DO U.S. FINANCIAL MARKETS ALLOCATE CREDIT EFFICIENTLY?

THE CASE OF CORPORATE RESTRUCTURING IN THE 1980s

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I. Introduction

Why should a study of monetary and financial policy include a chapter on mergers? Corporate acquisitions were big business during the 1980s; their financing was an integral part of the revolution which took place in financial markets and practices, and played a central role in creating the leverage mania of the decade. Thus the traditional product-market questions about mergers-- How do they affect market power and operating efficiency?-- must now be augmented by a serious investigation of their financial effects. In this paper we argue that the 1980s acquisitions left behind severe "financial pollution,"[1] threatening the health of the suppliers of merger funds-- and "corporate anorexia," sapping the strength of the users of those funds. Because the scale of this merger-related activity in the eighties was very large, the aggregate impact has already been felt economy-wide.[2] Hence a policy concern for the financial market dynamics behind mergers is surely justified.

The 1980s merger wave provides an ideal experiment-- a test case-- for evaluating two of the theoretical pillars that supported the conservative, anything goes, let the buyer beware approach to financial regulation and anti-trust policy in the past fifteen years. The conventional academic wisdom in the late 1970s and early 1980s was that because mergers increase productive efficiency, and because unregulated financial markets price assets and allocate credit optimally, neither mergers themselves nor their financing should be the subject of government regulatory activity. In the absence of government regulation, economists argued, private markets are "efficient."

The results of this experiment are now in, and they are devastating to the "hands off,"

laissez faire approach to regulatory policy. We will show that a careful review of the relevant economic literature leads to two important conclusions. First, as the decade of the 1980s evolved, the search for speculative financial gain increasingly replaced production efficiency as the motive force behind the restructuring movement. And second-- contrary to the predictions of the academic conventional wisdom-- our deregulated financial markets proved to be shockingly inefficient as credit allocators. A radical departure from this disastrous laissez-faire regulatory philosophy in the coming years is imperative.

Just how massive the recent merger wave was may be glimpsed from a few numbers (**Mergerstat Review** (1990)). While the volume of mergers averaged just $16 billion yearly during 1970-77, in 1978-83 this rose to an annual rate of $55 billion, climbing to $184 billion a year during 1984-89. For comparison purposes, consider the average annual volume of investment in new productive assets (net fixed nonresidential investment) for 1984-1989-- $84 billion (**Economic Report of the President** (1992)). Just during the years 1981-86, eighteen percent of all mining and manufacturing assets changed hands, compared to fifteen percent during the great turn-of-the-century merger wave (Ravenscraft (1987); Markham (1955)).

But the extent of 1980s corporate restructuring went beyond mergers per se. A great many companies "recapitalized," borrowing money to buy back stock or issue special dividends, often in response to the perceived threat of hostile takeover. Because 1980s mergers relied heavily on debt financing, the net effect of both kinds of restructuring was the same: Equity was replaced with debt on corporate balance sheets. Net equity financing (gross issues less retirements) plunged from $10 billion in 1980 to a negative $130 billion in 1988; by 1990 a net $622 billion in equity had been removed from corporate balance sheets. Meanwhile, the

nonfinancial corporate sector's aggregate debt-equity ratio almost doubled, from .31 in 1980 to .56 in 1989.[3] At the same time, the fabulous fortunes made by all the big players in the leveraged restructuring game created a lust for leveraged gambling that permeated every segment of financial markets. The New York Federal Reserve Bank (1991) estimates that the total increase in private sector debt during the 1980s was about $2 trillion greater than would have been expected under more normal, less speculative financing practices.

It must be noted at the outset that in many cases and many ways, corporations in the U.S. are in dire need of restructuring. Productivity growth has lagged; product quality has eroded; human resources are woefully mismanaged; nowhere else in the industrialized world is the gulf in income and authority between top managers and those who actually produce the goods and services so wide. But, for reasons we will spell out, the leveraged restructuring movement of the eighties did not reduce the "short term-ism" underlying America's corporate woes-- it made it worse.

We develop these points in subsequent sections, whose order and principal findings are as follows.

Section two reviews the arguments and evidence on the gains from mergers. While the merger wave bestowed immense profits upon some financial participants, others-- notably, acquiring-firm shareholders and the targets' bondholders-- did not fare so well. And recent developments in the celebrated "efficient financial markets" debate show that investor profits by themselves should not be interpreted as signs of enhanced productive efficiency. Indeed, the weight of the evidence suggests that, on average, mergers brought ever-fewer economic benefits, and that the corporate restructuring of the 1980s failed to achieve significant or lasting cost

improvements.

Section three finds that while the trillion or so dollars of credit that financed the restructuring movement achieved little in the way of efficiency gains, it did impose significant and long-lasting costs on the American economy. First considered is the direct impact of mergers on employees. What evidence we now have supports the public perception that workers, both blue and white collar, suffered major losses from leveraged M&A. Still needed is research into the spillover costs to families, communities, and the public sector. The section then shows that instead of the lean and mean, state of the art economic machine that this trillion dollars of credit was supposed to buy, the leveraged restructuring movement left in its wake debt-constrained investment and R&D spending and a fragile financial structure.

Section four concludes that the evidence is clear and convincing: deregulation as financial policy is a disaster for the country even if a financial success for the takeover artists themselves. A complete rethinking of our regulatory philosophy is called for. This final section of the paper proposes a series of regulatory reforms designed to allocate credit away from the short-term speculation of the 1980s toward investments that are economically and socially efficient in the long run:

--Discourage lending by regulated financial institutions for highly leveraged restructuring, by manipulating existing policy levers (for example, deposit insurance coverage).

--Encourage long term financial investment, by taxing short term securities gains sharply and all secondary market trading modestly.

--Reform corporate governance to similarly tilt the playing field toward long term-oriented behavior-- by recognizing the roles played by all corporate stakeholders, and by

encouraging pension funds as shareholders to ply their activism with an eye on the long term.

--End the tax advantage of corporate debt financing.

--Revitalize public investment in America's human, technical, and physical capital--providing examples and offering incentives to those firms willing to stake their own futures on our country's.

We look first at who gains from mergers.

2. Stock Premiums From 1980s M&A: Speculation or Efficiency ?

We will argue that the M&A boom was the driving force behind the leveraging of corporate America in the 1980s. The central policy question raised by this assertion is: Will the economic benefits of the merger wave exceed its costs to society over the long-term? In this section, we review the debate about the sources of the impressive financial gains that accrued to the shareholders of acquired firms and to the takeover artists and the legions of specialists who assisted them. In section 3 we deal with the longer term costs of the merger wave.

2.1 Sources of the Takeover Premium: Theory

The theoretical issue here is how to explain the origin of the immediate gains reaped by so many Wall Street participants in the 1980s merger wave. Were they generated by increases in corporate efficiency or by speculative excess in financial markets? As is by now well known, those gains were, on average, substantial (though, as noted below, there were also some losers). Most obviously and immediately, an array of financial market investors and professionals

profited handsomely from the merger boom.

By far the largest category of such profits was target shareholders' stock premiums. Based on data from **Mergerstat Review** (1990), we estimate that premiums (the amount paid for a company beyond its original price) for the entire decade totalled over $394 billion.[4] In addition, acquiring and acquired firms paid a variety of fees to investment and commercial bankers, attorneys, accountants, public relations firms, and others to arrange, advise, litigate, and defend in merger deals. Unfortunately, there is no readily available source of data on the aggregate size of these fees. To take an extreme case, the $26 billion leveraged buyout of RJR Nabisco in 1988 generated about $400 million in investment banking fees. The implied fee percentage in the RJR deal (1.5%) was actually rather low by LBO standards; Kaplan and Stein (1991) calculate that for large LBOs during the entire decade fees rose from two to six percent of capital over the course of the decade. Adding in legal fees would increase the totals significantly. For example, over eleven weeks in 1988 the struggle for Federated Department Stores produced more than $40 million in attorneys' fees, in addition to $160 million going to investment bankers (Cowan (1988); Labaton (1988)).

Should these financial profits be interpreted as presaging rejuvenated performance for the underlying businesses, and hence gains for society, or merely as windfalls for the recipients? The conventional academic wisdom for much of the decade was that mergers are indeed efficiency enhancing and, therefore, create higher post-merger cash flows from the real assets of the acquired firms. This increased cash flow naturally causes the value of the stock providing ownership claims on those assets to rise. Efficiency-enhancing acquirers will thus be willing to offer large premiums to target shareholders, the story goes, and both parties will gladly pay fees

to the lawyers and investment bankers who make the transactions possible.

