these large firms invested heavily in national and international marketing and distribution networks. They created a management hierarchy and developed corporate structures, such as the multidivisional-firm structure, to cope with enormous firm size (Chandler (1990)).

The "scientific-management" theories that affirmed the belief in the managed corporation developed partially from an observation of the enormous changes of corporate Anglo-America from the "Second Industrial Revolution" to the middle of the 20th century. Investors had observed enormous, permanent changes in the ways how business was done and organized. The managers of the new conglomerates were highly regarded and expected to lead U.S. business to another era, producing growth indefinitely (Sobel (1984), Lipin (2000)).

The learning hypothesis is consistent with the observed high market-to-book-ratios and with positive abnormal returns to diversifying acquisitions in the early years of the conglomerate merger wave. The hypothesis is further consistent with changes in the institutional environment of firms that might trigger updating of expectations. In addition, the learning hypothesis is consistent with the conglomerates' higher acquisition frequency during the times when conglomerate stocks were overvalued and could be used profitably in acquisition transactions.

4. Empirical Approach

The learning hypothesis implies that investors form expectations about corporate structure systematically. If they expect the conglomerate corporate structure to add value, investors will pay a premium for conglomerate stocks. If they expect diversification to destroy value, investors will discount diversified firms. The learning hypothesis implies that investors consider the group of conglomerates as a unit. The stock returns of the group of conglomerates should reflect this systematic valuation effect. As has been demonstrated by the empirical investigations of Klein, Matsusaka, Hubbard, Palia, Comment, Jarrell, and others cited above, investors paid a premium for diversified firms during the 1950s and 1960s, and have since discounted diversified firms. This could be the appropriate response to changes in the environment of conglomerates that initially favored conglomerates in the 1950s and 1960s and put them at a disadvantage after the 1960s. Antitrust concerns, new disclosure rules, tax reforms, and institutional investor monitoring, all seem plausible to partially contribute to the end

of the merger wave. The research cited above, however, fails to identify these changes in the external constraints on conglomerates. The question is what caused the observable drastic change from diversification as the dominant business paradigm to corporate focus as the unquestioned alternative today. To determine if expectations about the value of the corporate-structure per se regardless of external constraints determined a significant part of the paradigm change, this paper takes a more micro-perspective at the systematic behavior of conglomerate stock returns and the struggle to identify the value of the conglomerate corporate structure.

If investors form systematic opinions of the value of any corporate structure and treat conglomerates as a unit, the returns of the group of conglomerates should partially be determined by the valuation of the conglomerate structure per se, independent of the firm's individual business success. In their struggle to determine the value of the conglomerate structure, investors should systematically respond to corporate structure-related news about any other conglomerate. They should respond with conglomerate-stock purchases to announcements about one conglomerate's success and should update the expectations about other conglomerates when they learn about one conglomerate's failure to perform. To test this hypothesis of systematic learning, this paper examines the market's valuation of the group of conglomerates to news about two leading conglomerates. The sample conglomerate include 32 conglomerates that fit the selection characteristics of Klein (1998). Of the 64 firms identified by Weston and Mansinghka (1971) he selects the firms with at least three mergers during 1960-1968, meeting the three other conditions: At least 20 percent of the increase in the firm's total assets during the period must be from external acquisitions. The firm must have been active in at least

ten 3-digit SIC industrial categories or at least five 2-digit SIC categories in 1968. Each firm, furthermore, has also engaged in at least one pure conglomerate merger, or at least five conglomerate mergers of any type as listed in the Federal Trade Commission's large merger series (FTC, 1981). Table 2 provides the complete list of firms.

