Uncertainty, competition, and speculative finance in the eighties

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The author is Assistant Professor of Economics, Allegheny College. This paper has benefitted from the suggestions of Paul Burkett, Tim Bushnell, Jim Crotty, Gary Dymski, Ilene Grabel, Bob Pollin, Marly Wolfson, and two anonymous reviewers from *The Journal of Economic Issues*. To Crotty I owe a special debt; his generous assistance and advice over many years have guided and shaped the line of inquiry contained herein. Responsibility remains, of course, my own.

Abstract:
The 1980s has been characterized by financial speculation that emerged as a result of lingering market uncertainty and stiff competition among market players. Such competition was, in turn, a result of technological innovations and a shrinking market for many industries. The dismantling of financial constraints contributed to the speculative activity which proved eventually disastrous because it was not geared towards socially productive activity.

*The dynamics of the financial system that lead to institutional change result from profit-seeking activities ... In this process innovation occurs ... transform(ing) the financial and economic system ... into one that (is) vulnerable to crises.*

--Hyman Minsky 1986

It is widely recognized that the last 25 years have witnessed sweeping changes and upheavals in financial markets and institutions. But there is a radical disjuncture in scholarly writing about these developments. Neoclassicals and many other mainstream economists have seen greater market efficiency in the growth of the speed, diversity, and sheer size of financial flows. They have tended to ascribe any accompanying crises or crisis tendencies to excessive and misguided regulation [see, for example, Miller 1986; Jensen 1988.]. On the other hand, others have looked at the same innovations as producing instability, or even speculation unhinged from real economic activity.
The critics have often attributed speculative destabilization to greed and ill-planned deregulation, although the more thoughtful have cited intrinsic evolutionary processes [Minsky 1977; Magdoff and Sweezy 1987; Galbraith 1993]. Recent work along these lines includes that by Carter [1989 1992], who examines the connections among technological change, economic uncertainty, and a number of recent financial innovations. Another series of investigations is by Wolfson [1986, 1990], focusing mainly on the banking industry's regulatory and competitive environment.

Here I present a view of recent financial change as a speculative, destabilizing process, with special theoretical attention to the actors' decision-making environment. I will trace the origins of the late 1970s and 1980s speculative episodes to competitive pressures dating from earlier developments in the financial markets. I attempt to complement the above sources with a broad historical and institutional sweep, and most importantly with a much closer look at the micro-environment of financial decision making--how, at the most basic level, we are to envisage economic agents whose actions are not only socially irrational, but self-destructive as well. I argue that explaining this behavior requires a theoretical focus on the nature and effects of competition. Competition in turn cannot be understood without recognizing that choice is uncertain, is guided by socially constructed conventions, and may be irreversible. These concepts are built around Keynesian notions of uncertainty and Marxian and Schumpeterian ideas of competition and innovation.

The theoretical framework is then applied to the emergence of speculative pressures in the 1960s and 1970s, especially the dynamics among the major segments of the financial sector (commercial banks, investment banks, and institutional investors). These changes occurred in the context of worsening performance in the real sector of the U.S. economy. With stable, long-term real sector ties disrupted by economic decline and bruising financial sector competition, financial institutions undertook a series of high-risk plunges--into Less Developed Country debt, the oilpatch, mergers, and commercial real estate. These episodes are described, with a focus on how they emerged from the pressures already recounted. I conclude by examining some implications for future research. The paper's emphasis will lie on developing a coherent and persuasive story rather than on critiquing the neoclassical account; the conventional framework is well known, and my chief aim is to specify the elements of an alternative. In addition, despite the importance of regulation and deregulation in shaping these events, I focus instead on the market dynamics that (as I will argue) created turbulence in and of
themselves.

**Uncertainty and Competition in the Financial Markets**

*We find ourselves compelled to strive after things which in a "calm, cool hour" we admit we do not want* [Frank Knight 1921].

Everyone agrees that we inhabit a changing and sometimes tumultuous world. What is at issue in contending analyses of financial market evolution is not whether actors in those markets are faced with unsettling and unpredictable events, but whether they may respond systematically in ways that intensify and even create upheaval. Within the neoclassical framework they do not; borrowers and lenders make the best possible use of the best available information, and at any point in time create portfolio balances and financial flows that are optimal in an ex ante sense. Because that framework has so dominated discussions of recent financial history, it would be well to devote a few words to it here.

