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Corporate diversification and shareholder value: a survey of recent literature

John D. Martin ^{a,*}, Akin Sayrak ^b

^a*Department of Finance, Hankamer School of Business, Baylor University, PO Box 98004, Waco, TX 76798, USA*

^b*Joseph M. Katz Graduate School of Business, Pittsburgh, PA 15260, USA*

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Abstract

We survey the recent developments in the literature on corporate diversification. This literature is voluminous, diverse, and quite old. To make the task more manageable, we focus our attention on recent contributions to that subset of the diversification literature that is in our judgment most influential in setting the agenda for financial research. The study of diversification at the corporate level can be grouped into one of two bodies of literature: cross-sectional studies of the link between corporate diversification and firm value (i.e., the diversification discount) and longitudinal studies of patterns in corporate diversification through time. The prevailing wisdom among financial economists throughout much of the last decade has been that diversified firms sell at a discount and that the level of corporate diversification has been trending downward. However, recent research questions both these tenets and a number of studies now suggest that the diversification discount is either not due to diversification at all, or may be a result of improper measurement techniques. Furthermore, some researchers are now beginning to argue that previous attempts to assess changes in the levels of corporate diversification through time is also flawed as a result of biases built into the COMPUSTAT database in combination with the use of noisy proxies for corporate diversification. © 2002 Elsevier Science B.V. All rights reserved.

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1. Introduction

The twentieth century closed with record-breaking levels of mergers and acquisitions as the total dollar value of worldwide mergers reached US\$2.3 trillion in 1999 and the

* Corresponding author. Tel.: +1-254-710-4473; fax: +1-254-710-1092.

E-mail address: j_martin@Baylor.edu (J.D. Martin).

average annual growth rate in the number of mergers exceeded 20% between 1985 and 1999.¹ Much of this activity was strategic as firms merged and acquired firms from different industries in an effort to position themselves for entry into new and emerging markets. Although the strategic rationale underlying the most recent wave of cross-industry M&A activity may differ from the conglomerate merger wave of the 1960s and 1970s, the result is the same: the combining of business units that operate in different industries under the common control of a single firm. Thus, an age-old question from the archives of financial economics has been revived: Does corporate diversification create or destroy shareholder value?

Conventional wisdom among finance scholars suggests that corporate diversification, especially conglomerate diversification, destroys shareholder wealth such that the shares of diversified firms sell at a discount. This link between diversification and value destruction is made in virtually every finance text. For example, a leading MBA finance texts put it this way, “diversification, by itself, cannot produce increases in value” (Ross et al., 1999, p. 775). Furthermore, Brealey and Myers (2000, p. 946) argue this is because “diversification is easier and cheaper for the stockholder than for the corporation.”

Yet, major U.S. corporations remain highly diversified. Montgomery (1994) reports that two-thirds of the Fortune 500 companies were actively involved in at least five distinct lines of business (defined by four-digit SIC codes) as late as 1992.² This theme is echoed in the following quote from the *New York Times*,

[f]orget that management gurus insist that conglomerates are out, that focus is in, and that investors can diversify their own portfolios. . .Plenty of companies have stubbornly and successfully stuck with their conglomerate structures—from small-cap outfits like Pentair and Blount International to multibillion-dollar giants like Textron, Allied-Signal, Emerson Electric, and, of course, the reigning monarch of the conglomerate world, General Electric

(Deutsch, 1997, C1).

From 1990 to 1996, diversified firms accounted for nearly 50% of U.S. employment and owned about 60% of the total assets of publicly traded firms. Furthermore, over this same period the number of firms that reduced the number of SIC codes in which they operated in any year was roughly the same as the number that increased the number.³ Even the heralded “conglomerate bust-up” merger wave of the 1980s left American industry with lower, rather than higher, aggregate industry specialization.⁴

There are some notable and puzzling exceptions to the notion that diversification destroys value in the form of diversified firms that produce superior returns for their shareholders. For example, in 1998 General Electric operated in nine major industries

¹ See Pryor (in press).

² Baldwin et al. (2000) estimate that 80% of the corporate diversification among Canadian companies is horizontal in nature and 71% takes place across two-digit SIC codes.

³ Villalonga (2000b).

⁴ Hatfield et al. (1996).

ranging from aircraft engines to broadcasting. Yet, it performed significantly better than the U.S. market average over the last decade and captured the top spot in Stern Stewart's 1998 ranking of America's greatest wealth creators.⁵

In this paper we survey recent developments in the literature on corporate diversification. This literature focuses on two broad issues: the influence of diversification on firm value, and the general trend in diversification through time. The literature on corporate diversification is voluminous, diverse, and quite old. To make our task more manageable, we focus on recent contributions to that subset of the diversification literature that has been most influential in setting the agenda for financial research over the last decade. Specifically, we will not attempt to review the business strategy literature and we will restrict our attention to issues arising out of domestic (as opposed to international) diversification.

The paper is organized as follows: Section 2 synthesizes the literature on the benefits and costs of diversification at the corporate level. Recent work in this area has focused on the merits (or lack thereof) for operating an internal market for capital. Section 3 reviews the empirical evidence put forth over the last decade with respect to the effects of corporate diversification on firm value. Although this literature has addressed the performance of diversified versus focused firms over time, its primary focus has been on the existence of a diversification discount. Section 4 summarizes the evidence documenting the decline in corporate diversification observed over the last two decades. We point out two potential flaws in this evidence related to the difficulties encountered in measuring a firm's diversification using the Standard Industrial Classification system and reported business segment data.