The dominant theory of the 1980s merger wave as an efficient restructuring of poorly managed corporations was the "free cash flow" theory of Michael Jensen (1986). The free cash flow hypothesis says that changing economic conditions left many American industries with cash flow arising from past investment that could not be profitably re-invested. If managers were too slow to react by paying out that "free" cash flow to shareholders-- or even by shrinking the company-- then various forms of leveraged restructuring could enforce such actions. Free cash flow is an example of a "disciplinary" merger explanation, in which efficient capital markets aid in correcting corporate inefficiencies (Marris, 1964, and Manne, 1965). It will figure prominently in the discussion to follow.

Of course, there are alternative explanations of why mergers take place which do not automatically assume increased economic efficiency and additions to social welfare. One theory of why mergers would occur in the absence of productivity gains holds that the "hubris" of acquiring managers, who overestimate their ability to enhance the efficiency of target assets, is to blame (Roll, 1986). Ravenscraft and Scherer's important study (1987) also suggests that uneconomic mergers may occur even in well-functioning capital markets; while on average stock prices may be "right," at any time some will be underpriced (becoming vulnerable merger targets) and others overpriced (making them potential acquirers).

A different approach to theorizing non-efficient mergers, one that we find most persuasive, is to allow for the possibility of inefficiency in the capital markets themselves. In this case various merger participants may be enriched by investors overleveraging and/or overpaying for acquired firms, rather than by facilitating improved efficiency.[5] In other words, if

financial markets are subject to speculative booms and busts, unwarranted optimism may induce buyers to pay more than the firm is really worth.

One way of thinking about such inefficiencies is in terms of a gap between the information available to merger "insiders" and to the public. DuBoff and Herman (1989) propose a theory in which investment bankers, top corporate managers, and others with "promotional" interests have both the ability and the incentive to inflate public expectations of prospective merger outcomes. These insiders then profit from the fees and security price run-ups that accompany the deals. In DuBoff and Herman's model, the gap between the public's and the promoters' information tends to be greatest during financial boom periods. A related theory (Goldstein, 1991) sees the financial sector's escalating willingness to debt-finance as underlying the 1980s merger wave. In this view, American corporations became chips in a high-stakes game in which competitively-pressed investors gambled on risky, leveraged restructuring assets supplied by similarly driven financiers, advisors, and raiders.

Which set of theories is right? The central problem in evaluating the academic conventional wisdom reflected in Jensen's free cash flow approach is that a corporation's future cash flows, and hence a current merger's efficiency effects, are unobservable. Thus, those who claim that 1980s mergers were driven by realistic or rational expectations of the potential for economic improvements have been forced to rely on the circular argument that the existence of target shareholders' gains prove that mergers were efficiency-enhancing. That is, the explanation of merger stock profits rests on a prior assumption about what those profits represent!

In this vein, the great bulk of the evidence portraying the 1980s merger wave as an efficient restructuring process consists of stock market "event studies." These studies

demonstrate that during a short time period around the merger event, target shareholders' returns exceed what could otherwise have been expected, based on past trends.[6] Others have pointed out that efficient mergers should benefit the shareholders of acquiring firms, but that over longer time horizons acquirers' stock performance tends to deteriorate (Magenheim and Mueller, 1988). We will focus here on a different problem: Any attempt to acquire a target firm will force its market value to rise no matter what the cause or effect of the takeover! If target stock prices cannot automatically be assumed to objectively reflect prospective corporate cash flows, then even the most "positive" event studies cannot provide adequate support for a laissez faire merger policy.

That securities prices are in some sense accurate or objective estimates of the present value of future cash-flows is known as the "efficient market hypothesis." Some variant of the efficient market hypothesis is the intellectual core of the academic defense of the efficiency of the merger movement and of all arguments in favor of financial market deregulation. Thus, a critical evaluation of the efficient market thesis is a necessary prelude to any rethinking of financial market regulation policy. If financial markets are not "efficient", there is a prima facie case for government regulation.

While it has been the subject of a tremendous amount of discussion, a precise and widely recognized statement of the efficient market hypothesis is difficult to provide. Most definitions agree that in fully efficient markets, prices correctly reflect all existing information that is relevant to the returns expected from securities. This explanation goes hand in hand with the "random walk" theory of securities prices: In an efficient market, prices would change only when new information, which is by definition unpredictable and hence random, arrives.

But full market efficiency requires more than the random walk property. Market prices must be an unbiased, objective estimate of the present value of the expected future cash flows associated with each security as determined by its so-called "fundamentals," untainted by speculation, fad or market psychology. Because investors care about expected risk and return, the logic goes, freely functioning markets will price securities to channel resources to their best uses, taking full account of future returns (assumed, miraculously, to be known by investors) as well as the attendant future risks (assumed known as well). Should securities prices deviate from these fundamental values, informed speculators will profit by buying (selling) undervalued (overvalued) assets, thereby forcing prices back into line.[7]

Since it first emerged in explicit form during the 1960s, the efficient market hypothesis has generated heated academic debate. Early reviews were highly favorable; it was proclaimed by Jensen to be "the best established fact in all of social science" (1978).[8] However, the efficient market thesis has come under telling attack in recent years.

The now-widespread reconsideration of market efficiency by mainstream theorists began with studies of "excess volatility" undertaken independently by Shiller (1979 and 1981) and LeRoy and Porter (1981). These researchers argued that securities prices are far more volatile than warranted by the subsequent variability in the payments to which they give claim; hence, securities pricing must suffer from non-"rational" or non-fundamental influences. As Tobin put it: "Market speculation multiplies several fold the underlying fundamental variability of dividends and earnings" (1984, p. 6).[9]

A major, related critique of efficiency soon followed-- that current securities prices are correlated with past ones: They exhibit cyclical fluctuations around their trend values. Yet

according to the efficient market hypothesis past prices, as currently available information, should not affect current price changes. There are no cycles in a "random walk" market that smart investors can use to predict future changes in asset prices. It has long been known that over very short time periods stock prices tend to be positively, if weakly, cyclical. What has more recently been demonstrated is that over longer time horizons -- measured in years or even decades -- returns on many securities in many countries are "mean reverting." That is, they exhibit marked and persistent long-term deviations from trend (or speculative "bubbles"), before reverting back to that average path.[10] Mean reversion is taken by many to indicate that securities prices undergo speculative booms and busts which depart from economic fundamentals.[11]

"Noise trader" theory has emerged as an alternative to the theory of efficient financial markets, one that is consistent with excess volatility, mean reversion, and many more specific empirical challenges to the efficiency approach (Shleifer and Summers, 1990). In the noise trading framework, information is imperfect and imperfectly shared, and there are risks in going against the crowd because even the best-informed professional traders (who are typically highly leveraged) cannot afford to wait forever for prices to return to fundamentals. Indeed, it will often pay arbitrageurs to go with rather than against the market as it pushes security prices away from their fundamental values. Under these conditions, markets may significantly overreact to economic events. In deregulated financial markets, "fads" or seemingly irrational investor sentiment may drive prices away from what appear to be their fundamental values for years or even for decades.

Finally, it should be noted that these recent attacks from within neoclassical economics (broadly defined) fail to incorporate the most telling critique of the efficient financial markets

thesis. This critique, associated with Keynes and Post Keynesians such as Shackle, Vickers and Davidson, can be summarized as follows. The "fundamentals" of neoclassical financial theory are embodied or reflected in agent expectations of future states of the economy. Efficient markets theory requires that: (1) agents with sufficient intelligence, resources and energy will search for and eventually discover "true" or objective expectations of future outcomes, and (2) the expectations of future risk and return discovered by such agents will determine the center of gravity for market prices.[12]

Put most starkly, the Keynesian attack on this theory is based on the argument that there is no objective predetermined future out there waiting to be discovered. Rather, the future remains to be created by the current and future decisions of economic agents. No one can possibly know the "true" future path of economy because no one can accurately predict the future actions of others. Because other people's future decisions are inherently unpredictable, future economic states are unknowable in principle; they are subject to "fundamental" uncertainty. In Shackle's words, "The future cannot be known before its time." Thus, there is no objective foundation for the "rational" expectations that are the building blocks of the efficient market thesis-- no objective center of gravity to anchor expectations and force market prices to some hypothetical efficient position. Expectations and market prices cannot help but be influenced by social conventions and fads (as described in section 3.2 below). Financial asset prices -- by their very nature -- must be "subject to waves of optimistic and pessimistic sentiment which are unreasoning, and yet in a sense legitimate where no solid basis exists for a reasonable calculation" (Keynes, 1936, p. 154). As a result, the efficient market thesis cannot possibly be sustainable.