The starting point of the mainstream approach is the "efficient market hypothesis," or EMH [Roberts 1967]. Whether asset prices reflect investor expectations based on all relevant information (the "strong" form), or only impound all publicly available information (the "semistrong" form), given the information set pricing is said to be unbiased. Lenders' claims on borrowers' future cash flows, while not certain, are seen as characterizable by known probability distributions, whose expected values anchor asset prices. Some specific pricing model is required to operationalize the EMH. In the dominant one, the Capital Asset Pricing Model,(1) investors are "mean-variance optimizers"; given the risk (identical with variability), they maximize expected return, or equivalently minimize risk given expected return [Sharpe 1964; Lintner 1965]. Each security's expected contribution (and sensitivity) to the return variability of an optimal portfolio of risky assets is defined as its "beta." Beta in turn determines the multiple of the optimal portfolio's risk premium contained in the discount rate applied to that security's expected payouts (the claims against borrowers' cash flows). Thus, in general equilibrium, prices are said to reflect fully all (or all publicly) available information that is relevant to risk and expected return.

Given this reduction of investors' uncertainty to probabilistic risk, a neoclassical view of financial market competition follows. Potentially lucrative opportunities in providing services stimulate innovation, giving borrowers more financing alternatives and investors greater scope for satisfying expected risk-return preferences. In addition, in EMH terms, securities prices are "fair": Prices are based on commonly
held expectations of risk and return, and neither borrowers nor any other financial service users need pay rents for access to those services. Thus, neoclassical competition encourages financial innovation and increases market efficiency the same time. Lenders do not take on uncompensated risk, nor do borrowers incur debts without fully taking into account the factors affecting their serviceability. Because there exists some future state of the world--which serves as an expectational center of gravity, rather than itself changing in response to expectations--individual actors will tend to converge upon a shared, probabilistically unbiased understanding of fundamental factors through learning and attrition. Within this framework, then, one must search outside the workings of the financial markets themselves for the sources of instability. Regulation, seen as government interference with the efficient operation of market signals, is viewed as the primary culprit.

But non-neoclassical economists, observing a long history of financial instability that seems to fit the regulation-as-bogey thesis poorly, have looked for intrinsic roots of financial crisis. Because these financial theorists have generally focused on the impossibility of reducing uncertainty to probabilistic risk, and because the problem of the informational environment is so fundamental, I will start there [see Dymski 1990 for a related discussion]. What has been less appreciated is the centrality of concepts of competition to understanding financial instability--to which I will return.

The best-known articulation of the nature of uncertainty comes out of the Keynesian tradition. Keynes took issue with his predecessors and contemporaries, for whom ". . . at any given time facts and expectations were assumed to be given in a definite and calculable form; and risks . . . were supposed to be capable of an exact actuarial computation." According to Keynes, concerning future economic events ". . . there is no scientific basis on which to form any calculable probability whatever. We simply do not know" [Keynes 1937, 212-214]. Partly underlying this non-probabilistic notion of uncertainty is the fact that unlike throws of dice, each economic event is unique in its interrelationship with an ever-changing environment [Shackle 1952, chap. 1]. The future's unknowability is also due to the effects that today's actions, taken under the shadow of uncertainty, have on tomorrow's outcomes: Future states of the world are not given, but are themselves partly functions of the guesses about them currently being made. Because economic choices are not repeatable, and expectations both reflect and affect the future in unpredictable ways, economic agents cannot converge to an understanding of some "true" model of the world.(2)
The implications for financial pricing are stark. In Keynes [1936, chap. 12] discussion of the stock market, whether investors are well or poorly informed, acting for the long term or to outguess the crowd, pricing is intrinsically speculative. But this speculation is neither "rational" (unbiased) nor "irrational" (wrong), as these terms are used in neoclassical parlance; true fundamental asset values in that sense simply cannot exist because of the nature of knowledge and knowing. Under these circumstances, investors rely on "convention" to order their decision making [Keynes 1936, 152]: "The essence of this convention ... lies in assuming that the existing state of affairs will continue indefinitely, except in so far as we have specific reasons to expect a change." At any time, convention provides a lens through which information is filtered: What variables are seen as relevant to asset prices, and how are those variables to be interpreted?

One need not take this to mean that the financial markets are always and everywhere just a wild casino. Embedded in this process at any point in time is a view of the "fundamentals" underlying prospects for individual assets and the economy. Indeed, investor activity aimed at ferreting out information, and anticipating its effect on prices, is constant and intense. But what is seen as the fundamentals changes in ways that are not uniquely related to given economic conditions. The fundamentals are a social construct. They evolve through the interaction of convention, information-gathering, market activity, investor psychology, and economic events.