2. The theory—diversification and firm value

Opinions of managers, creditors, and stockholders differ greatly regarding the merits of corporate diversification. For example, managers may want their firm to engage in diversification as a means of reducing firm specific risk that affects the value of their future compensation.⁶ Similarly, the firm's creditors may prefer that the firm diversify its investments to reduce the likelihood of a dip in cash flows that could result in delays in repayment or outright failure to repay loans. At the same time, stockholders who own diversified portfolios of common stocks may not want the firm to diversify if they can do it more cheaply in their individual investment portfolios. For our purposes, we will adopt the point of view of the diversified stockholder. So when we present an argument for (against) corporate diversification this means that the firm's stockholders would find diversification desirable (undesirable).

⁵ Stern Stewart & Company defines corporate success in terms of Market Value Added (MVA), which represents the difference between market value of the firm and the capital invested in the company. In the 1999 rankings, GE came in second behind Microsoft, which topped the list for the first time.

⁶ See Jensen and Meckling (1976), and Sayrak and Martin (2001) for a detailed discussion.

2.1. *Why diversify?*

Montgomery (1994) identifies three main theoretical perspectives that can be used to explain why a firm might choose to diversify: agency theory, the resource based view, and market power. Seen through the eyes of the agency theory, we envision diversification resulting from the pursuit of managerial self-interest at the expense of stockholders. Managers may seek to diversify because it is expected to (1) increase their compensation (Jensen and Murphy, 1990), power, and prestige (Jensen, 1986); (2) make their positions with the firm more secure (i.e., entrench themselves) by making investments that require their particular skills via manager-specific investments (Shleifer and Vishny, 1990a,b); or (3) reduce the risk of their personal investment portfolio by reducing firm risk since the managers cannot reduce their own risk by diversifying their portfolios (Amihud and Lev, 1981).

From the resource-based perspective, we might observe diversification in firms that possess excess capacity in resources and capabilities that are transferable across industries. Here we are talking about economies of scope whereby the diversified firm is an efficient form for organizing economic activities (Penrose, 1959). For example, the firm may use the same marketing and distribution channel to market a variety of goods or services. Similarly, the firm may be able to utilize its corporate legal and financial staffs to support a variety of different industries.⁷ Matsusaka (in press) formalized this idea in a dynamic model of firm diversification whereby the firm repeatedly enters new businesses and exits old ones in the search for good matches with its organizational capabilities.

The third and final theoretical perspective from which to view the motivation for corporate diversification is market power. Villalonga (2000d) offers three different anti-competitive motives for diversification. The first uses the profits generated by the firm in one industry to support predatory pricing in another. The second motive involves colluding with other firms that compete with the firm simultaneously in multiple markets, or the mutual forbearance hypothesis of multi-market competition. Finally, firms might use corporate diversification to engage in reciprocal buying with other large firms in order to squeeze out smaller competitors.

2.2. *The benefits and costs of corporate diversification*

In contrast with Montgomery's (1994) discussion of the motives for diversifying, the financial economics literature focuses on the behavior of diversified firms once they are diversified, rather than addressing the motivation for diversifying in the first place.

2.2.1. *Benefits of diversification*

A useful approach to identifying the potential benefits to the shareholders of a diversified versus a focused or single line-of-business firm involves considering how diversified and focused firms differ. Bhidé (1990) suggests two types of differences: first, the dealings of customers, suppliers, lenders, and tax authorities with the diversified firm are affected by the aggregated fortunes of its constituent businesses. For example, the tax liability of the diversified firm may be more or less than the cumulated tax liabilities of the different

⁷ See Matsusaka and Nanda (in press), Wernerfelt and Montgomery (1988), and Bodnar et al. (1999).

business units. Similarly, the risks faced by suppliers in collecting accounts receivable or employees in keeping their jobs is affected by the combined firm's operating results and may be quite different than would be the case for an independent business unit. Second, with the diversified firm, there is generally an additional level of administrative or corporate overhead. The corporate managers bring both a cost to the combined organizations as well as the opportunity to manage the combined resources of the different business units.

The fact that creditors can rely on the combined fortunes of all the diversified firm's operating units gives rise to Lewellen's (1971) financial theory of corporate diversification. This theory is based on the coinsurance effect derived from combining businesses whose cash flows are less than perfectly correlated. Specifically, Lewellen argues that the reduction in variance of future cash flows resulting from diversification at the firm level serves to increase the diversified firm's debt capacity. To the extent that debt capacity adds value, diversification can be a source of added value.

Yet another financial implication of corporate diversification is that a diversified firm's cash flows may provide a superior means of funding an internal capital market. Having an internal market to fund the firm's needs for capital offers a number of possible sources of value to the firm's owners.⁸ First of all, internally raised equity capital is less costly than funds raised in the external capital market. The firm avoids the transaction costs associated with the sale of securities to the public, as well as the costs of overcoming information asymmetry problems encountered when selling securities in the capital market.⁹ Furthermore, with an internal source of financing, the firm's managers can exercise superior decision control over project selection, rather than leaving the firm's investment decisions to the whims of less well-informed investors in the external capital market.¹⁰ Stein (1997) formalizes this argument by suggesting that where managers have superior information, they can do a better job of project selection, or "winner picking", thus enhance firm value.¹¹ In essence, a diversified firm's corporate headquarters can shift funds from operating divisions with limited opportunities to others that are more promising to create shareholder value.¹²

⁸ In fact, the notion that a firm could build a diversified portfolio of firms whose collective cash flow would provide a source of capital that could be managed by the firm's corporate organization provides the basis for the portfolio management tools developed by General Electric and the Boston Consulting Group. See Goold and Luchs (1993) and Ghemawat (2000).