A recent article in the Federal Reserve Bank of Boston's New England Economic Review (titled "Stock Market Efficiency: An Autopsy") summarized the current state of the debate over the efficiency of unregulated financial markets and its implications for policy as follows:

> This paper assesses the current state of the efficient market hypothesis, which was the conventional wisdom among academic economists in the 1970s and most of the 1980s. It reviews the empirical evidence and concludes that it provides an overwhelming case against the efficient market hypothesis. ...
>
> Our fundamental conclusion is that the efficient market hypothesis is having a near-death experience... The fundamental implication of this conclusion is that security market inefficiency provides an economic foundation for public policy intervention in security markets. (Fortune, 1991, pp. 34)

2.2. Sources of the Takeover Premium: Empirical Evidence.

If the event study results are discounted and the efficient market hypothesis rejected, what kind of evidence about the alleged benefits of mergers **can** policy be based on? Here we will review two kinds of research on the operating characteristics of targets and acquirers which attempt to assess whether the economy gained from mergers. These studies examine either the characteristics of acquired firms before merger or the performance of the post-merger entity. Finally, we will look at indirect evidence taken from the pricing of the securities which finance these transactions.

The purpose of pre-merger studies of firms acquired in the merger wave of the 1980s is to see whether acquisition targets in general were poor performers that needed shaping up by new owners. Unfortunately, this literature presents a mixed and inconclusive set of results. In one study Morck, Shleifer, and Vishny (1988) compare companies from the 1985 Fortune 500

purchased during the preceding five years with the non-acquired firms. They find that friendly (uncontested) merger targets tend to have top managers (often including founding or dominant families) with large equity stakes, and thus personal financial incentives to sell unrelated to efficiency considerations. These cases provide no clues one way or the other about prospective efficiency gains.

Both Lehn and Poulsen (1989) and Long and Ravenscraft (1991) examine the before-the-fact characteristics of leveraged buyouts (LBOs), reaching different conclusions about the kinds of companies involved. Lehn and Poulsen study 263 LBOs from 1980-87, finding that they tended to suffer from free cash flow problems-- their undistributed cash flow was greater than required to finance the profitable investment opportunities available to the firm. By definition, this excess or free cash flow should have been paid out to shareholders. But their study is marred by the fact that the measure of the expected profitability of investment (which is unobservable) used by the authors is the rate of growth of sales, a poor proxy for expected profitability. For example, by overinvesting, a low-profit free cash flow firm could generate a high sales growth rate. In any case, the proxy was not able to distinguish LBO targets from nontargets effectively. Long and Ravenscraft, with a larger sample covering the same years, also find above average cash flow prior to LBOs; however, they do not infer free cash flow problems or inefficiencies from this result. Indeed, their pre-LBO sample's below-industry average investment rate suggests an appropriate managerial response to declining investment opportunities. In a related study, Blair and Litan (1990) investigate aggregate data for the industry-level characteristics associated with heavy LBO activity. Their results suggest no connection between LBO activity per se and slow industry growth.

Research on 1980s hostile takeovers has also reached conflicting conclusions. Herman and Lowenstein (1988) find that early-eighties takeovers, unlike prior ones, appeared to target highly profitable firms hardly in need of the market for corporate control's discipline. But Morck, Shleifer and Vishny, in the study cited above, find that the hostile acquisitions in their sample are distinguished by low growth and investment, as well as a low stock market value both for the firm and its industry. They interpret these characteristics as indicative of poor pre-merger performance. Goldstein (1991) notes marginally lower profitability among hostile targets than for non-acquired firms; but in his sample an equally strong predictor of takeover status (especially later in the takeover wave) is a high level of investment for firms with low current profitability, suggesting a conflict between short-horizoned securities holders and growth oriented managers.

A compelling case for the efficiency theory of mergers, then, cannot be established on the basis of the pre-merger research. Most important, enough time has elapsed since the recent merger wave peaked so that studies of post-acquisition performance are now appearing. (Most look at the effect of mergers on employees and on investment and research and development, which will be considered when we discuss the costs of mergers in section 3.) Two of these papers, both focusing on LBOs, directly investigate measures of operational efficiency. Lichtenberg and Seigel (1990) test for plant-level productivity before and after manufacturing buyouts during the years 1981-86. Their results appear to show significant productivity gains, especially for LBOs during the later years. But Long and Ravenscraft (1991), using an overlapping sample from the same data source, reach very different conclusions. While they find substantial inventory cost savings, operating efficiency is not affected for the 1981-87 plant-

level buyouts surveyed. For reasons elaborated in endnote thirteen, we consider the Long and Ravenscraft study to be more reliable and its conclusions therefore more compelling.[13] 1980s LBOs have not on average demonstrated significant and persistent gains in efficiency.

Two studies related to acquisition financing suggest that speculation rather than efficiency considerations increasingly drove the merger wave as the decade wore on. The premiums achieved by the sellers seem to have derived increasingly from overoptimism on the part of the buyers. Kaplan and Stein (1991) directly examine the pricing and financing structures of 124 large management buyouts during 1980-89, which accounted for three quarters of the value of all LBOs during those years. They find ballooning purchase premiums and declining managerial equity investment later in the decade. Fees to commercial and investment bankers skyrocketed, from two percent of total capital at the decade's start to just under six percent by its end. Meanwhile banks reduced their share of the financing. They also demanded earlier repayment of principal, which squeezed borrowing firms' cash flow to debt service ratios over the term of the loan. And the growing share of financing coming from new public debt (largely junk bond issues) was increasingly risky for the lender because interest payments were often deferred, while other, more "senior," lenders had prior claim on the borrower's assets in the event of default. In sum, as public investors poured an ever-growing stream of capital into these deals, a variety of insiders began taking their cash out up front. Ultimately, the proportion of buyouts which defaulted on loans in Kaplan and Stein's sample rose from zero for 1980-83 to a fourth during 1985-88. These results are consistent with those from Wigmore (1990), who finds that junk bonds' interest coverage at issue time fell steadily throughout the 1980s.

The picture that emerges from the post merger evidence and the financing practices

surveyed seems clear: By the middle 1980s, speculative or self-reinforcing financial profit expectations were coming increasingly unhinged from the efforts to raise efficiency which underlay many earlier deals. It is important to keep in mind that we do not argue that all mergers are undertaken for the same ill-founded reasons or come to the same unfortunate ends. It is not necessarily individual mergers, but merger waves which have been associated historically with episodes of widespread speculative financial activity. The same holds true in spades for the 1980s.

We conclude that policy makers need not throw up their hands at the complexity of the arcane academic debate about the alleged efficiency of financial markets and its corollary, the free cash flow or efficiency-driven explanation of the sources of the huge fortunes created by the leveraged 1980s M&A boom. There are convincing reasons for accepting the strong and growing evidence that deregulated financial markets do not always allocate financial capital in a socially efficient manner, and that financial markets perform their allocation function most poorly during speculative boom periods like the merger wave of the 1980s.

On the one hand, there is no compelling evidence that the 1980s mergers primarily targeted inefficient or free cash flow firms or that the efficiency of the typical acquired firm did in fact significantly improve. On the other, we have empirical evidence of speculative bubbles in securities markets, and realistic theoretical models of the behavior underlying these swings-- behavior which cannot be convincingly portrayed as rational responses to changes in economic fundamentals. Both Noise Trader and Keynesian theories are consistent with troubling events from recent financial history-- the Crash of 1987, the boom-and-bust junk bond cycle, the insurer insolvency scare, and the credit crunch in commercial banking, to name but a few. Both are

compatible with what we know about people, whose decisions after all drive the markets. In an uncertain world, choices often suffer from judgement errors with respect to risk (taken too freely), past trends (expected to continue), and new information (greeted with overreaction).[14] And in an uncertain world, deregulating the financial markets that feed these speculative binges may be a recipe for disaster.

Having examined the alleged benefits of the merger wave, we now turn to a consideration of the possible losses to society.

3. What Are the Costs of the Merger Wave?

In this section, we focus on three major kinds of costs associated with the restructuring movement -- costs to employees and their communities, to investment and R&D, and to the stability of the economic system.

3.1. The human dimension

Both proponents and critics of the 1980s merger wave agree that corporate restructuring has imposed hardships on certain individuals and groups. When operations are combined, or bureaucracy streamlined, or ancillary tasks contracted out, or facilities closed, or operating costs cut, people lose jobs and/or income. Nevertheless, almost all studies of the efficiency of corporate restructuring implicitly assume that all the cost reductions achieved by these changes represent net gains to society. This assumption in turn logically requires the following prior

assumptions: that fired workers were making no contribution to firm revenue (i.e., that these "employees were purely deadwood and all of [their] labor costs [should be] treated as an efficiency improvement" (Summers, 1990, p. 77)); that they were able to find equivalent employment elsewhere; that there are no negative externalities -- costs borne by parties not directly involved in the transaction; and that there will be no future costs associated with the breaking of "implicit contracts" between the firm and its employees and suppliers by the new owners. Typically, none of these assumptions are true.