For the purpose of this study, LTV and Litton serve as the "lead conglomerates." News about these firms constitute the "potential events". LTV was a pioneer of conglomeration, known for aggressive buying and selling. Its founder, James Ling, started the diversification game early, became one of the largest, and likely the most active acquirer and seller. LTV could be characterized as a holding company, typically abstaining from active management of its subsidiaries. LTV and Ling attracted much public attention and were popular on Wall Street (Sobel 1984). LTV was also investigated by the Antitrust House Committee Hearings of six leading conglomerates between 1967 and 1970. Litton Industries is also one of the largest conglomerates. Litton started as a vacuum-tube manufacturer in San Francisco. By 1961 Litton was the fastest-growing company on the New York Stock Exchange and traded at 50-75 times earnings multiples during the middle of the 1960s. Unlike LTV, Litton rarely sold a subsidiary. While LTV was organized as a holding company with little structured support or interference with the subsidiaries from headquarters and frequently changing composition, Litton was characterized by its M-form (multidivisional) corporate structure as described by Chandler (1962) and Williamson (1975). In addition, LTV and Litton are convenient choices because they are the conglomerates with some of the largest numbers of *Wall Street Journal* newsreports during the sample period. If any other conglomerate

functioned as the lead conglomerate for this study, LTV or Litton would likely have a conflicting event and would have to be excluded from the sample.

I investigate the market's reaction to news about the lead conglomerates reported in the *Wall Street Journal* between 1968 and 1970. This period is very interesting for several reasons. The merger euphoria reached its peak with 6000 mergers and acquisitions in 1969 (Mergerstat Review, 1989). Market-to-book ratios of conglomerate stocks reversed from abnormally high ratios to normally or poorly performing ratios (Klein (1998)). Some conglomerates reported first signs of earnings depressions. In addition, a slow reversal of positive acquirer premia into discounts started at the end of the 1960s (Bradley, Desai, and Kim (1988), Matsusaka (1993b). Anecdotal evidence also suggests that the conglomerate merger wave began to deflate when Litton missed its first quarterly earnings gain in 15 years in 1968. The stock dropped 38% against the market benchmark between January 18 and January 30. This incident is still today often cited as the beginning of the end of the conglomerate merger wave (for example *Forbes* April 17, 2000, Baker and Smith (1998), p. 16). LTV also reached its valuation zenith in 1969, with the company being forced to divest several divisions to generate cash to compensate its growing debt. Its stock consequently dropped from $167 in 1967 to $11.

To quantify the market's valuation of the group of conglomerates in response to news about a lead conglomerate's performance, we estimate a model of cross-firm events (compare Schipper and Thompson (1983), Cartwright, Kamerschen, and Zieburtz (1987), Bittlingmayer and Hazlett (1998)). The events include reports about earnings, operating profits, reorganization, acquisitions, and divestitures. Event studies first quantify the responses of investors to the events occurring to the conglomerate then to the group of

conglomerates. To determine abnormal returns, I use a capital asset pricing model (MacKinlay (1997)).

I use CRSP data for the daily stock returns and an equally weighted market index. To identify the newsreports associated with unanticipated abnormal returns for a lead-conglomerate stock, I estimate the marginal contribution of 70 potential events to the LTV-stock return and 30 events potentially impacting the Litton-stock return:

$$R_t = a + b\, M_t + c_t\, P_t + e_t \qquad (1)$$

R_t represents the observed return of LTV or Litton stock on day t. M_t is a vector of returns of the equally weighted market index. The term b is the coefficient of the market model, measuring the relationship between the stock's movements relative to the market movements. P_t represents the potential events. It is a [0,1] variable that equals unity if a news story appears on day t. The term c_t is the coefficient quantifying the impact of the event on the stock return of either lead conglomerate. To test the joint significance of the event day and the surrounding days, I conduct a joint hypothesis of the statistical significance of the event days of an event window. I estimate the abnormal returns of the two days before a report, the day of the report and the day after the report. I empirically determine the length of a window by conducting hypothesis tests of the joint significance of the days surrounding a news report. Usually one day before and one day after the report constitute a window. If several reports within a short period of time refer to the same event, the window expands to include up to eight days. The unusually short event windows help to expose the effect of individual events during a time period with many

events in short succession. The model setup is certainly biased against finding significant results.