⁹ Hadlock et al. (2001) provide evidence that the equity issues of diversified firms are viewed less negatively by the market than that of comparable focused firms suggesting that the adverse selection problem is less for diversified firms.

¹⁰ See Alchain (1969), Weston (1970), and Williamson (1975).

¹¹ Caves (1971) and more recently Morck and Yeung (1998) use similar arguments to rationalize cross-country diversification.

¹² The corporate hierarchy at Sears, Roebuck & Co. clearly had the creation of an internal capital in mind when they adopted a diversification strategy that resulted in the acquisition of Dean Witter Reynolds and Coldwell Banker in 1980. CEO Edward Telling described the roles of the corporate and divisional managers of the newly organized firm as follows: "...1) the corporate office is to focus on the strategic issues of planning, administration, finance and diversification and 2) the operating heads of the three principal business groups is the day-to-day management of the merchandising, insurance, real estate and financial services businesses." (Sears Annual Report, 1980) "...1) the corporate office is to focus on the strategic issues of planning, administration, finance and diversification and 2) the operating heads of the three principal business groups is the day-to-day management of the merchandising, insurance, real estate and financial services businesses." (Sears Annual Report, 1980).

Finally, corporate diversification may create shareholder value by mitigating failures in product, labor, and financial markets. This could be particularly important in emerging and less developed markets. [Khanna and Palepu \(1999\)](#) document gains to business group affiliation in India and propose that one role of diversified groups is the replication of the functions of institutions that are missing in emerging markets.

2.2.2. *Costs of diversification*

The potential costs associated with operating a diversified business define the benefits of maintaining a focused enterprise. The fundamental argument made against corporate diversification is that it somehow exacerbates managerial agency problems. If managers tend to over invest when the firm has excess or free cash flow,¹³ then access to an internal market for capital in a diversified firm simply provides a greater opportunity to over invest. Furthermore, being diversified may make it more difficult to resolve this agency problem using equity participation. The power of stock options and grants is diminished in the diversified firm, as the value of the diversified firm's equity reflects the combined performance of the portfolio of business units, and the operating managers within a given division only have direct influence over their particular business unit's performance.¹⁴

Alternatively, it may be that diversified firms do not have more free cash flow, but simply do a worse job of allocating their resources than focused firms. Thus, the root of the problem is one of inefficiency rather than agency. This inefficiency could be a result of the information asymmetry problems between the firm's central management and the management of the operating divisions.¹⁵ [Wulf \(1998\)](#) links agency and efficiency problems in a moral hazard model in which the managers of large, established divisions have an incentive to use their influence to skew capital budgeting in their favor.^{15a} Regardless of whether capital allocation problems in the diversified firm arise out of misalignment of manager and owner interests, or from intra-organizational coordination problems, the end result is the same: an inefficient allocation of capital within the diversified firm when compared to the focused firm.

3. The evidence—diversification and firm value

We review the evidence regarding diversification's impact on shareholder value in three "rounds" or waves of research that have all taken place within the last decade. Each successive round is marked by refinements in research methods that provide a fundamental shift in the evidence. The results of Round 1 form the basis for the present

¹³ [Jensen \(1986, 1993\)](#).

¹⁴ [Aron \(1988\)](#) and [Rotemberg and Saloner \(1994\)](#) model the problems entailed in motivating managers of a diversified versus a focused firm.

¹⁵ See [Harris et al. \(1982\)](#).

^{15a} [Scharfstein and Stein \(1997\)](#) build a model with two layers of agency that addresses the fundamental question as to how some division managers in a conglomerate are able to extract excessive capital allocations from headquarters.

“consensus” among most financial economists that we summarized in the Introduction with quotations from two leading corporate finance textbooks. That is, corporate diversification destroys shareholder value. In Round 2 we describe the beginning of a new wave of research that casts doubt on the results of the “value destruction” hypothesis. Finally, Round 3 includes the results of the most recent group of studies that we survey. These studies suggest that diversification may be accretive to value such that there may be a diversification premium.

3.1. Round 1: corporate diversification destroys shareholder value

Scharfstein (1998, p. 1) summarizes the findings of what we refer to as “Round 1” of the corporate diversification debate in the following way:¹⁶ “The consensus among academic researchers, consultants, and investment bankers is that diversified firms destroy value.” The evidence that supports this conclusion comes from a variety of sources. Diversified firms tend to have lower Tobin’s Q ;¹⁷ they trade at discounts of up to 15%, when compared to the value of a portfolio of comparable stand-alone firms;¹⁸ they face an increased likelihood of being broken up through reorganization that varies directly with the size of the discount;¹⁹ and the stock market tends to react favorably to increases in corporate focus.²⁰

But what are the causes of poor multidivisional performance? The potential problem of capital misallocation in diversified firms offers two fundamental possibilities: Either diversified firms are inefficient in their allocation of internally generated funds, or they deliberately make poor allocations because of agency problems. In either case, this misallocation problem results in cross-subsidization, where investments in the firm’s weaker divisions are supported with the cash flows from stronger divisions.

There is a substantial body of empirical evidence that supports the capital misallocation hypothesis. Shin and Stulz (1998) find that capital expenditures made by a segment of a diversified firm depend on the cash flows of the firm’s other segments, as well as their own cash flows. Furthermore, the sensitivity of a segment’s capital expenditures to the cash flows of the other segments within the conglomerate firm does not depend on whether its investment opportunities are better than those of the firm’s other segments. This may lead to over investment, or the undertaking of negative NPV projects. Scharfstein (1998) provides additional evidence supporting the cross-subsidization hypothesis when he finds that diversified firms invest too much in low Q segments and too little in high Q segments. Rajan et al. (2000) find that the extent of the misallocation of internal funds by diversified firms and the size of the diversification discount are positively related to the diversity of the investment opportunities across divisions.