In "normal times" [Keynes 1936, chap. 12], the convention that has governed behavior in the recent past seems unproblematical and can actually lend a degree of stability to markets. At other times, existing convention may be shattered by events, or opposing conventional views of the fundamentals may be contending. Keynes used the term "confidence" to describe the broadly prevailing degree of belief that decision makers attach to their expectations about the future. Uncertainty means that investor confidence may fall away precipitously in periods of economic turbulence. Thus, "... a practical theory of the future based on [convention] has certain marked characteristics. In particular, being based on so flimsy a foundation, it is subject to sudden and violent changes" [Keynes 1937, 214-215]. It is this quality of Keynes's framework that suits it admirably for analyzing a period of tumultuous financial change. Financial markets may be unstable, and their participants' actions and shifting standards may exacerbate instability. With "conventional decision making" under true uncertainty, expectations tend to be "endogenous" [Crotty 1993a]--they feed back upon themselves through their effect on unfolding market events. For example, Minsky [1977] has used this kind of
framework to describe the progressively rosier outlook and riskier behavior of financial market participants during a boom period, leading ultimately to unsupportable commitments and a bust.

But Minsky's theory of the evolution of financial fragility is indicative of questions left unanswered, even when uncertainty and endogenous expectations have been accounted for. The historical record of past financial disasters is freely available to market participants. Why, then, do they continually plunge into assets and activities involving risks that are poorly considered or understood, participating in new boom-and-bust cycles in which many will suffer losses, or even extinction? What needs to be incorporated is an understanding of the competition driving them. There are many possible routes to take here; I will focus on notions of competition in Marx and Schumpeter, and some major interpreters of each. While differences in their treatments abound, here the emphasis is on points of similarity.

Competition under uncertainty can create instability. For Marx, at bottom, this is because competition is intrinsically "anarchic." Goaded by the search for profits(3) and the pressure of competitors, and linked in effect but not in action, firms make choices whose aggregate result may be incoherence: "... The most complete anarchy reigns among the ... capitalists themselves, ... and within this anarchy the social interconnection of production prevails over individual caprice only as an overwhelming natural law" [Marx 1894, 1021]. In this framework, there is no auctioneered equilibrium price vector to pre-coordinate economic activity.

While competition may generate instability for this reason in Schumpeter as well, for him the nature of innovation is the key dynamic. Economic development occurs only because some entrepreneurial firms compete by creating new channels in the flow of economic life. And innovation exacerbates the uncertainties attendant on time-involving decisions:

... [O]utside accustomed channels the individual is without those data for his decisions and those rules for his conduct which are usually very accurately known to him within them.... many things must remain uncertain, still others are only ascertainable within wide limits, some can perhaps only be "guessed." In particular this is true of those data which the individual strives to alter and of those which he wants to create [Schumpeter 1934, 84-85].

As a result, in the Schumpeterian tradition, change does not occur along an equilibrium path. "It is ... [a] fact of life that ... profits from
successful innovation are disequilibrium phenomena ... And it is also a fact of life that the success of innovation is very hard to predict. . ." [Nelson and Winter 1982, 28].

Although both the Schumpeterian and Marxian literatures focus on industrial change, the analogy to finance is straightforward. After all, "the banker . . . is not so much primarily a middleman in the commodity 'purchasing power' as a producer of this commodity ... He has either replaced private capitalists [in the provision of funds] or become their agent; he has himself become the capitalist par excellence" [Schumpeter 1934, 74]. Like industrial firms, financial ones ("bankers") compete in crucial respects by innovating services and by creating and/or trading innovative assets. And their individual actions may add up to market instability. Indeed, for Marx, with the growing sophistication of financial markets, "... the credit system appears as the principal lever of overproduction and excessive speculation. . ." [Marx, 1894, 572].

Whether for industry or finance, however, the description thus far of competition under uncertainty is incomplete. Changes in the environment within which competition occurs may affect the harshness of competitive pressures and the business behaviors to which they give rise. Conditioned by the fundamental uncertainty faced by the actors, by the possible irreversibility of their investment choices, and by the ensuing problem of firm survival, competition may shift into a mode that "coerces" heavy misktaking on new kinds of investments [Crotty 1993b].

In one important scenario, it is severe threats to profitability during downturns that make innovative investment a matter of survival. The possibilities confronting firms so threatened are to fail, "... if they are unadaptable"; to "... take in sail and try to survive"; or "... to adopt other technical or commercial methods which amount to extending production at lower cost per unit" [Schumpeter 1934, 242]. For Marx, the capitalist's only alternative to competitive extinction under these conditions is "... to reduce the individual value of his total product below its general value by employing new machinery, new and improved methods of labor and new forms of combination" [Marx, 1894, 363]. Here again the analogy with finance is quite close. Marx emphasizes that profitability may be restored by capitalists adopting cost-cutting new physical capital (boosting the numerator of a profitability ratio), which systemically induces the "slaughter" of now-obsolete capital values (reducing the denominator). In periods of stress and change, new high-expected return assets are added to financial institutions' balance sheets, while assets from the prior boom
are devalued or written off. With ". . . a shift from a fraternal to a more unrestrictedly and anarchically fratricidal regime . . . competition can coerce' firms into [cost-cutting] investing in the face of declining profits and increasing indebtedness . . ." [Crotty 1993b, 3].