$H_o : \Sigma c_{t,k} = 0$ for each window k. (2)

Of the LTV events, 30 individual days and 15 event windows are related to significantly abnormal returns. Of the potential Litton events, 14 individual days and 9 event windows are statistically significant. The statistically significant days are either the day of the report or the day immediately before the news report appears in the *Wall Street Journal*. Of the individual abnormal-returns days, half are positive and half are negative. Tables 3 and 4 report the individually significant days and coefficient signs. Tables 5 and 6 report the statistically significant windows and abnormal returns to LTV and Litton shares.

To determine if investors derive information about the value of conglomerate structure from the news about one of the leading conglomerates, I quantify the abnormal returns of the group of conglomerates around the statistically significant LTV and Litton events. I create a panel of stock returns of 31 other conglomerates, excluding a stock from the sample temporarily, if the conglomerate has a *Wall Street Journal* report during a lead-conglomerate event window. This exclusion naturally affects the conglomerates similar to LTV and Litton in size, diversification, and aggressiveness. The largest, most diversified conglomerates need to be excluded from the sample most frequently, adding to the model's bias against finding systematically related stock returns. The following equation relates the returns of 31 other conglomerates to the equally weighted market return and the events identified as significant for LTV and Litton:

$$R_{it} = a_i + b_i M_t + c_t L_t + e_t \qquad (3)$$

R_{it} is the return for firm i on day t. The term b_i is the coefficient of the market model. M_t is the return of the equally weighted market index. L_t is a [0,1] variable that equals 1 for all days that are part of LTV events or Litton events. The term c relates the conglomerate return to the vector of event dates.

We again test the joint significance of the days of a window:

$$H_0: \Sigma c_{t,l} = 0 \text{ for each window l} \qquad (4)$$

Tables 3 and 4 summarize the results of the regression of conglomerate returns on the equally-weighted market index and the LTV and Litton event dummies. There are 8 individually significant days with the sign as predicted by the LTV coefficient and 1 individually significant coefficient that points in the opposite direction of the LTV coefficient. 8 of the individual Litton days are significant for the conglomerates and point in the same direction, 3 are significant, but point in the opposite direction.

Tables 5 and 6 report the results of the joint hypothesis tests. Of the 15 statistically significant LTV windows, 5 are also statistically significant for the group of conglomerates, all signs match the LTV signs. Of the 9 windows statistically significant for Litton, 8 are statistically significant for the group of conglomerates, the sign of one pointing in the opposite direction of the sign predicted by Litton. The high percentage of Litton events I find to be associated with significantly abnormal returns for the group of

conglomerates confirms the hypothesis of systematic group-wide valuation effects. The much lower percentage of LTV events related to the group of conglomerates does not appear as strong support of the hypothesis. A closer look at the events, however, reveals that a distinction between firm-wide and subsidiary-specific news reports exists. During the sample period, LTV suffered enormous problems with its subsidiary Jones &Laughlin. Many of the reports about LTV's various problems with Jones &Laughlin are statistically significant events for LTV, but are not significant for the group of conglomerates. Of the 9 event windows not significant for the other conglomerates, 6 are related to a subsidiary-specific news. Of the 5 statistically significant windows, all are related to firm-wide developments. An example of those is the replacement of the founder and CEO of LTV, Ling. Of the significant Litton events all fit into the category of firm-wide events, rather than affecting an individual subsidiary. The observation that news about LTV's subsidiary is not strongly felt by other conglomerates provides additional support for my hypothesis, showing that a portion of the conglomerate return is due to the common corporate structure rather than to the prospects of portfolio or subsidiary firms in similar industries.

The sample period was chosen intentionally to capture the developments around the beginning of the end of the conglomerate merger wave. Tables 7 and 8 summarize event clustering by quarters throughout the sample period. Most activity unfolds between the 3rd quarter of 1969 and the 4th quarter of 1970. The signs of these events are almost equally distributed between positive and negative. These results could be interpreted as increased activity accompanying the end of the conglomerate merger wave. The value of

conglomerates is less predictable, conglomerate stocks are more exposed to unexpected fluctuation, the market is battling over the true value of a conglomerate.