¹⁶ See Ramanujam and Varadarajan (1989) and Montgomery (1994) document that firm profitability varies directly with related diversification but negatively with unrelated diversification.

¹⁷ Wernerfelt and Montgomery (1988), Lang and Stulz (1994), and Servaes (1996).

¹⁸ Berger and Ofek (1995), Servaes and Lins (1999), and Lamont and Polk (2000).

¹⁹ Kaplan and Weisbach (1992) and Berger and Ofek (1996).

²⁰ Daley et al. (1997), Desai and Jain (1999), and John and Ofek (1995).

Conversely, firms may under-invest in positive NPV projects when the cash flows from the conglomerate firm's other business segments are constrained. For example, Lamont (1997) observes that oil firms decrease their investments in non-oil segments when the pressures from OPEC adversely impacted their oil revenues.

There is some evidence that the diversification discount is at least partially determined by the limitations of the firm's corporate governance structure to curb manager-owner agency problems. Palia (1999) finds that the diversification discount is diminished by larger pay-performance sensitivity (measured by shares and options in management compensation packages) and by smaller board size. Also, Anderson et al. (1998) finds that CEOs in diversified firms have lower stock ownership, higher levels of pay and lower sensitivity of pay to firm performance. Finally, May (1995) finds that CEOs with more of their personal wealth vested in the firm tend to follow diversification strategies.

Recent work has argued that conglomerates may sell at a discount as a result of lower efficiency, and not necessarily agency problems. Maksimovic and Philips (2001) model how conglomerate firms allocate resources across divisions over the business cycle, and how their responses to industry shocks may differ from those of single-segment firms in the absence of agency problems. Then, they test their theory by examining the growth and efficiency of firms and their business segments using plant-level data for the period 1975–1992.²¹ They find that conglomerate firms are less productive than single-segment firms of similar size. Fan and Lang (1999) use commodity flow data in U.S. input–output tables to construct measures of firm diversification reflecting vertical relatedness and complementarity. They find that vertical relatedness is associated with lower firm value, and that complementarity increases firm value only in the 1970s and early 1980s, but its effect has been neutral since then. Interestingly they find that the valuation effects of relatedness are attributable to only those firms that are broadly diversified with three or more business segments.

Another strand of evidence on the value destroying effects of diversification comes from short- and long-term event studies.²² For example, Bradley et al. (1988) find the abnormal returns to acquirers (regardless of their motive) to be -2.93% for a sample of mergers from 1981 to 1984. Agrawal et al. (1992) show that acquiring firms suffer a statistically significant loss of 10% during the five-year post-merger period. In a related study Loughran and Vjih (1997) find that the five-year post-acquisition performance of acquiring firms differs depending upon the type of acquisition (merger versus tender offer) and method of payment (cash versus stock). Specifically, firms that complete stock mergers earn significant negative abnormal returns of -25% , whereas firms that complete cash tender offers earn significant positive abnormal returns of 61.7%. Rau and Vermaelen

²¹ The data they use is the Longitudinal Research Database maintained by the Center for Economic Studies at the Bureau of the Census. This database has several advantages over traditional data sources. First, it includes both publicly held and private firms in manufacturing industries. Second, individual plants are the fundamental measurement unit and plant output is assigned to a four-digit SIC code. Finally, since the data is measured at the plant level the researchers can continue to follow plants even if their ownership should change.

²² It is important to note here that Kothari and Warner (1996) and Barber and Lyon (1997) have documented potential biases in results based on the long-term performance methodology.

(1998) find that firms engaging in mergers are under-performers when compared to size and book-to-market matched portfolios. More recently, Megginson et al. (2000) examine long-term abnormal returns for mergers that increase corporate diversification and find that focus decreasing mergers result in a relative loss in stockholder wealth of 25% by the third post-merger year, and every 10% decrease in focus results in a 9% loss in stockholder wealth. Matsusaka (1993), on the other hand, finds that during the late 1960s and early 1970s acquirers that engaged in diversifying purchases realized positive abnormal returns upon the announcement of a merger while acquirers who engaged in related acquisitions realized negative abnormal returns.²³

Decisions that lead to a reduction in the diversity of a firm's operations have been found to increase share value, improve the firm's prospects for future long-term performance, and increase its operating performance. For example, Daley et al. (1997) find that spin-offs that increase corporate focus (that is, the spin-off division and the continuing units belong to different two-digit SIC codes) add more value than own-industry spin-offs. Desai and Jain (1999) find that long-run abnormal returns spanning the three years after a spin-off that increases corporate focus are 47% greater than the returns to firms that engage in spin-offs that do not increase focus. They also find that operating performance improvements are consistent with market performance of the two groups of firms. Similarly, John and Ofek (1995) find evidence of improved operating performance over the three years following asset sales that lead to increased corporate focus.^{23a}

3.2. Round 2: corporate diversification does not destroy shareholder value

More recently, a number of studies have begun to question the evidence connecting conglomerate diversification to the destruction of shareholder value. Technically, these studies do not question the existence of a discount for diversified firms; instead they argue that the discount is attributable to factors other than diversification.