The importance of negative externalities and the widespread rupture of implicit contracts are stressed in an influential paper by Shleifer and Summers (1988). They point out that there have been substantial costs borne by various segments of the communities in which affected firms are located. Other businesses lose revenue as a result of the layoffs and wage cuts, local governments suffer erosion in their tax base, and homeowners may suffer substantial losses as the residential real estate market sags. While there are numerous journalistic accounts of the devastation wrought in particular communities as the result of layoffs and plant closings associated with specific corporate restructurings, to our knowledge there have been no careful academic studies assessing these indirect effects of the recent merger wave. Yet such negative externalities are surely crucial to any assessment of its social costs and benefits and government policy must be cognizant of those externalities.[15] Moreover, Shleifer and Summers argue that the transfer or redistribution of existing wealth from "stakeholders" in the target firms (employees, suppliers and local communities) to owners, rather than increased efficiency, may be the major source of the takeover premiums attained in hostile takeovers in particular and "disciplinary" mergers in general. For example, they argue that the "transfer" from the unions to

Carl Icahn in the TWA takeover "amounted to one and a half times the takeover premium" (1988, p. 50). The most important source of these transfers, according to Shleifer and Summers, are the existing implicit contracts between workers and suppliers and the target firms. In these contracts, the firm has promised job security and future wage increases to workers and reasonable long-term profit margins to suppliers in return for their willingness to engage in costly and potentially risky firm-specific investments in human and physical capital. Such investments increase firm profits in the short to intermediate run, but may only prove worthwhile to employees and suppliers over the long term.

In disciplinary mergers, then, new managers who feel no loyalty to stakeholders can reap a windfall for shareholders by laying off older workers (who have fulfilled their end of the contract but have not yet received full payment), cutting the wages of those who remain, and squeezing supplier profits. While it was profitable before the fact for the target firm to agree to these implicit contracts, it is profitable after the fact for the new management to renege on them.

However, the long term costs of these short-sighted practices could turn out to be enormous. If workers and suppliers no longer believe that firms can be trusted to hold up their end of the implicit contracting process, they will not be willing to undertake productivity enhancing investments. "Potential suppliers will not invest in relationship-specific capital [and] the young will shirk if they expect no raise in the future" (Shleifer and Summers, 1988, p. 45). Over the past decade or so the corporate restructuring wave, in combination with layoffs, union busting and take-away contracts in much of U.S. industry, has created a wide spread belief among both blue and white collar workers that corporations cannot be trusted to reward hard

work, extra effort, and firm-specific training with job security or wage increases. Yet the ability to make implicit contracts with workers, contracts that offer job security and enhanced future income in return for training and a commitment to improve firm productivity, is the foundation of the management philosophy used by our most successful international competitors. Thus, the lust for takeover transfers may have helped destroy an essential precondition for long term productivity gains. In the end, this may prove to be the most long lasting and destructive legacy of the 1980s takeover wave.

Lacking any serious analysis of the cost of negative externalities and the likely long term effect of the collapse of implicit contracting, we turn instead to more narrow studies of how restructuring directly affects employees of acquired firms. The limited evidence now available indicates that there are employee losses after mergers. Rosett (1990) studies union wage settlements during 1976-1987, and uses his finding of reduced real wage growth after merger to estimate that workers lose only about one to five percent as much as shareholders gain. But in the absence of the efficient-markets assumption, the interesting question is not what portion of stock premiums worker losses "explain," but rather what the extent of those losses has been. Converting Rosett's present-value estimate of a union "wealth" loss of $490 million (over six post-merger years) into cumulative terms, we infer very roughly that the union members in his sample lost a total of $600 million in reduced wage growth. Adjusting this figure-- again, very roughly-- to reflect the large number of U.S. workers not covered in his study, we come up with wage losses on the order of $6-12 billion.[16] If indeed worker incomes were reduced following mergers by billions of dollars, then the ripple effects on their local communities must have been substantial.

While Rosett focuses on wage settlements, Bhaghat, Shleifer, and Vishny (1990) study post-takeover layoffs (and other effects) in a sample of large hostile takeovers. For firms reporting layoffs, blue collar cuts averaged 6.5% of the total labor force, and white collar cuts 3.2%. Because there are far fewer white collar workers, their layoffs appear to have been proportionately heavier. Similarly, in the Lichtenberg and Seigel (1990) study already discussed, leveraged buyouts are followed by substantial cuts in white collar employment and compensation.

Bhagat, Shleifer, and Vishny note that they do not track layoffs at business units divested after takeover, yet such divestitures constitute about thirty percent of the value of target firms on average, with well over two thirds of the takeovers followed by selloffs. But since purchasers of large business units also debt-finance, the same problems reappear at divested companies. For example, the Safeway LBO is listed in Bhagat, Shleifer, and Vishny as resulting in 300 layoffs, or 0.1% of the firm's labor force. But the spinoff of its Dallas division to nonunion operators resulted in the loss of 9000 union jobs (although an undetermined number of lower-paid nonunion jobs replaced them). The resulting furor led to a union-Safeway agreement that unions at Safeway or its divestitures would be retained, but in return for wage cuts. A **New York Times** article at the time (Fisher, 1988) called "reduced labor costs...the greatest factor" behind the "success" of the Safeway restructuring. A union official involved in the case put this leveraged "success" in human perspective: "It's kind of like contracting a dread disease for which the cure is very, very painful, and you're never the same afterward, but you survive" (Fisher, 1988, p. 32).

The evidence now available thus raises the disturbing possibility that while shareholders

gained from mergers, workers lost, and these losses did not on the whole serve any efficiency-enhancing purpose. Employee costs can always be cut in the short run to make room for debt servicing. But sustainable productivity gains, of the kind required to buttress long term competitiveness, are not so easily achieved. State of the art managerial theory and practice suggest that truly productive restructuring must elicit worker loyalty and induce worker participation in the struggle for efficiency. The chances of accomplishing this kind of transformation via the meat cleaver effect of leveraged restructuring are nil; whatever short-run contributions restructuring may have made, they have been overwhelmed by the impediments to long term productivity growth it has created.

3.2. Merger Debt in the Longer Run: Investment, R&D and Macroeconomic and Financial Instability.

As we have seen, the short term effect of the M&A boom of the 1980s on the cost structure of affected firms has been the subject of some debate. However, short term changes in costs are not our main concern. The question of whether or not the free-wheeling, deregulated financial markets of the era created and allocated the credit generated by the leveraged restructuring boom efficiently or wisely from a longer term societal perspective is of greater interest. In the last section, we raised the possibility that the costs of mergers to workers and their communities have, in addition to their immediate human impact, long term economic consequences as well. Here we will argue that leveraged restructuring has adversely affected investment, R&D and economic stability and will continue to do so for some time to come.

No one denies that the M&A movement of the 1980s oozed debt out of every pore. For

the period 1980-90, net credit market borrowing totalled $1289 billion. But such massive borrowing was not required to finance capital investment; fixed investment exceeded corporations' internally available funds by a scant $99 billion during that span. Non-stock financed restructuring (mergers and share repurchases) amounted to $1109 billion, roughly accounting for the bulk of the difference. In fact, most of the borrowing (a trillion dollars) and the restructuring ($988 billion) took place between 1984 and 1989 -- when corporate internal funds actually exceeded their investment outlays.[17]

In section one we reported one measure of this leveraging -- the nonfinancial corporate debt-equity ratio. The debt/equity ratio reflects the firm's vulnerability to a decline in cash flow, a rise in interest rates or the appearance of a credit crunch over the longer run. Unfortunately, as we noted, there is disagreement about how the value of equity (or of assets) should be measured. We reported the replacement cost of asset net worth. Some prefer market value, but market value is an acceptable measure only if one accepts the axioms of efficient market theory. Because market value is subject to speculative booms and busts, the market value measure of the debt to equity ratio is also extremely unstable. For these reasons, analysts generally measure financial vulnerability using some variant of the interest coverage ratio -- the ratio of internal funds flow to interest payments, an index of the short term financial security of the firm. Ben Friedman's estimate of the impact of leverage on the interest coverage ratio of nonfinancial corporations in the 1980s is representative of most such studies (1992). He found that interest payments constituted 16% of before-tax profits plus interest payments in the 1950s and 1960s, rose to 31% in the 1970s, then levitated to 60% in the 1980s.[18] Friedman has also noted that the ratio of the debt of nonfinancial corporations to gross national product "fluctuated narrowly

around 30% from 1960 through 1980. By yearend 1989, before the recession began, it stood at about 39%" (1991, p. 4).