Coercive financial investment may emerge also in a second important context--during expansions. Cyclical booms often induce institutions to take risks--frequently involving new and untested assets or practices--that would have appeared unthinkable in other conditions. The pressure here flows from the fear of losing relative position in a growing market, or of being frozen out of a new one. A key mechanism is an "asymmetric reward structure" [Crotty 1989]: During the boom phase of a financial cycle, the loser is the conservative financial manager--perhaps "a student of financial history"--who suffers quick career reversals when "more aggressive and more historically naive managers at competitive banks begin to suck in deposits, pump out high-yielding loans in massive volume, and take their banks to new levels of growth and profitability. . . . (R)eluctant managers will be replaced by more aggressive ones and all parties will find solace in the fact that since the entire industry has switched to a more aggressive strategy, it must be sensible to do so" [Crotty 1989; see also Keynes 1936, chap. 12]. But when boom leads to bust, the loser--who embraced a riskier conventional wisdom that ultimately led everyone to disaster--will not be singled out for reprisal.

In tandem with the role of conventional views of fundamentals in decision making, and with the tendency of expectations to interact endogenously with outcomes, the foregoing offers an explanation of "herd" behavior in financial markets that is based on uncertainty, not simply on irrationality. Although no illiquid physical assets are involved, investment decisions may be irreversible. Not getting on the right bandwagon will result in forfeited profits and market share, and getting on the wrong one will generate capital losses and payment obligations built on a boom-time asset price structure.(4) Fearing to be buried by the shifting sands of market movements, investors follow the herd in financial bubbles, the more confidently as the stampede gathers speed. They are coerced by the dynamics of uncertain competition.

In summary, the character of investment and innovation in this understanding of competition is rooted in uncertainty. Both in crisis and boom periods, prior conventional wisdom may collapse due to the manifest impossibility of using the recent past as a guide to the future. Market participants will move in accordance with new constructs of "the fundamentals" as these emerge. Because those who reach
solutions and achieve market share first may preclude others from doing so, the more severe is competition, the less possible it becomes to wait for more information before acting. Thus, decision makers facing great pressures to act, but with truly uncertain prospects, will tend to move as a herd. Needing to rely upon social views of the fundamentals, "...the professional investor is forced to concern himself with the anticipation of impending changes, in the news or in the atmosphere, of the kind by which experience shows that the mass psychology of the market is most influenced" [Keynes 1936, 155]. High-risk investment behavior may be rapidly and widely adopted as fundamentally sound.

In Marx and Schumpeter, coercive investment is a cyclical phenomenon. But this dynamic may appear secularly as well. In the following sections, I argue that a coercive secular trend emerged first in the seventies, with a growing crisis of profitability and survival throughout the financial markets. A pattern of risk-taking, innovative behavior began to emerge in response, and then—with competition unabated—burst forth in a series of high-risk, speculative plunges during the booms of the late 1970s and 1980s. I move now to examine through the foregoing theoretical lens the financial market evolution leading up to these episodes.

**The Changing Financial Markets**

*How do you stick to your credit culture when temptation's right under your nose?... (T)he competition's fierce* [Chemical Bank Advertisement].

The environment within which financial institutions operate underwent profound changes after the 1950s. Rising inflation and interest rate volatility turned the banks' regulatory strictures into a tightening vise, and growing streams of institutionalized saving—along with emerging data-transfer technologies—opened new financing outlets for corporations. This heightened competition led banks into riskier lending. More generally, financial institutions old and new began to fight harder for turf and profitability. Commercial banks, investment banks, and institutional investors moved in common toward a high-risk culture based on rapid shuffling of assets, on transactions rather than on long-term relationships. In this section, I examine this trend toward coercive competition in the financial markets, which occurred in the context of deteriorating real sector conditions from the late 1960s onward. Together, they set the stage for the rapid innovation and speculative plunges of the late seventies and the eighties.

Commercial banks in the post-World War II financial intermediation
network specialized in assessing the creditworthiness of corporate borrowers over time, in a stable and regulated deposit rate environment that kept the cost of funds low and predictable. In the second half of the 1960s, rising inflation and interest rates began to disturb this status quo by reducing banks' ability to attract deposits. The banks responded by finding or creating innovative funding sources (CDs, federal funds, and Euromarket borrowings, for example) and by beginning a long push for deregulation. Yet in the aggregate, both deposit rate deregulation and competition for purchased funds would end up contributing to rising costliness on the liability side and a secular profit squeeze [Friedman 1980; Sametz 1984].