Arguments challenging the connection between diversification and the discount are based on the idea that conglomerate firms are somehow different prior to beginning their diversification program. Formally, the notion is that firms that choose to diversify are systematically different from the typical focused firm, and a failure to control for the endogeneity of the diversification decision can lead to incorrect inferences. Support for this thesis comes from the observation that diversified firms tend to trade at a discount prior to diversifying.²⁴ For example, Graham et al. (1999) evaluate the pre-diversification valuation of firms that are acquired by conglomerates and find that the acquired firms sell

²³ Note that 128 of the 199 acquisitions studied involve privately held firms. Thus, the positive abnormal returns may in part reflect differences in public versus private market valuations. If, for example, the diversifying acquisitions were predominantly private market acquisitions this could explain differences in these results from prior work. Nonetheless, this study documents cases where the market response to diversifying acquisitions was favorable. This suggests that at least some diversifying acquisitions can create shareholder wealth.

^{23a} Similarly, Healy et al. (1992) compare the pre- and post-merger operating performance of the 50 largest U.S. mergers between 1979 and mid-1984, and find that the only ones that result in significant increased operating returns are those involving firms that are highly related.

²⁴ Graham et al. (1999), Hyland (1999), Campa and Kedia (1999) and Villalonga (1999).

at an average discount of approximately 15% in their last year of operation as a stand-alone firm.²⁵

Chevalier (2000) challenges the use of investment patterns of divisions of conglomerates as evidence supporting the “cross-subsidization hypothesis” for these same patterns are apparent in pairs of merging firms *before* they merge. Thus, if the pre-merger firms exhibit patterns of investment behavior that other researchers have observed post-merger and used as evidence of cross subsidization, their interpretation of these results is suspect. In a related study, Lang and Stulz (1994) finds that diversifying firms are poor performers prior to conglomeration. Hyland (1999) finds that conglomerate firms perform poorly and adopt a diversification strategy in an effort to acquire growth opportunities.²⁶ Similarly, Campa and Kedia (1999) find that conglomerate firms differ from single segment firms in terms of their size, capital expenditures/sales, EBIT/sales, industry growth rate, and R&D/sales.²⁷ They also find that the conglomerate firms sold at a discount prior to implementing their diversification strategy. Controlling for these differences, the authors note that the diversification discount either drops or disappears entirely.

Lamont and Polk (1999) examine the hypothesis that the diversification discount is simply a rational reflection of differences in expected returns and cash flows of diversified versus focused firms.²⁸ They find that the subsequent returns on diversified firms and single-segment firms are different, and that excess values forecast future returns in the required way. That is, firms with discounts have higher subsequent returns than firms with premia. They conclude that the diversification discount puzzle is in part an expected return phenomenon as well as an expected cash flow phenomenon.

The studies reviewed in Round 2 *do not* contest the notion that diversified firms sell at a discount. Instead, they argue that the discount is *not* due to diversification but is a result of the acquired or acquiring firm selling at a discount prior to merging.²⁹ These studies challenge the agency cost explanation for the diversification discount and suggest instead that the discount corresponds to the pricing of the firms that are acquired. The research we categorize into Round 3 calls into question the existence of a diversification discount.

²⁵ They do not find, however, that the firm that engages in conglomerate acquisitions sells at a discount prior to implementing the conglomeration strategy. This latter result contrasts with the findings of Campa and Kedia (1999).

²⁶ Gillan et al. (2000) point out that Sears followed a similar strategy in 1981 when they decided to diversify into financial services with the acquisitions of Dean Witter Reynolds and Coldwell Banker.

²⁷ Firms are classified into one of five groups: firms that are always single segment (2,583 firms), firms that diversify (227 firms), firms that refocus (353 firms), firms that both refocused and diversified (459 firms), and multi-segment firms that did not change the number of business segments (260 firms).

²⁸ They suggest that different securities might have different expected returns for four possible reasons: risk, mispricing, taxes, and liquidity.

²⁹ Lamont and Polk (2000) provide evidence that supports the diversification discount even in the face of the endogeneity problem. Using a research method designed to control for the endogeneity of the diversification decision they find that exogenous changes in corporate diversity are negatively related to changes in the diversification discount. They conclude that diversification destroys value, consistent with the inefficient internal capital markets hypothesis.

3.3. Round 3: corporate diversification creates shareholder value

With this latest body of research, we come full circle from the results reported in the Round 1. Specifically, in Round 3, it is argued that there is *no diversification discount* and in fact diversified firms trade at a significant premium. Differences in these and previous results are attributed to the possibility of measurement errors in prior research.

Villalonga (2000a) argues that previous attempts to assess the diversification discount in U.S. stock markets are flawed because of their reliance on reported business segment data. These data suffer from three fundamental limitations: First, the extent of disaggregation in segment financial reporting is less than the true extent of firm diversification such that firms are actually *more* diversified than is indicated in segment financial reporting.³⁰ The reason relates to the fact that segment reporting requires only those segments, which constitute 10% or more of sales, assets, or profits be reported. The result is that the total number of business segments is capped at ten. Although this may not sound like a serious limitation, Lichtenberg (1991) reports that this constraint is binding for 17% of all COMPUSTAT firms, and Montgomery (1994) indicates that it is binding for 56% of the 500 largest public companies.

The second problem with the use of segment data is that the definition of a business segment is so flexible as to allow firms to combine two or more activities that are vertically or otherwise related into a single segment. Furthermore, the aggregation of activities into a single segment varies across firms as the segments are self-reported. Davis and Duhaime (1992) report that in 5 to 10% of the cases they study, businesses are grouped into a single segment that are neither related nor vertically integrated. Also, firms sometimes change the segments they report when there is no real underlying change in their operations. Denis et al. (1997) and Hyland (1999) report that roughly one-fourth of reported changes in segments for COMPUSTAT firms were reporting changes only, as opposed to real changes in the diversification levels of the affected firms.