Of course, debt mania was not confined to corporations directly involved in restructuring and firms forced to substitute debt for equity in order to avoid a takeover. Nor, for that matter, was it confined to the nonfinancial corporate sector. According to the New York Federal Reserve Bank:

> The 1980s in fact witnessed a widespread leveraging of the U.S. economy. The traditionally stable linkage between private sector debt and GDP broke down completely in the last decade and by 1991 an extra $2 trillion of private sector debt had been created over and above what would have been expected on the basis of the past relation between private sector debt and GDP. (1991, p. 11)

It is important to note that much of the debt buildup outside the nonfinancial corporate sector was directly or indirectly related to leveraged restructuring. The spectacular fortunes made in the takeover movement by those directly involved and by those, such as Michael Milken, involved in the financing of takeovers created a culture of leverage-worship on "the Street," a culture that academic gurus such as Michael Jensen assured us was efficiency enhancing and socially productive. M&As and stock buybacks drove the stock market to ever greater heights; junk bonds and bridge loans brought riches to everyone who touched them. The lesson from all this seemed clear; gambling on financial markets with borrowed money was the smart and quick path to wealth. The belief that high leverage was good for stockholders, financial institutions, and the economy, as well as the path to individual fortune became the conventional wisdom. The success of those who engaged in personal and corporate leveraging

turned high leverage into a "group norm" and induced "herd" behavior -- a tendency for individual decisions to conform to the collective conventional wisdom.[19]

The facts thus seem clear: (1) corporations became significantly more indebted in the 1980s; (2) the bulk of this debt was not needed to finance capital accumulation; and (3) the merger wave, through its direct and indirect effects, was the single most important cause of this corporate leveraging process as well as a major contributor to the debt explosion outside the nonfinancial corporate sector. "The heart of the problem is the increased financial fragility that has resulted from the massive borrowing campaign upon which American corporations have embarked since the current economic expansion began in 1983" (Friedman, 1988, p. 126). These facts raise a key policy question: what have been and what are likely to be the effects of this debt burden on economic performance at the micro and macro level?

Not surprisingly, different economic theories offer different answers. For those who cling to the increasingly discredited theory of efficient financial markets, high debt is an effective device with which to discipline managers; it forces capital out of inefficient companies into those with the most profitable investment opportunities. Debt is the sine qua non of the market for corporate control. However, once we leave the fairy-tale world of efficient markets and all-knowing expectations and return to the world as it really is, high leverage has its dangers and downsides, and they can be quite threatening. We focus our discussion on the likely effects of excessive corporate leverage on long term investment and R&D spending, but we address the related issues of the effect of indebtedness on macroeconomic instability and on the likelihood of a financial crisis as well.

Leverage, Long Term Investment, and R&D Spending: Theory

Is it true, as is widely believed by corporate executives, financiers and observers of the business scene, that the shaky financial structures and aggressive restructuring practices of the 1980s substantially shortened the horizons of business decision-makers, causing them to shy away from long term investments of all kinds -- in capital goods, R&D, and worker education and training? Traditional neoclassical financial theory says no. According to the famous (or infamous) Modigliani-Miller theorem, under efficient markets the decision to invest in capital goods should be independent of the firm's financial structure.[20] This independence property is alleged to hold "under reasonably general conditions" (Blanchard and Fischer, 1989, p. 295).

We have already discussed the arguments against the efficient market hypothesis. There are two important alternatives to efficient markets theory that provide solid analytical foundations for the proposition that excessive leverage will restrict investment spending. We consider in turn the increasingly influential New Keynesian (NK) theory and the more venerable Post Keynesian (PK) theory.[21]

The basic NK innovation in the neoclassical theory of the relation of capital structure to investment can be easily understood using the model of bank lending presented in the seminal paper by Stiglitz and Weiss (1981).[22] Consider a competitive market in which firms use bank loans to finance investment projects. Assume that loans are risky for banks because they are not fully collateralized. Assume further that firms know the "true" expected risk and expected return associated with each of their potential investment projects but that banks do not. As a result of this information asymmetry, banks cannot distinguish before the fact between "bad" loans (high risk relative to expected return) and "good" loans (low risk relative to expected return). The

expected return on the bank's loan portfolio consists of expected interest payments on successful projects and expected losses due to default on failed projects.

Stiglitz and Weiss show that under these conditions banks must charge all borrowers -- good and bad -- a common "lemons" premium to compensate for the expected losses from defaults. The cost of borrowing for good investment projects will thus exceed the cost of internal funds because the rate charged for external funds will contain a lemons premium reflecting the high default risk of bad projects. Switching from internal to external funding will raise the cost of capital, causing some socially optimal investment projects to be rejected by the firm. Other things equal, less indebted firms (which can rely more heavily on internal funds and have more collateral to support their loan applications) will spend more on capital investment.

Moreover, as banks raise interest rates, the proportion of bad projects in their loan portfolios will rise both because it is only the high risk projects that remain profitable to the borrower under the higher rates (a "sorting" or "adverse selection" effect) and because firms' incentive to substitute bad for good projects rises with the interest rate (an "incentive" or "moral hazard" effect). Therefore, the expected return to banks may not rise at the same rate as the interest rate; beyond some point it may actually fall. Thus, "under not implausible assumptions," credit rationing may take place (Stiglitz and Weiss, 1981, p. 249). Under credit rationing, a subset of socially optimal investment projects will not be undertaken These sorting and incentive effects have been modelled for all forms of external funds.[23]

The upshot of these asymmetric information arguments is this. First, the greater the firm's net worth or the lower its debt/equity ratio, the greater the collateral it can use to obtain loans, the lower the lemons premium it will face, the lower the likelihood that it will be credit

rationed, and, therefore, the higher its level of investment spending. Second, the more the firm can rely on internal financing for its investment projects, the lower will be the hurdle rate of return its investment projects must pass. In stark contrast with neoclassical theory, NK theory predicts: (1) that investment should be inversely related to the firm's debt/equity ratio; and (2) that investment spending by highly leveraged firms will be "excessively sensitive" to changes in current cash flow (Gertler, 1988, p. 573).

This cash flow sensitivity in turn creates a situation in which any shock to the level of income and profit in the economy will trigger a change in investment that will magnify the initial shock. Therefore, high leverage creates a more unstable macroeconomy. In a financially fragile environment, such instability could contribute to the initiation of a financial crisis.[24]

Note that in NK theory the effect of debt on investment is transmitted exclusively through the cost of external finance. In Post Keynesian (PK) theory, on the other hand, increased debt makes firms less willing to invest even in the absence of any lemons premium in the cost of external capital.[25] Thus, NK and PK theories should be seen as providing complementary reasons to believe that leverage restricts investment.

The basic PK argument is as follows. The firm operates under conditions of "fundamental" or Keynesian uncertainty. Since the future is unknowable in principle, agents never believe that they have complete and accurate knowledge of the likelihood of all possible future economic outcomes. In such an environment, forecasting and decision making are appropriately described as conventional in character, based on custom, habit, tradition, rules of thumb, instinct and other socially constituted practices. As such, they will be influenced by market fads and fashions and will respond to the ever-changing mood of "the Street."[26] Because

they can never have complete confidence in their forecasts, managers will want to maintain a financial cushion or margin of safety to protect themselves from creditors or irate stockholders in the event that future profits turn out to be lower than expected. This margin of financial safety required by the firm (represented by the inverse of the debt/equity ratio and/or by the interest coverage ratio) is itself conventionally constituted and will, therefore, rise and fall with the boom and bust cycles of financial markets.[27]

At any point in time there will be a safety margin that conventional wisdom suggests is prudent; imprudent debt/equity or interest coverage ratios will be understood to threaten the firm with potential financial distress or even bankruptcy. Holding the cost of capital constant, higher leverage will diminish the firm's desire to invest because additional long term investment will place the firm in a position deemed to be imprudent or excessively risky. In the euphoria of a speculative financial boom such as took place in the 1980s, managers' perception of what constitutes a prudent or acceptable degree of leverage may rise as fast or even faster than actual leverage, so that -- temporarily -- investment spending may not be debt-restrained. But as the euphoria of the boom first levels off and then, with the first signs of financial distress, declines, more firms will come to see themselves as excessively or dangerously leveraged. And when, as in the last few years, degrees of leverage once conventionally certified as prudent become exposed as objectively dangerous to the survival of the firm and the decision-making autonomy of its management, the high leverage inherited from the speculative boom will severely restrict the firm's willingness to commit funds to risky and illiquid long term investment projects.

In sum: NK and PK theory suggest that, ceteris paribus, the debt mania of the 1980s should have lowered the level of investment spending and increased investment instability,

increased the instability of the macroeconomy, and raised the likelihood of a financial crisis. These theories also imply that these effects will continue to plague the economy for as long as the debt overhang remains.

Leverage, Long Term Investment, and R&D: Empirical Evidence

For several decades, the neoclassical theorem that financial structure had no effect on the investment decision guided and constrained the econometric work on investment behavior that justified and reinforced belief in the empirical relevance of the theorem. However, concern with the rising indebtedness of the 1970s and, especially, the 1980s, in concert with the development of NK theory (which, because it is so close to neoclassical theory in assumptions and methodology, was treated with respect by mainstream economists) finally liberated empirical work from its neoclassical blinders. And, "lo and behold" an impressive and ever-growing body of empirical evidence has developed which supports the NK-PK thesis that high leverage both restricts investment and R&D spending and makes them more unstable.[28]

Two kinds of empirical research are relevant here. The first studies the effect of leverage on the long-term commitments of firms acquired in the M&A boom. The second attempts to measure the effect of increased leverage on the investment spending of all firms, restructured or not.