The pressures that impinged on the banks' ability to attract deposits also caused difficulties in their traditional asset areas, by encouraging the emergence of new currents in the flow of funds. Here it is necessary to examine the rise of institutional investors-broadly identified by their pooling of individuals' investments into portfolios that are professionally managed.(5) Insurance companies were the largest of the institutional investors through the 1950s, but were overtaken in total assets by the mushrooming pension funds in 1965. These two institutionalized savings outlets grew with evolving social dynamics: A postwar political-economic consensus rested in part on incomes that for a growing number of Americans permitted significant saving, and on some degree of employer-provided retirement security for workers in important sectors of the U.S. economy. Mutual funds were a third important savings outlet. Their rise reflected the search for alternatives to bank saving as inflation rose, as well as the new electronic technologies of securities trading. The mutual funds' first period of explosive growth was the stock market boom of the late 1960s. Fund assets at year-end 1966 totalled just under $35 billion, spread among 182 mutual funds; by the end of 1972, 410 funds held almost $60 billion in assets [Investment Company Institute 1990].

By the late seventies, institutions held imposing shares of outstanding external corporate finance-close to 40 percent of equities, with life insurance companies and pension and mutual funds alone holding almost one-fourth of total equity and credit market debt [Goldstein 1991, chap. 3]. But the new financial technologies were available to others as well, including corporate treasurers. For the banks, the first consequences appeared with the rise of the commercial paper market. The volume of these short-term instruments sold by firms on the open money markets--with institutional investors as major purchasers--swelled rapidly during the 1960s. The first major borrowers were the nonbank financial companies.(6) But in response to bank lending squeezes in 1966 and 1969-70, generated by deposit outflows as
market rates rose above regulatory limits, nonfinancial firms also began to dip deeply into the commercial paper market. The price of open market borrowing had long been lower than that of bank debt, but firms bad hesitated to disrupt the long-standing bank relationships on which they bad depended. Once pushed into the commercial paper channels by the bankers themselves, corporate borrowers stayed there [Judd 1979].

These expanding horizons for corporate borrowers translated into a competitive tightening in the banks' traditional bread-and-butter profit source--the commercial and industrial (C&I) portion of the short-term business credit market. Table 1 shows that the banks progressively lost borrowers to the commercial paper market: C&I loans as a portion of short-term corporate finance fell steadily from the 1960s onward. This slippage was especially marked for the large banks. The last column of Table 1 shows the sharper decline for the banks with assets of at least $1.4 billion in 1982 dollars. Data collected by the New York Fed [Estrella 1986] indicates that the 10 largest New York banks, holding almost 30 percent of banking system assets, suffered a still more disastrous loss. Their share of the short-term corporate market fell from 19.2 percent in 1973 to 11.7 percent in 1984. These banks' corporate customers, traditionally the largest and most creditworthy, were precisely the issuers who made increasing use of the commercial paper market.

Table 1. Banks and Nonfinancial Corporate Financing (Percent of Short-term Credit)

<table>
<thead>
<tr>
<th>Years</th>
<th>Commercial Paper</th>
<th>Commercial and Industrial Loans</th>
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</thead>
<tbody>
<tr>
<td>1956-60</td>
<td>1.3</td>
<td>105.7</td>
</tr>
<tr>
<td>1961-65</td>
<td>1.9</td>
<td>98.4</td>
</tr>
<tr>
<td>1966-70</td>
<td>3.9</td>
<td>94.6</td>
</tr>
<tr>
<td>1971-75</td>
<td>5.2</td>
<td>91.0</td>
</tr>
<tr>
<td>1976-80</td>
<td>7.0</td>
<td>88.8</td>
</tr>
<tr>
<td>1981-85</td>
<td>10.0</td>
<td>79.7</td>
</tr>
</tbody>
</table>

Sources: Board of Governors, Federal Reserve System, Flow of Funds Accounts and Annual Statistical Digest [various years]. Notes: Large banks have assets of at least $1.4 billion (1982 dollars). All short-term credit for the nonfinancial corporate sector includes commercial and industrial bank loans, commercial paper, and bankers' acceptances. But a small percentage of C&I loans are outside the nonfinancial corporate sector, so in the early years C&I may total more than nonfinancial corporate short-term credit.

The banks' loss of share in their core business had two results. First, pushed by liabilities costs and pulled by market share erosion in assets, the banks sought to maintain profit margins by higher-risk, higher-return lending. During the 1970s, this search increasingly led to the less developed countries and to prime C&I customers' replacement
by riskier ones, especially in mining and oil and gas [Estrella 1986]. Eventually the quest for profit and risk led as well to the 1980s lending for "highly leveraged transactions," or corporate restructurings, as well as to a deep plunge into commercial real estate. All of these gambles on high-risk lending will be examined in this paper. The second result of the banks' profit squeeze was, especially for the biggest, a search for nonlending sources of earnings. This trend was to intensify in the 1980s as the banks sought advisory roles in mergers and acquisitions. These and similar profit opportunities deemphasized the banks' historical focus on the ongoing evaluation of borrowers' credit risk.