The third problem with segment data is that some industries are fundamentally composed of segments of diversified firms. Hence, the assumption that Tobin's Q for a diversified firm is equal to the average Q ratio of the single segment firms in its industry may be invalid. Simply put, some firms amalgamate business units into segments for reporting purposes that are themselves diversified business units.³¹ Consequently, single segment Q ratios may not be representative of the multi-business segments the firm reports. Even worse, the single-segment Q 's may be systematically biased. To illustrate one potential source of bias, Villalonga notes that segments that belong to diversified firms are, on average, larger than stand-alone segments for the same industry. Furthermore, since Q and firm (and segment) assets vary inversely, the single-segment Q ratios ascribed to the segments of the diversified firms are upwardly biased.

³⁰ Lichtenberg (1991) even argues that the divergence in actual diversification and diversification indicated in segment reports is increasing with time.

³¹ The reporting requirement for segments defines a segment as "a component of an enterprise engaged in providing a product or service or a group of related products and services primarily to unaffiliated customers (i.e., customers outside the enterprise) for profit."

Villalonga (2000a,c) uses an establishment level database covering the entire U.S. economy to construct business units that are consistently defined across firms.³² She retests the diversification discount hypothesis by correcting for the selectivity bias noted above. Specifically, she uses propensity scores—the predicted values from a probit model of the firm’s decision to diversify—to identify matching groups of diversified and focused firms. She finds that diversified firms trade at a significant premium, not a discount, when compared to non-diversified firms from the same industry. In addition, she concludes that the source of the different results is because of noise in reported segment data and/or the bias due to managerial discretion in segment reporting.

But why should the diversified firm sell at a premium? Hadlock et al. (2001) provide evidence of one possible reason. They argue that diversified firms may have better access to capital markets than focused firms due to valuation problems faced by investors in the presence of asymmetric information.³³ To test their proposition they examine the stock market’s response to the announcement of 641 seasoned equity offerings. Previous research has found that equity issue announcements produce a negative stock price reaction, and Hadlock et al. find that the average market reaction to equity issue announcements is less negative for diversified firms than it is for focused firms.³⁴

4. The evidence—trends in corporate diversification

There is a significant body of evidence indicating that corporate diversification has decreased following the bust-up takeover period of the 1980s. In fact, Shleifer and Vishny (1990a,b) have argued that “the takeover wave of the 1980s was to a large extent a response to the disappointment with conglomerates” and that the takeovers of the period were largely a return to specialization or focus. Bhidé (1990) and Hubbard and Palia (1999) argue that gains in informational efficiency of external capital markets have diminished the historical advantages of the diversified organization and consequently predict a secular decline in diversification levels.

The evidence supporting a downward trend in corporate diversification since the 1980s comes in many forms. For example, Comment and Jarrell (1995) find that 55.7% of exchange-listed firms had a single business segment in 1988 compared to 38.1% in 1979. Denis et al. (1997) examined changes in the level of firm diversification for a sample of 344 firms from 1985 to 1989 and observed 430 such changes comprised of 290 decreases in diversification and only 140 increases.³⁵

³² The Business Information Tracking Series (BITS) database was compiled by the U.S. Census Department.

³³ Chang and Yu (1999) develop a market microstructure model of the conglomerate firm that also hinges on informational considerations. They suggest that the benefits of diversification come from a reduced liquidity discount in the stock price of the merged firm.

³⁴ Asquith and Mullins (1986) and Masulis and Korwar (1986) document that the announcement of equity offerings reduces stock prices significantly.

³⁵ Also see Gollop and Monahan (1991). In addition, Porter (1987) reports that over 50% of the acquisitions made by 33 conglomerate acquirers in new or unrelated industries during the 1960s were later divested. Similarly, Kaplan and Weisbach (1992) find that 43.9% of their sample was later divested, and 60.2% of unrelated (different two-digit SIC Codes) acquisitions were later divested.

There is some limited empirical evidence that questions whether diversification has indeed trended downward in recent years. For example, while [Lichtenberg \(1992\)](#) finds that diversification declined for his sample of 6505 firms, the diversification of the 500 largest firms actually increased. [Liebeskind and Opler \(1993\)](#) and [Montgomery \(1994\)](#) report similar findings.

Two issues arise with respect to the interpretation of the trend estimates for corporate diversification: First, measuring corporate diversity has proven to be a difficult task and there are varying opinions as to the best approach to take. Second, questions have been raised concerning potential biases built into the composition of the line-of-business database that is widely used in studies of trends in corporate diversification.

4.1. Issue #1: measuring corporate diversification

Historically, corporate diversification has been measured using either the business count approach or the strategic approach. Following the business count method, diversification is assessed using Standard Industrial Classification (SIC) codes and corporate line-of-business data that are reported to the Securities and Exchange Commission annually.³⁶ All of these measures share the common feature that they can be objectively calculated from publicly available data.³⁷ The strategic approach is very subjective and relies less on SIC data and more on the judgment of the researcher.

4.1.1. Business count measures of diversification

The simplest business count measure of corporate diversification is the number of industry groups in which a firm operates. SIC data is comprised of a four-digit scheme that can be used to define increasingly more refined measures of business or industry affiliation (i.e., with a single digit being the least refined measure and the four-digit code representing the most refined measure of a firm's business.) Thus, a natural question to ask of the data is what level of refinement should be used when counting business involvement. To illustrate the nature of the problem, consider SIC code 2013. The first two digits of the four-digit code "20" represent the broadest industry grouping. In this case Food and Kindred Products. Adding a third digit "201" we narrow the Food and Kindred Products group down to only those firms involved in Meat Products. Finally, adding a fourth digit "2013" we define the code for firms engaged in Food and Kindred Products—Meat Products—Sausages and other Prepared Meats. Similarly, 2015 represents firms that do business in Food and Kindred Products—Meat Products—Poultry Slaughtering and Processing. Thus, when defining business segments for purposes of measuring corporate diversification the researcher must decide whether firms in SIC 2013 in a materially different business than those operating in 2015. If the answer is no, then a three-digit or even two-digit SIC should be used to define different business segments.