Bronwyn Hall has written several widely cited papers assessing the impact of leverage on the R&D and investment spending of restructured firms. Her 1990 econometric study found that while restructuring itself did not significantly depress R&D spending, the higher debt burdens associated with leveraged buyouts most certainly did: "the link between leverage and reduced

R&D has been established...(p. 123). She observed that "R&D spending may be an unintended victim of the current trend in the United States to shift the source of financing toward debt" (1990, p. 123). Extending this research, Hall (1991) tested the broader question of whether the restructuring boom of the 1980s forced "managers to pay attention to short-term earnings at the expense of long-term investments" both in capital goods and in R&D (p. 1).[29] Her econometric evidence showed a "large negative impact on both kinds of investment from increases in leverage ... [T]hese are enormous effects, implying reductions in ... investment of the order of 50 percent [of the increase in debt]" (p. 11). Evaluating both regressions and case studies, Hall concluded that "massive changes in financial structure...do appear to be accompanied by reduced investment of all kinds" (p. 23).[30]

As noted above, Long and Ravenscraft (1991) analyzed the most extensive data set on LBOs yet assembled. They found that LBOs raise "the amount of cash available to make interest payments by cutting capital expenditures. Capital expenditures/shipments drop by 9 percent" following a buyout (p. 20), while R&D spending declines by about 10 percent. They also establish that these cuts in investment "are not temporary" (p. 21).

Finally, Kaplan and Stein (1991) found that for 124 management buyouts between 1980 and 1988, the ratio of capital expenditures to sales declined on average by 38% in the year after the purchase (p. 31 and Table 10).[31]

Of the econometric work on this question not limited to the population of acquired firms, the micro-data studies done by Steve Fazzari and associates have had the most impact.[32] For example, Fazzari, Hubbard and Peterson (1988) show that decreases in internal funds flows have a significant negative effect on investment spending, especially for the small and medium size

firms that NK theory suggests should be faced with the largest lemons premium. Their results, which are consistent across various alternative specifications of the investment equation, suggest that a one dollar decline in cash flow (caused by a one dollar increase in interest payments) will lower investment spending by 23 cents.

In work similar in design to Fazzari's, Cantor (1990) demonstrated that highly leveraged firms exhibit greater cyclical sensitivity of investment spending (and of employment) because of the dependence of investment on internal funds. His work suggests, for example, that a firm with a 50% debt/asset ratio spends only half as much of each extra dollar of cash flow on investment than a firm with a 25% debt/asset ratio. "When leverage increases are fairly widespread, the corporate sector is likely to become more volatile and more responsive to sales and cash flow fluctuations..." (p. 41).[33]

Franke and Semmler (1990) and Crotty and Goldstein (1992) get similar results using aggregate time series data for nonfinancial corporations and manufacturing firms respectively.

There are two additional links between the debt explosion of the 1980s and reduced investment spending that should be mentioned. First, Federer (1991) demonstrated econometrically that investment spending declines when general macroeconomic uncertainty rises. Since NK empirical work shows that rising leverage increases macroeconomic instability, and since the degree of uncertainty rises with instability, Federer's results establish yet another channel through which high leverage impedes investment. Second, if, as it seems reasonable to assume, the massive demand for credit associated directly and indirectly with the M&A boom put upward pressure on real interest rates in the mid to late 1980s, it also shortened corporate time horizons and decreased both investment and R&D spending through standard neoclassical

channels.

Friedman's recent assessment of the empirical work on this question seems sensible:

> there is ample evidence indicating that highly indebted firms undertake less research and development than otherwise comparable firms with lower leverage. Similarly, there is evidence that highly leveraged firms do less capital spending than their less leveraged counterparts. Given the links connecting both research and investment to productivity, these developments suggest that the widespread leveraging U.S. corporations did in the 1980s left not a strengthened but a diminished basis for the economy's growth in the 1990s. (1991, p. 8)

A final aspect of the eighties' acquisition-related debt binge remains to be mentioned-- its effect on the fragility of the financial system. Over-eager lending by a wide range of financial institutions has left them weighted down with bad debts arising from the merger boom:

--Investment banks were caught with "hung" bridge loans when the 1989-90 junk bond collapse made refinancing impossible, and had to be rescued with capital infusions; First Boston and its bailout by Credit Suisse is one example.

--Commercial banks' troubled "Highly Leveraged Transaction" loans posed capital and regulatory problems for many of them, and contributed to the credit crunch and thus to the length of the recent recession. An informal Fed study found that by 1988 several of the big New York banks were channelling as much as forty percent of their new commercial and industrial lending into LBOs. [34]

--Before the junk bond market imploded in late 1989 and early 1990, savings and loan institutions held about 9% of all outstanding junk; by that time, the great bulk of new-issue junk volume was being floated to finance mergers and restructurings (Altman, 1990). The thrifts' holdings were highly concentrated in just a few risk-plunging S&Ls, contributing both to their own demise and the taxpayer bill arising therefrom.

--Even the continuing tremors in the insurance industry owe something to the merger boom; while the bulk of the bad debts which afflict insurers are in commercial real estate, the four huge problem investments which triggered the collapse of Mutual Benefit Life in 1991 included two LBOs (Pulliam and Anders (1991)).

Mergers were not unique in contributing to the shakiness of financial institutions. They took their place alongside other speculative ventures such as commercial real estate loans, Third World debt, oilpatch lending, and other outlets for the financial institutions' bruising competitive search for high risk, high return assets. Indeed, financial competition played an important role in stimulating the merger wave itself. For many of the acquiring firms on the borrowing side of this dynamic, it has meant financial distress. We have shown that corporate leverage increased dramatically during the eighties, and that restructuring accounted for the bulk of it. When a company lives close to the edge, with cash flow barely sufficient to service debt, it takes little to push it over. Not surprisingly, we are in the midst of a quiet bankruptcy epidemic. Rising swiftly from late-seventies levels, the business failure rate reached and maintained a 1980s plateau more than twice as high as any level since the Depression. And the increase is most striking for large bankruptcies. As a result, since 1984 there have been on the order of thirty to forty billion dollars in business failures every year (**Economic Report of the President**, 1992).

We conclude, based on an evaluation of both theoretical and empirical evidence, that the allocation of credit by the deregulated, speculative financial markets of the 1980s was not only inequitable in its distributional effects, it was grossly inefficient as well. The costs of this misallocation in the form of high default and bankruptcy rates, constrained investment and R&D spending, slow economic growth, high unemployment, low productivity, stagnant wages and

shattered communities have hit hard already and will continue to plague the economy for some time to come. The economic stagnation we have experienced since early 1989 may be just the first downpayment on our mortgaged future.

4. Conclusions and Policy Implications

Out of a welter of arguments and evidence, then, a few simple conclusions about the 1980s merger wave can be extracted. The decade's restructuring movement was a driving force in a tremendous increase in corporate indebtedness. But unless one accepts the stock market "evidence" which assumes that shareholder profits indicate enhanced efficiency-- and there are strong reasons not to accept this-- there are few signs that corporate performance has been enhanced, and many that it has not.

In contrast, the evidence is mounting that the costs of creating and allocating credit through the deregulated financial markets of the 1980s are likely to be significant and persistent. In many cases employees in merged firms suffered a direct loss of security, income, and/or jobs. The spillover from these losses have been substantial; communities have suffered, and workers' commitment to productivity growth has been badly shaken. Productivity is threatened also by the constraining effects of debt on investment and R&D expenditures. And finally, the financial stability and flexibility of industrial and commercial companies and financial institutions throughout the economy is impaired. Capital and credit crunches in the banking, investment, insurance, and thrift industries have all been bound up with high-risk merger lending;

restructuring borrowers' woes have led to soaring, sustained bankruptcy rates. As noted in a recent edition of Business Week: "The death toll among U.S. businesses remains at epidemic levels. Dun and Bradstreet Corp. report that business failures were 12% higher in July [1992] than in July, 1991, and are up 16% so far this year" (October 12, 1992, p. 24).

The ballooning of merger debt and its potential drag on long term economic performance thus places corporate control at the intersection of two major policy problems of the 1990s-- the restructuring debate over the performance and competitiveness of the U.S. economy, and financial market reform. In both areas the conclusions summarized suggest a basic rethinking of merger-related financial regulatory policy. In the short term, policy makers should act to penalize the most egregious restructuring abuses, and should adopt measures which tilt financial markets in general and the market for corporate control in particular away from leveraged speculation and toward long term economic and social priorities. And they should begin now, when the cooling of merger fever permits action that is considered, purposeful, and strong. In the longer term, we need fundamental institutional change in the way we create and allocate credit, change that will retard financial speculation and promote productive investment in human and physical capital.