Thus did technical, institutional, and market change awaken the dynamics of coercive competition in banking in the 1970s. Bankers were forced to adopt standards and practices that would have been unacceptable under old ways of understanding banking fundamentals. As riskier borrowers and practices found their way into the banking repertoire, the bases of conventional decision making shifted. When the sky did not (immediately) fall in, risky innovation intensified in a process of endogenous self-reinforcement.

By the time commercial bankers began moving into M&A for lending and other income, the investment banks that had long dominated that turf were also feeling the effects of tightening financial market competition—especially from private securities placement and shelf registration. Up through the mid-1970s, standard securities underwriting was the main (and highly profitable) income generator for investment bankers. But by the end of the decade, corporate treasurers had the option of having the investment bankers place their securities privately with institutional fund managers, thus reducing underwriting fees in comparison with public issues. Worse, over time it became increasingly common for private issues to be placed directly with purchasers by issuers, bypassing entirely the investment houses as underwriters. In addition to causing direct fee losses, private and direct placements exerted pressure on underwriting spreads—the difference between the final price and that paid by the underwriter to the issuer—for standard public securities.(7)

Shelf registration of securities also squeezed underwriting profits. In a volatile inflationary and interest rate environment, issuer losses often resulted from the lengthy Securities and Exchange Commission (SEC) filing, prospectus, and waiting period required until 1978. A series of partial relaxations of the registration process culminated in 1982 with SEC Rule 415. Under Rule 415, a large block of securities could be placed "on the shelf" to be underwritten and sold piecemeal over a two-year period. Potential underwriters had to move fast and
aggressively to secure the business at each partial sale. Thus, shelf registration represented de facto competitive underwriting bidding, rather than the old system of privately negotiated arrangements dominated by the best-heeled investment banks. The result again was lower spreads: The average gross underwriting spread fell from 2.07 percent in 1981 to 1.69 percent in 1985 [Brooks 1987, 122].

Both shelf registration and private and direct placements heightened the risks involved in securities issuance. Shelf registration increased the underwriters' uncertainty by requiring them to purchase securities before a sale had been arranged. It additionally lessened the investment banker's ability to become acquainted with and vouch for the prospects of the issue and possibly the issuer as well. Thus, the ultimate buyer's assessment task was also complicated, a problem that was compounded by the shorter prospectus permitted under Rule 415. This effect mirrored that with private and direct placements, whose popularity with issuers reflected their sharply reduced disclosure requirements. The "sophisticated" institutional buyers of these issues were assumed to be able to assess credit risks on their own. Their willingness to do so reflected the higher rewards of these private issues, which called much greater levels of risk and expected return than standard ones [White 19921.

Because shelf registration and private and direct placements loosened investment bankers' ongoing relationships with clients, they contributed to a more general process that saw the investment banks, like the commercial banks, pushed by competition into a mode with greater risk taking and reliance on one-time transactions in their profit-making activity. By the early 1980s, underwriting had been joined by securities trading and M&A as mutually supporting, requisite elements of investing one-time corporate restructuring transactions became a critical source of fees (and sometimes higher-spread issues). But often the way to this business was paved by underwriting relationships. And access to underwriting increasingly depended on maintaining massive trading operations. Trading, which by the mid-eighties accounted for about half of the big investment banks' revenues [Brooks 1987, chap. 51, gave them a feel for the market and contact with institutional investors. The institutions' participation was necessary for successful underwriting and, often, even restructuring deals. Again, changes in standards and practices began to emerge under the pressure of intensifying competition.

As has become clear, by the late 1970s the presence and pressure of the institutional investors pervaded the financial markets. In addition to forcing change to occur by opening up new channels in the flow of
funds, the institutions had peculiar characteristics that helped set the
direction of that change. Great diversification and volatile turnover--
implicated, as just noted, in changing patterns of investment banking--
came to characterize professionally managed institutional portfolios.
Table 2 shows that in the stock market, institutional turnover tended
to rise sharply when the market rose, and then to fall during bear
markets. During the generally high-priced stock years 1966-73,
institutional turnover rates exceeded the overall market's; when stocks
languished during 1974-79, the pattern reversed. And with stock
prices beginning to recover in 1980-81, institutional share turnover
again jumped ahead of the market average. While the SEC
discontinued the relevant data series' midway through 1981, the
1982-87 explosion in market turnover and continued rise in block
trading--characteristic of the institutions--attest to the institutional
investors' spectacular trading activity in the mid-eighties bull market.