³⁶ The North American Industry Classification System (NAICS) was devised to replace the U.S. Standard Industrial Classification (SIC) system. However, due to the widespread usage of the SIC system in financial research, we use this system as the basis for our discussions.

³⁷ See [Gollop and Monahan \(1991\)](#) for a comparison of a variety of SIC based measures of corporate diversification.

Yet another problem with simply counting the number of SIC codes for the firm's different business units to measure diversification is that this measure fails to capture the relative importance or distribution of the firm's involvement in each industry segment. To address this problem, [Berry \(1971\)](#) and [McVey \(1972\)](#) suggest the use of the Herfindahl index, which was originally developed as a measure of industry concentration. The Herfindahl index can be used to capture the relative importance of the firm's different business segments for a single SIC classification level. For example, if business units are defined at the four-digit level, then the index captures the relative importance of the firm's diversification using this level of refinement in the measure. However, if the relatedness of the firm's businesses varies more at say the two-digit level than it does at the four-digit level, then calculating the index at the four-digit segment level will fail to capture this fact. To rectify this potential shortcoming of the Herfindahl index, [Jacquemin and Berry \(1979\)](#) proposed using the Entropy measure.³⁸

The Entropy Measure reflects three elements of a firm's diversity of operations: (1) the number of industries in which the firm operates, (2) the distribution of the firm's total sales/assets across the industry segments, and (3) the degree of relatedness among the various industries. It is this third element that distinguishes the Entropy Measure from the Herfindahl index. That is, the Entropy Measure can be decomposed into related and unrelated diversification components by classifying each of the firm's business segments into related industries. The Entropy Measure is frequently calculated using two-digit SIC codes to identify industries and three- or four-digit codes to identify segments. The reliability of this convention relies on the internal consistency of the SIC system.

To get an idea as to the potential nature of SIC coding problems consider the following example. SIC 2600 includes firms in the Paper and Allied Products industry; however, this includes Envelops as well as Pulp and Paper Mills. Further, SIC 2700 contains firms involved in Printing and Publishing, which on the surface seems very closely related to SIC 2600, however SIC 2800 seems totally unrelated to either of the preceding two-digit SIC codes as it contains Chemicals and Allied Products. Recognizing the subtleties that can arise when attempting to define business relatedness, the business strategy literature has adopted a more subjective approach in coming up with strategic measures of corporate diversification.

4.1.2. Strategic measures of corporate diversification

Strategic measures of diversification have not been widely used in financial research although they are very popular, albeit somewhat controversial, in the strategic management literature. The primary characteristic of these measures is their subjectivity as they rely heavily on user judgment. To illustrate, consider the method proposed by [Wrigley \(1970\)](#) to assess a firm's level of diversification that involved classifying firms into one of four distinct categories based on the proportion of the firm's annual sales attributed to its largest single business unit, and the direction of the firm's diversification in terms of relatedness. Wrigley's four diversification categories were single business, dominant business, related business and unrelated business. [Rumelt \(1974\)](#) later expanded the

³⁸ See [Sayrak and Martin \(2001\)](#) for a comparison of the entropy measure and the Herfindahl index.

number of categories to nine and proposed procedures for implementing the subjective classification procedure based on the firm's history and behavior.³⁹ Although the methodology has been applied widely in the strategic management literature, the subjectivity entailed in implementing such a classification scheme serves as a primary source of criticism from within this body of work,⁴⁰ as well as a deterrent to more widespread application in financial research.

4.2. Issue #2: database limitations

The COMPUSTAT line-of-business database is the most popular source of information used in financial research pertaining to corporate diversification. However, there are two potential problems that arise in using this database in this regard. The first relates to the nature of the line-of-business reporting upon which the database is constructed. The second relates to changes in the composition of the database through time.

4.2.1. Line-of-business reporting

The principal source of data underlying virtually all measures of corporate diversification is the Standard Industrial Classification (SIC) numbering system used to identify industries with varying degrees of refinement, and a popular source for this information is the COMPUSTAT line-of-business file. This database is compiled from firms' annual reports and 10-K reports to the Securities and Exchange Commission (SEC) as per the requirements of FASB-SFAS No. 14 "Financial Reporting for Segments of a Business Enterprise". Subsequently, FASB 14 was revised in 1997, and FASB-SFAS 131 superseded its reporting requirements.⁴¹ Under FASB 14 firms are required to report sales, operating income, identifiable assets, capital expenditures and number of employees for each segment of the firm.⁴²

³⁹ Rumelt's (1974) procedure involved making an assessment of the firm's utilization of strengths, core skills, and purposes to achieve its diversification objectives.

⁴⁰ See Pitts and Hopkins (1982), Nathanson (1985), and Sambharya (1998).

⁴¹ An important component of the revision was the definition of what constituted a business segment. Under FASB 14 firms were required to report "industry segments", whereas SFAS No. 131 requires the reporting of "operating segments" that more closely match the firm's operations. Specifically, SFAS No. 131 defines an operating segment as a component of an enterprise (a) that engages in business activities from which it may earn revenues and incur expenses (including revenues and expenses relating to transactions with other components of the same enterprise); (b) whose operating results are regularly reviewed by the enterprise's chief operating decision maker to make decisions about resources to be allocated to the segment and assess its performance; and (c) for which discrete financial information is available.