We urge consideration of the following.

Discourage lending for highly leveraged restructuring.

One step toward dampening pressures for short term speculation in the financial markets could be taken by providing regulated banks and thrifts with disincentives against lending which destabilizes their own and their business borrowers' financial positions. One targeted lending

behavior would be borrowings used to finance mergers and recapitalizations (share repurchases and special dividends) rather than real investment. Included in this definition should be holdings of securities issued for those same purposes, for example restructuring-related junk bonds. Given the existing regulatory structure, the most effective sanction would be denial of deposit insurance. Alternatives would include rising reserve and/or capital requirements.

Encourage long term financial investment.

While regulated intermediaries' lending had a role in creating the climate for 1980s restructuring, stock and bond trading played a crucial part as well. Both merger and leverage mania thrive on short term, speculative debt and equity markets. Congress should rein in casino investing behavior with two kinds of taxes. First, short term capital gains-- on holdings of less than a year-- should be taxed at a significantly higher rate (not less than fifty percent). And second, as Keynes himself suggested, securities transactions in the secondary markets should be subject to a modest trading tax. Together these measures would lessen the markets' focus on short term performance, weaken incentives for speculating in restructuring situations, and slow the erosion of the concept of "ownership" in the corporate sector.

Reform corporate governance.

The speculative financial market practices addressed by the preceding proposals have had a profound impact on corporate governance, especially with respect to corporate control. On the state, national, and private levels, the policy framework for mergers needs to address recent patterns in short term stockholding behavior, and the complex interdependence of the

corporation's profitability and its constituencies' interests. First, strengthened state laws regulating hostile takeovers-- whose threat often spurred various kinds of leveraged restructuring-- should be supported where they exist (such as Pennsylvania), and adopted where they do not. Such legislation should protect the rights of employees, restrict greenmail and other put-in-play investor profits, and give longer term shareholders more of a voice in corporate control matters.

Second, socially responsible long term shareholding should be mandated for the pension funds which increasingly dominate the equity markets. Up to now, the pension funds' "shareholder activism" has been mainly limited to maximizing short term capital gains, including support for high-premium restructurings-- sacrificing a long term climate conducive to growth and stability for the immediate gains of their beneficiaries. Yet it is employees who often pay the price in leveraged restructuring. Labor unions must explore ways of gaining more of a voice in the policies of their members' pension funds. And ERISA law should be scrutinized for the incentives it provides for pensions' investing behavior.

End the tax advantage of corporate debt financing.

But the perverse incentives of existing policy extend beyond corporate governance per se. By taxing corporate income used for dividends but not for interest payments, the federal government encourages and subsidizes aggressive financing in general and leveraged restructuring in particular. The solution that is simplest and fiscally least problematic is to end the tax deductibility of interest. This could be phased in over several years to minimize disruption of corporate planning and the corporate income tax could be adjusted to maintain a

desirable overall corporate tax burden. Short of that, policy makers should consider excluding from tax deductibility interest on high yield debt (defined in terms of a spread above investment grade), and/or on debt issued for the retirement of equity.

Strengthen and Democratize Public Investment.

In attempting to discourage leveraged speculation and encourage long term, economically and socially productive investment, it is crucial that we not ignore the power of public credit creation and allocation. Some of the most impressive national economic performances in recent decades, including those achieved by Japan, Germany, South Korea and Taiwan, have relied heavily on the public and semipublic allocation of credit for industrial growth and development. In the U.S., federally channeled credit flows are already massive, but they have not in recent decades targeted investment outside the farm and housing industries. To influence the path of business restructuring, policy makers could sharpen the financial incentives offered to corporate leaders through careful use of publicly guided credit. Such credit should flow in directions determined by the urgency of democratically registered social needs; Markusen and Yudken (1992) have focused on the possibilities inherent in military conversion, and Pollin (this volume) on building environmental sustainability into our productive capacity. There are surely other initiatives which could deliver similar social benefits and economic spillover effects if nurtured through public credit flows.

Proposals for specific mechanisms to create and allocate these flows are beyond the scope of this paper, but they might include credit guarantees or subsidies, as well as creation of new public institutions or the development of new functions for existing ones. Over the longer

term, the creation of a public investment bank (such as the one proposed by Robert Pollin in this volume) may be the key step in the construction of a financial system that is equitable as well as efficient.

All of these proposals grow out of a recognition that the 1980s merger wave was part and parcel of a much wider pattern of speculative financial excess. Thus our policy proposals are not (and cannot be) restricted to mergers per se. All are aimed at helping shift our system of corporate finance away from its speculative focus on deals and asset turnover (reminiscent of the kinds of finance called "capital-market based" by Zysman (1983) and "fluid" by Porter (1992))--toward a system based on commitment to socially productive investment over the long haul (as in Zysman's "credit-market based" and Porter's "dedicated" alternatives). Such a shift must build in greater decision-making accountability to worker and community interests, because companies' employee and community constituencies are crucial to and vitally affected by long term corporate performance.

We have suggested that the effects of the eighties' merger wave will include a kind of "corporate anorexia": With debt-induced cost-cutting in employment, investment, and R&D, cash flow can be boosted in the short run, but the prognosis for long term vitality is gloomy. We thus come full circle with the question of what kind of restructuring the American corporate economy needs. Corporations and their managers do need to be pressed to be flexible and competitive, and to invest for the long term in worker education and training, capital goods, improved technology, R&D, and product quality. But the financially-driven restructuring of the eighties pushed corporate America in the wrong direction. It is ironic that the academic defenders of this movement have rationalized the constrictive effects of leverage by essentially

claiming that our economy suffers from too much investment, too benign treatment of employees, and too little attention to today's stock price.

We need a better basis for policy than that.

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ENDNOTES

1. This term, for the unintended financial market spillover effects of risky merger lending, is due to Charkham (1989).

2. To take but one example, the economy's difficulty in rebounding from the 1990-91 recession has often been interpreted as evidence that bank lending, business spending, and their contributions to economic activity have been weighed down by merger-related debt.

3. Data is from Pickering (1991), and the Board of Governors of the Federal Reserve System, **Flow of Funds Accounts** and **Balance Sheets for the U.S. Economy.** Debt-equity is credit market borrowing over tangible net worth at replacement cost. It is often argued that debt-equity should use the market value of equity in the denominator. Doing so appears to remove the 1980s' rising leverage trend, as the post-1982 bull market swamps growing borrowing. But that is symptomatic of the problems caused by the sensitivity of this measure to the stock market; for example, debt-equity so defined jumped from about 55% to over 80% between August 25 and October 19, 1987! Almost all such indicators show rising indebtedness during the decade.

4. We used each year's reported dollar value of mergers and acquisitions, and the average percent premium paid over market in that year, to calculate annual dollar premiums. The fact that not all deals report a price may bias this estimate downward. But there may be an opposite bias as well: In general, premiums are known only for public companies purchased, and that is where the "average percent premium" comes from. We have applied that percentage to the equity values of all mergers, public and private. If it is applied only to the value of public acquisitions, the aggregate fees estimate is $238 billion. (The years covered are off by one-- 1980-89 for all mergers, and 1981-90 for public deals, due to data unavailability for the latter series.)

5. See, for example, Kaplan and Stein (1991). Some analysts have suggested that the flow of wealth to financial market participants in mergers represents transfers from various "stakeholders" in acquired companies-- especially employees and communities. Actually, this explanation could be consistent with either the efficiency or speculation categories of merger theories described in the text. We will return to this question in section 3.1, in considering the costs of mergers.

6. For favorable reviews of this literature, see Jensen and Ruback (1983) and Jarrell, Brickley, and Netter (1988).

7. According to this view, for example, the thrift and banking crises arose because policy distortions (deposit insurance) reduced the need for depositors and therefore bankers to balance the rewards of asset choices against their risks.

8. One such favorable review is Fama (1970). It should be noted that many of the econometric tests used to support market efficiency were of low statistical "power," meaning that the

efficiency hypothesis was quite likely to pass the test even if it was not true. See Zeckhauser, Patel and Hendricks (1991), pages 3 through 7, for a clear explanation of why this is so.

9. Although criticized on statistical grounds by efficient-markets supporters (for example, Kleidon, 1988), these studies continue to be influential.

10. Major studies are by Fama and French (1988) and Poterba and Summers (1988). A nontechnical review is contained in DeBondt and Thaler (1989). While long term mean reversion seems to be a much larger effect than short horizon positive autocorrelation, by their very nature there are not many long periods to work with, and therefore the statistical precision of these tests tends to be low.