<table>
<thead>
<tr>
<th>Years (Cycle Phase)</th>
<th>Institutions' Turnover Rate</th>
<th>Market Turnover Rate</th>
<th>Block Trades in NYSE Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966-73 (Rising)</td>
<td>27.3</td>
<td>23.9</td>
<td>13.1</td>
</tr>
<tr>
<td>1974-79 (Stagnant)</td>
<td>23.1</td>
<td>25.0</td>
<td>20.5</td>
</tr>
<tr>
<td>1980-81 (Rising)</td>
<td>41.7</td>
<td>39.0</td>
<td>30.5</td>
</tr>
<tr>
<td>1982-87 (Rising)</td>
<td>N.A.</td>
<td>70.4</td>
<td>48.2</td>
</tr>
</tbody>
</table>

**Sources:** Securities and Exchange Commission, Monthly Statistical Review; Board of Governors of the Federal Reserve System, Flow of Funds Accounts; NYSE Fact Book [various years].

**Notes:** Institutions are pension funds, insurance companies, mutual funds, bank trust departments, and savings institutions. Institutions' turnover rate is sales over holdings (start- and end-of-year averaged); data ends after the second quarter of 1981. Market turnover is sales on all exchanges over year-average holdings. Block trades are for 10,000 shares or more. Market cycles are characterized using monthly data for the Standard Poor's 500 Index.

Did the evolution of this portfolio behavior reflect competitive
pressures similar to those affecting the commercial and investment
banks? While diversification can be understood as risk-reduction, high
turnover would seem to indicate that portfolio managers do not believe
that market prices already impound all available information relevant
to returns [see the survey by Strong 1987]. Portfolio shuffling only
makes sense if what is perceived as new information is thought to be
not yet available to other investors, and hence to be exploitable by
rapid trading. If portfolio managers and their institutional employers
believe that profit opportunities exist in the market, and if
performance is evaluated often ["Will Money Managers Wreck the
Econo" 1984], then competition will force managers to trade frequently, since new information arises constantly. This trading preference will be volatile if the kind of "asymmetric reward structure" discussed earlier holds: When everyone is winning, the penalties of failure are severe, and money managers will trade harder and faster looking for winners; but when everyone is losing, no one will be penalized for performance that is similarly poor, and the incentive to churn diminishes.

The institutional investors' high portfolio turnover may also be interpreted as mirroring the commercial and investment banks' increased reliance on one-time transactions for income, rather than on extended holding of assets or relationships with their issuers. Like the banks' trend toward riskier and higher return assets, rapid turnover along with great diversification raised the possibility of declining concern with the underlying corporate issuer's longer-term solvency, and of heightened appetite for asset risk and return. One small example of this shift is a survey reported in Institutional Investor magazine [Gropper 1982]. Half of pension fund managers polled report having significantly raised the expected returns built into their funding and performance projections. The author notes that behind this seemingly innocuous change lies a real gamble on rates. The dangers are potential underfunding and the possible need to "roll the dice with the portfolio" to stay on track.

This riskier approach to pension funding highlights the fact that financial market change was occurring not in an economic vacuum, but in the context of deepening real sector problems. With profits falling during the 1970s, a growing number of firms came to re-think their pension funds as integral components of overall financial strategy, rather than as separable and related only to the provision of retiree benefits [Friedman 1983]. Pressure on profitability could be relieved by reducing the amount of pension contributions, and such reductions could be achieved by increasing the expected rate of return on investment built into funding calculations [Lowenstein 1990; Ghilarducci 1992].

Indeed, the years around 1965 can be identified as the beginning of a secular worsening in the competitive environment and performance of U.S. firms. This shift indicated rising competition from foreign producers, at first Japanese and European [Esposito and Esposito 1971; Lipsey and Kravis 1986]. In addition, domestic conditions during the 1960s, including tight labor markets and a widening social safety net, may have changed the relative strengths of business and labor in favor of the latter. By the decade's end, recessions had lost their effect
in restoring profitability by reducing unit labor costs [Bowles, Gordon, and Weisskopf 1984]. Reflecting all of these strains, the profit rate for the nonfinancial corporate sector ratcheted down steadily (measured peak-to-peak or trough-to-trough) after 1965.(8)

This secular decline contributed to the erosion of financial investors' confidence in the future of the nonfinancial business sector, in turn shaping their response to the tightening competitive environment in the financial markets. Real sector decline contributed to the shift away from looking toward long-term relations with corporate borrowers or securities issuers as the chief source of financial profits. Instead, financial market players became more and more focused on short-term financial activity for its own sake—on the gains from one-time trades and other transactions. This shift to a transactions-based rather than relationships-based financial culture occurred throughout the markets: Commercial banks moved toward non-lending income sources, investment banks left behind traditional underwriting ties for trading and M&A, and institutional investors became rapid-turnover traders of highly diversified portfolios. Given the intensifying financial competition, this transactions mode also entailed a movement out the risk-return spectrum. This movement in turn implied the evolution of a new set of conventions regarding the fundamentals of risk and return—a belief that past criteria for judging long-term solvency either no longer applied or had become relatively less important.(9)

These evolving economic, institutional, and cultural realities set the stage for the boom-time coercive competition and investment of the eighties. Financial institutions were primed to behave in ways that at earlier junctures would have been rejected, and that ultimately brought many of them to grief. Notable examples of these speculative plunges are examined in the next section.