Since some of the event windows are not related to the lead conglomerates' events, I test whether the group of conglomerates and the lead conglomerates are valued systematically on average. I conduct a joint hypothesis test of the conglomerate coefficients associated with all positive and all negative LTV and Litton event days.

$H_0 : \Sigma p = 0$ (5)

$H_0 : \Sigma n = 0$ (6)

Positive and negative LTV and Litton events are associated with jointly significant abnormal returns for the group of conglomerates. These results indicate that conglomerate stock returns are clearly systematically related beyond the predictions of the CAPM. Investors treat conglomerates as a group, considering their corporate structure as one element in the valuation.

5. Conclusion

The significant cross-firm events in response to a leading conglomerates' event indicates a systematic relationship between the stock prices of firms that have a common corporate structure. These results imply that investors form and update expectations about companies systematically based on the internal corporate structure. The rise and fall of the conglomerates can be explained in terms of learning. Investors responded

enthusiastically to the new corporate structure, expecting the conglomerates to create value. When investors observed the performance of conglomerates and learned that conglomerates could not live up to the expectations, investors reevaluated conglomerates. The activity observed between the second half of 1969 and the end of 1970 could be interpreted as increased activity accompanying the end of the conglomerate merger wave. The value of conglomerates is less predictable, conglomerate stocks are more exposed to unexpected fluctuation, the market is battling over the true value of a conglomerate.

Did investors value the corporate structure because of its relative value at the time, given the institutional constraints of the 1960s? The observation that investors respond systematically to corporate structure and corporate success announcements indicates that they are forming an opinion about the corporate structure, not just about the environment of the corporate structure. While antitrust enforcement, tax and disclosure changes might also partially contribute to the changing valuation of a particular corporate structure, the investor behavior, as observed here, indicates that investors value corporate structure and valued the conglomerate corporate structure.

This study is a first attempt to take a very micro perspective on investor valuation of internal corporate structure. Although the results surprisingly strongly support our hypothesis that investors assign value to corporate structure as such, future research projects are needed to more fully explore the relationship between corporate structure, learning, and stock returns. Further research could reduce the bias against finding results by excluding newsreports as conflicting events only if they are associated with abnormal returns for the excluded firm. To expand the sample and to avoid inference based on LTV and Litton alone, one could also use other conglomerates as lead conglomerates. To

further enlighten us about the initial overvaluation and later discounting of the conglomerate corporate structure, the sample period could be extended to comprise the entire conglomerate merger wave from the mid-1950s to the early 1980s. A project of that size might then also be able to provide information on the relative importance of other factors that might have fueled and later deflated the merger wave, such as antitrust, tax changes, disclosure rules, the macroeconomic environment, oil prices, etc.