11. While much of the growing debate over market efficiency has revolved around statistical issues, supporters of the efficiency hypothesis have countered with a variety of substantive responses to their critics. Probably the most central is the assertion that the apparently speculative swings in asset prices documented by critics are in fact driven by changes in the rates of return investors require, which are in turn tied to changing economic fundamentals. Recall that a security's price may be thought of as the discounted value of the stream of expected payments to which it gives claim. Rather than reflecting irrational expectations about future payments, price trends may instead indicate that the discount rate being applied to those payments is changing. According to efficient market defenders, shifts in investor discount rates rationally reflect the impact of technological development, or of basic (though unobservable) changes in investor preferences for present versus future consumption (Fama, 1991).

But, again, this line of reasoning is circular. To argue that swings in market prices must be a reflection of swings in unobservable but rational discount rates is simply to assume what needs to proven. Moreover, the idea that investor risk preference or time preference varies with broad macroeconomic conditions is perfectly consistent with theories of speculative bubbles. Speculative asset bubbles have often accompanied heated economic boom periods, as would be expected if overreaction and crowd sentiment color economic decision making.

12. More technically, efficiency requires that agents have conditionally correct subjective probability distributions over future economic outcomes.

13. Because these two are the largest studies of the actual impact of 1980s leveraged acquisitions, it is important to consider the source of their differences. Long and Ravenscraft's sample is larger, more carefully screened and constructed, and covers an additional year. Another likely cause of the conflicting results is the difference in the efficiency measures used. Lichtenberg and Siegel measure productivity by the unexplained variation (residual) in each plant's dollar output in a regression using the inputs as explanators. Two of the three inputs used-- plant capital stock and materials costs-- are unlikely to change much after a buyout. But their measure of the labor input is highly sensitive to how total wages and salaries are split between white and blue collar workers. The labor proxy declines when the portion of the payroll going to white collar employees declines. In fact, the white-to-blue collar ratio in total

compensation does drop significantly after the event for the buyout firms in their sample. So all else being equal, LBO plants' output residual will rise post-buyout. On the other hand, Long and Ravenscraft's efficiency measure is a "price-cost margin" ratio-- the values of shipments less total wages less materials, all over value of shipments. The straightforward labor compensation in this measure is not sensitive to the blue collar-white collar mix, and at least in that respect may be a more reliable efficiency indicator.

Another aspect of Lichtenberg and Siegel's results deserving scrutiny is the time pattern of the apparent productivity gains, which they find to be strongest for the later LBOs. What is puzzling is that the buyouts done later in the decade are the ones which have proven to be most subject to financial distress. Indeed, in Long and Ravenscraft's study the later LBOs showed sharper bidding competition, higher prices and premiums, and lower equity participation by top managers in the buyout entity. These characteristics seem more consistent with speculative fever, with a growing overpayment by eager outside investors, than with increasingly efficient managerial control of production costs.

14. For a selection from this rich literature, see Kahneman, Slovic, and Tversky (1982).

15.See Bluestone and Harrison, 1982, Chapter 3, for a discussion of the dimensions along which these costs should be measured.

16. We took Rosett's (1990) estimate of a $490 million real wealth loss to be the present value of a six-year annuity, at a real interest rate of six percent (the average difference between Baa bond rates and changes in the CPI over 1976-87). The implied annual loss is about $100 million in constant dollars, for a cumulative (undiscounted) loss of $600 million. This figure is adjusted upward to reflect his sample coverage of only 25% of the private unionized labor force, and the inclusion of only a fraction (we assumed 20%) of the total labor force in the unionized sector-- i.e., a sample coverage of roughly one twentieth of the labor force. The implied losses are then $12 billion rather than $600 million. We also present an estimate of half that, since the numbers are very rough, and mergers are not evenly distributed across the economy; they occur more frequently in manufacturing, where unions are disproportionately represented (hence a smaller coverage adjustment would be required).

17. Data is from the Board of Governors of the Federal Reserve System, Flow of Funds Accounts and from Pickering (1991). See also the relevant data in Henderson (1990, p. 17) and Kopke (1989, pps. 39 & 40). We do not mean to suggest that corporate investment should be exclusively financed through internal funds. The point is that sensible financing of the investment spending that took place in this period would have required only a small fraction of the corporate borrowing that in fact took place.

18. See also the estimates in Bernanke and Campbell (1988), Bernanke, Campbell and Whited (1990), Estrella (1990), Friedman (1990), Frydl (1990), Henderson (1990) and Ryding (1990). Bernanke and Campbell conclude that "all measures of interest expense [relative to cash flow] have risen significantly [in the 1980s]. The increase is particularly striking for real interest expense. Even at the median [of a large sample of public corporations] the current burden of real

interest payments has approximately quadrupled since the late 1970s" (1988, p.107). Bernanke, Campbell and Whited show that even in the buoyant cash flow years of 1987 and 1988, the "leverage of the most highly leveraged firms continued to increase ..." (1990, p. 258).

19. For example, Zeckhauser, Patel and Hendricks report that the:

> evidence suggests that corporate executives determining debt/equity ratios are strongly influenced by the choices of their peers within the industry. Three reasons may be posited: (1) decision makers gain information from what similar firms are doing; (2) they secure protection from criticism (including self-criticism); (3) participants on the other side of the market (such as lending institutions or the buyers of new issues) are engaging in herd behavior, thereby inducing observed clustering among participants on this side. (1991, p. 21.)

20. As noted by Gertler in a recent survey of financial theory:

> the MM theorem was attractive because it provided researchers with a rigorous
>
> justification for abstracting from the complications induced by financial considerations.
>
> For example, the developers of neoclassical investment theory (e.g. Hall and Jorgenson
>
> 1967) ... used the MM theorem as a convenient rationale for ignoring capital market
>
> considerations when solving the firm's intertemporal investment choice problems. For
>
> similar reasons, financial variables started disappearing from empirical investment
>
> equations. (1988, p. 565).

21. For a survey of New Keynesian theory, see Mankiw and Roemer (1991). The most influential Post Keynesian analysis of the influence of leverage on investment spending is that of Minsky (1975 and 1986).

22. The New Keynesian theory of credit markets is also discussed in the chapter written by Steve Fazzari in this volume.

23. See, for example, Myers and Majluf (1984) and Greenwald, Stiglitz and Weiss (1984).

24. Of course, excessive household leverage will also increase the likelihood of a financial crisis, and household leverage grew alongside corporate leverage in the "roaring 80s." From early 1983 through late 1990, the household debt to income ratio rose from 73% to 99% (Altig, Byrne and Samolyk, 1992, p. 3). The greater the level of indebtedness of economic units in general, the greater the probability that a decline in income flows will trigger a financial implosion.

25. Note that the NK reduced-form econometric studies surveyed below cannot distinguish between the magnitude of the NK supply of credit and the PK demand for credit effects of leverage on investment.

26. See Crotty (1991) for an analysis of conventional decision making and the characteristics of macrotheory under conditions of true uncertainty.

27.See Crotty (1991) for an analysis of conventional expectation and confidence formation and their relation to instability in the macro economy.

28. In an article entitled "Why Financial Structure Matters" Stiglitz made the following observation.

> [Neoclassical] theory drove the econometrics: financial structure variables were excluded [from econometric investment equations] because "economic theory" --that is, Modigliani and Miller -- said they should be excluded. Only recently, as a developing and substantial body of economic theory says once again that such variables should be included, have econometricians included [financial] variables again in their specifications of the causes of investment. And lo and behold, they appear to be significant! (1988, pp.121-22)

29. In a recent contribution to this debate on the alleged shortening of corporate horizons, Schleifer and Vishny (1990) argue that it is perfectly rational for enterprise managers to adopt short term planning horizons because: (1) the penalties to them of poor stock price performance outweigh the benefits of good stock price performance; and (2) arbitrage can correct inefficient market valuations of short term assets more quickly and completely that it can inefficient market valuations of long term assets. "This reasoning suggests that managers will choose short over long-term investment projects, since picking the latter allows their equity to be more mispriced in equilibrium, ceteris paribus, and threatens their jobs" (p. 151).

30. Hall (1990) also questions the general efficacy of the market for corporate control as an institution through which stockholders resolve their agency problems with management: "there is a strong feeling that long-term strategies are difficult to implement in an environment where managers fear losing their jobs or firms if they experience bad draws for a couple of years" (p. 33).

31. See also the related studies cited on page 3 of Long and Ravenscraft (1991).

32. See Fazzari (1992), Fazzari, Hubbard and Peterson (1988), Fazzari and Mott (1986-87) and Fazzari and Peterson (1992).

33.In a similar vein, Sharpe's recent econometric study concludes that "employment at firms with higher leverage is ... substantially and significantly more sensitive to demand-induced fluctuations in sales than employment at firms with lower leverage" (1991, abstract).

34. Details are available from the authors.