⁴² A segment is defined by the FASB as follows: A component of an enterprise engaged in providing a product or service or a group of related products and services primarily to unaffiliated customers (i.e., customers outside the enterprise) for profit (FASB 14, paragraph 10a. and COMPUSTAT II, section 2, p. 2) The reportable segments of an enterprise shall be determined by (a) identifying the individual products and services from which the enterprise derives its revenue, (b) grouping those products and services by industry lines into industry segments, and (c) selecting those industry segments that are significant with respect to the enterprise as a whole. Thus, vertical integration or relatedness are necessary conditions for assigning two businesses to a single segment; vertical integration is also a sufficient condition for assigning two businesses to a single segment, but relatedness is not (i.e., two businesses may be related on the basis of two-digit SIC codes, but may be assigned to different segments).

Three issues arise in the use of these data: The first relates to the consistency of the firms' segment definitions and reporting practices. For example, emphasizing the fact that firms self-report their line-of-business information, Davis and Duhaime (1992) report in 5–10% of the business segments, firms classify businesses into a segment that is neither related nor vertically integrated. Segments identified as 'consumer products,' 'industrial products,' and 'other' are the most likely to be catchall segments. The second relates to the accuracy and consistency of S&P's coding procedures for the COMPUSTAT database. Segment SICs are typically assigned using the sales break-out data reported in the 10-Ks (about 45% of COMPUSTAT's companies report this data); if this data is not available, the ordering of products in 10-Ks, according to Davis and Duhaime (1992), is used to identify primary and secondary products and each year these assignments are checked and updated by S&P personnel.

The final issue regarding industry segment data relates to how the relative importance of each of the business segments should be measured or weighted when determining a measure of corporate diversification. The available alternatives from the COMPUSTAT line-of-business file include total revenues, assets and operating income. To the extent that market values deviate significantly from historical costs that form the basis for measuring the book value of the firm's assets, using assets to form weights to assess the importance of each business unit will be distorted. Firm sales are sometimes used as an alternative to the book value of assets. The primary advantage of sales is that we get an indication of the relative importance of each business unit measured in terms of current period operating results. The disadvantage of using sales is that revenues may be a noisy proxy for the firm's investment in each business segment.

4.2.2. Database composition and the addition of new firms

The S&P Corporation compiles the COMPUSTAT database of a broad cross-section of publicly held firms. The database changes from year to year as new firms are added and older ones are dropped due to mergers, failures, or removal from the public market through a going-private transaction. The method used to add new firms to the database provide a potential source of bias when this database is used to assess changes in the level of corporate diversification over time. Specifically, new additions are generally smaller firms that engage in a more limited set of business activities than their larger and older counterparts that are already included in the database. Comment and Jarrell (1995) suggest that their observation that corporate diversification had followed a steady decline over their sample period might be attributed to the addition of new, single-segment firms to the database.

5. Summary and implications for future research

Financial economists have spent much of the last two decades amassing evidence that corporate diversification destroys shareholder value. These findings have become so pervasive that they form the basis for the treatment of the topic within corporate finance texts used in top MBA programs. The most recent contributions to this literature have used a very simple model to test this proposition: Estimate the value of the component parts of

the diversified firm and compare their sum to the observed market value of the diversified firm.

A fundamental problem arises when attempting to compare the value of a diversified firm to the sum of the values of its component businesses. Specifically, it is rather difficult to establish causality in the relationship between diversification and value since firms *choose* to follow a diversification strategy. In other words, diversification is endogenous, and if there are fundamental differences in the characteristics of firms that choose to diversify and those that choose to remain focused, comparing the value of a diversified firm to the value of a portfolio of focused firms may capture something more (or less) than a discount due to diversification. More recent studies of the diversification discount have dealt with the endogeneity problem in a number of ways and generally find that the discount shrinks and in some cases becomes a premium.

There are some thorny practical issues that arise with the identification of a firm's business units. For this purpose, much of the early work relied on line-of-business segment reporting required by the SEC since 1978. This data typically aggregate a firm's business operations at a high level such that different business activities are often grouped into the same segment. Since the information is self-reported, each firm determines the particular combination of activities it will group together. Some recent studies utilize an establishment level Census database to address these problems and provide a more refined definition of a firm's business units. This database provides the researcher the opportunity to determine the breakdown of each firm's activities in a consistent manner across all firms.

In addition to the problems encountered in analyzing the diversification discount (premium) noted above, there are a number of additional issues that have not been addressed fully in this literature:

- Is there a life cycle to the diversification discount (premium)? For example, do firms that initially engage in diversification increasing acquisitions enhance firm value, whereas subsequent management teams lose their entrepreneurial zeal and manage the firm into decline?
- Does corporate diversification arise in response to a given set of economic conditions?
- Why are there apparent cycles in investor reactions to diversifying mergers whereby such announcements are received as good news in some periods and bad news in others?
- Can corporate diversification be a medium for creating value? That is, can corporate diversification represent a way for the economy to efficiently restructure itself over long periods of time?
- Why are there cases of successful diversification (e.g., Jack Welch at General Electric and Warren Buffet at Berkshire Hathaway)?
- How can we develop better measures of corporate diversification that fully capture firm relatedness and that can be easily computed from available information?

Finally, the study of corporate diversification provides us with an opportunity to investigate the financial implications of corporate strategy. Perhaps with time and study of both cross-sectional and time series data, financial economists can bring new

insights to the study of business strategy in much the same way that they have done to the study of performance measurement and employee compensation. Much remains to be done.

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