Table 1
Index of Conglomerate Returns in Excess of Market Returns, 1967-1970

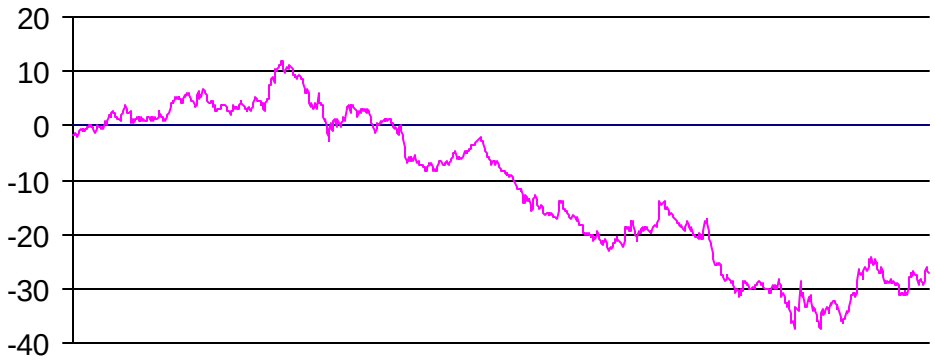

Table 2: Sample Conglomerates

1. Gulf Western	17. Kidde
2. ITT	18. Lear Siegler
3. Leasco	19. Martin Marietta
4. Litton	20. Midland-Ross
5. Lear Siegler	21. National General Corp
6. American Brands	22. Ogden
7. Bangor Punta	23. Republic
8. Boise Cascade	24. Rockwell
9. City Investing	25. Signal
10. Consolidated Foods	26. Singer
11. Emerson	27. Studebaker
12. Fuqua	28. Teledyne
13. GAF	29. Tenneco
14. Genesco	30. Textron
15. Glen Alden	31. White Consolidated
16. Grace	32. Whittaker

Table 3: Cross-Firm Effects on LTV Event Dates

OLS regressions of sample conglomerates' returns on market return and significant LTV event dates, 1968–70. ** and * represent statistical significance at the 5 and 10 percent levels, respectively. N=32372. R-squared = 0.23.

Variable, Date	LTV sign	Conglomerate Coefficient	Standard error	Date	LTV sign	Conglomerate Coefficient	Standard error
Intercept		-0.001	0.000	700205		-0.003	0.005
Exp. return		0.990*	0.011	700218	+	0.002	0.004
680709		-0.009*	0.004	700306		-0.005	0.004
680711	-	-0.006	0.004	700309	+	-0.001	0.004
680725		-0.003	0.004	700311	-	-0.003	0.004
680726	-	0.000	0.004	700312	-	0.001	0.004
690801	-	-0.009**	0.005	700324	+	-0.001	0.004
690804		-0.004	0.005	700413	-	0.004	0.004
690805	+	0.005	0.005	700514		-0.002	0.004
690806	-	-0.005	0.005	700515	-	-0.013*	0.004
691007		0.000	0.005	700518		0.002	0.004
691008		0.002	0.005	700520		0.007**	0.004
691009	+	0.011*	0.005	700521		0.022*	0.004
691010		-0.003	0.005	700522	+	0.009*	0.004
691014		-0.002	0.005	700525	+	-0.002	0.004
691015	-	-0.004	0.005	700602	+	0.034*	0.004
691016	-	-0.001	0.005	700603	+	-0.021*	0.004
691017		0.008**	0.005	700604	-	0.005	0.004
691031		-0.004	0.006	700605	+	0.005	0.004
691103		0.000	0.006	700612	+	0.000	0.004
691104		-0.003	0.006	700615	-	0.006	0.004
691105		-0.003	0.006	700710	-	-0.006	0.004
691106		-0.001	0.006	700727	+	0.003	0.004
691107		0.002	0.006	700728	+	-0.001	0.004
691219		-0.002	0.004	700902	+	0.005	0.004
691222		-0.002	0.004	700903		-0.001	0.004
700129		-0.002	0.004	700904		0.014*	0.004
700130		0.001	0.005	700908	+	0.012*	0.004
700202		-0.001	0.005	700909	-	-0.009*	0.004
700203		-0.001	0.005	700924	+	0.004	0.004
700204		0.003	0.005				

Table 4
Cross-Firm Event Study Based on Litton Events

OLS regressions of sample conglomerates' returns on market return and significant Litton event dates, 1968–70. ** and * represent statistical significance at the 5 and 10 percent levels, respectively. N=31199. R-squared = 0.08.

Variable, Date	Litton sign	Conglomerate Coefficient	Standard error
Intercept		0.000	0.000
Expected ret		0.202**	0.004
680122	-	-0.017**	0.005
680123	-	-0.009**	0.004
681118		0.000	0.005
681119		0.005	0.005
681121	-	0.001	0.005
690825		-0.010	0.005
690826		-0.007**	0.005
690827	+	0.015**	0.005
691014	+	0.014**	0.005
691015		-0.001**	0.005
691205		-0.014	0.005
691208	-	-0.014**	0.005
700306		-0.009**	0.005
700309		-0.012**	0.005
700825	-	0.016**	0.005
700826		0.011**	0.005
700827		0.004	0.005
700828	+	0.012**	0.005
700901		-0.009*	0.005
700902		0.006	0.004
701027		-0.007	0.005
701028	+	0.009**	0.005
701029		-0.010	0.004
701111	-	0.000	0.005
701112	-	-0.025**	0.005
701113		-0.010**	0.005

Table 5: LTV Event Windows

Significant LTV event windows, and corresponding effect on sample conglomerates.

Significant LTV event windows	LTV abnormal return	and event description	Significant for conglomerates?
680709- 680711	-12%	Jul 11 plans acquisition	yes (same sign)
680725- 680726	12.8%	Jul 26 acquisition	no
690801- 690807	11%	Aug 4 earning, Aug 5 dividends, aerospace subsid. higher earnings	no
691007- 691010	9%	divestiture	no
691014- 691017	1%	subsidiary record sales	no
691031- 691107	-10%	earnings, reorganization of J&L	no
691219- 691222	-9%	earnings, reorganization of J&L	no
700129- 700205	6%	reorganization of J&L, layoffs, internal disputes	no
700306- 700309	13%	divestiture plans, active management of J&L	no
700311- 700312	-12%	Mar 12 discontinues dividends	no
700515- 700518	-12%	Ling steps down	yes (same sign)
700521- 700525	-22%	plans to become profitable	yes (same sign)
700602- 700608	35%	reorganization	yes (same sign)
700727- 700728	16%	new president's plans	no
700902- 700909	17%	acquisition	yes (same sign)

Table 6: Litton Event Windows

Significant Litton event windows, and corresponding effect on sample conglomerates.

Significant Litton event windows	Litton abnormal return and event description		Significant for conglomerates?
680122- 680123	-10%	announces lower net	yes (same sign)
681118- 681121	-3.50%	acquisition	no
690825- 690827	8%	earnings up	yes (same sign)
691014- 691015	5.70%	renegotiates contract	yes (same sign)
691205- 691208	-20%	earnings fell	yes (same sign)
700306- 700309	-0.9%	acquisition	yes (same sign)
700825- 700828	1.20%	lower earnings	yes (same sign)
701027- 701029	7%	earnings above expectation	yes (same sign)
701111- 701113	-11%	earnings low	yes (same sign)

Table 7: LTV Event Clustering

Distribution of events by quarters, 1968–70.

Quarter of event	WSJ reports about LTV	Sign of significant LTV events	Events significant for conglomerates
1st quarter 1968	9	0	0
2nd quarter 1968	12	0	0
3rd quarter 1968	6	2(1+, 1-)	1(-)
4th quarter 1968	5	0	0
1st quarter 1969	8	0	0
2nd quarter 1969	10	0	0
3rd quarter 1969	9	1(+)	1(-)
4th quarter 1969	23	4(1+, 3-)	2(2+)
1st quarter 1970	25	6(4+, 2-)	0
2nd quarter 1970	14	6(3+, 3-)	3(2+,1-)
3rd quarter 1970	8	2(1+,1-)	0
4th quarter 1970	6	2(2+)	1(+)

Table 8: Litton Event Clustering

Distribution of events by quarters, 1968–70.

Quarter of event	WSJ reports about LTV	Significant Litton events	Events significant for conglomerates
1st quarter 1968	3	1(-)	1(-)
2nd quarter 1968	1	0	0
3rd quarter 1968	7	0	0
4th quarter 1968	3	1(-)	0
1st quarter 1969	1	0	0
2nd quarter 1969	1	0	0
3rd quarter 1969	3	1(+)	1(+)
4th quarter 1969	7	2(+,-)	2(+,-)
1st quarter 1970	3	1(-)	1(-)
2nd quarter 1970	1	0	0
3rd quarter 1970	4	1(+)	1(+)
4th quarter 1970	2	2(+,-)	2(+,-)

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