The Speculative Boom

*The competition for new business continued until some big American banks were forced to discover the independent oil-and-gas business . . . alert bankers sensed that the standards for oil-and-gas lending could use some modification... Leverage vertigo was at work ...* [Singer 1985].

Each of the major financial institutions-commercial banks, investment banks, and the various institutional investors-participated in the emergence of the speculative boom of the eighties. Each utilized innovative financial instruments or practices, or old ones in new ways; and each bet heavily in one or more of several main lending areas. Yet the underlying dynamics were remarkably similar. The following
discussion begins with the major lending booms-less-developed countries (LDC's), the oil and gas industry, corporate restructuring, and commercial real estate.

Orthodox theory has mainly viewed the LDC debt crisis as having emerged in two stages-first, an increase in financial flows to LDC's to create ex ante optimal international portfolio balances; and then a series of adverse exogenous shocks. This view mirrors the conventional wisdom constructed in the financial markets, as after 1973 Western banks flush with petrodollar deposits but under growing asset-side pressures rushed to push more loans on LDC borrowers. Both views of fundamentals posited that "international investors . . ." bad ". . . too little Latin American paper in their portfolios; by the late 1970s this situation had been largely corrected . . ." [Diaz-Alejandro 1984, 348]; on the debtors' side, ". . . the developing countries have not borrowed enough on a global basis, as judged by comparative rates of return . . ." [Aliber 1981, 514]. What this account ignored is the fact that many of these countries had already become heavily indebted during the 1960s. Indeed, by 1969 the World Bank's Pearson Commission noted that LDC debt service was close to 90 percent of gross new lending and predicted that this portion would reach 100 percent by 1977 [Payer 1985].

The bubble inflated by another decade's frantic lending competition burst in 1982 when Mexico's debt servicing capacity was extinguished by a sharp drop in the price of oil. By then Mexico owed $24.9 billion to U.S. banks, including $13.4 billion to the nine largest (equal to half of their combined capital). As the crisis matured, the U.S. banks were forced to set aside huge additions to reserves to cover losses to principal, and typical Latin American loans fell to 60-75 percent of face value [Witcher and Schmitt 1986].

The bursting of the energy price bubble of the late seventies and early eighties turned another competitive banking plunge into disaster-oil and gas loans. Oilpatch lending had gradually heated up following the first OPEC embargo, with its resulting price rises. Commercial banks compensated for the 1970s loss of prime corporate customers by substituting riskier oil and gas loans in their portfolios. This lending ballooned between the second (1979) oil shock and 1982. Between the start of 1977 and the end of 1982, the share of mining loans (the most disaggregated category that includes oil and gas) in the banks' commercial and industrial books rose from 11 percent to 19 percent [Estrella 1986]. Much of this new debt was pyramided on top of limited-partnership capital that poured into the oil fields as the energy bubble swelled.
The run against Penn Square of Oklahoma City began in April 1982, and it was closed by regulators in July. The potential for spillover was enormous. First, Penn Square had made aggressive use of innovative brokered deposits, which channelled institutional funds to the highest-rate "umbo" (more than $100,000, hence uninsured) Certificates of Deposit. Prospective losers included 140 credit unions with an uninsured $107 million at Penn Square. Far more serious, the bank had originated more than $2 billion in loan participations, which involved other margin-hungry banks in the initiator's deals. As these syndications grew, participants' information and concern about the underlying credit risks shrank. Giant East and West Coast banks loaded up on these assets with only the imprimatur of a respected Midwestern cousin: "If Continental is involved ... it must be right." Continental Illinois, in turn, was responding to the seventies competition with a "bold new strategy--`Book loans, sell money'"--a strategy exploited by the energy and lending promoters clustered around Penn Square [Singer 1985, 56-7]. Continental was into Penn Square-led participations for $1.1 billion, Seafirst for $400 million, and 42 other banks for another $600 million. Both Seafirst and Continental Illinois unravelled quickly [Wolfson 1986].

By the time the bottom had fallen out of LDC and oilpatch lending, mergers had become a crucial source of high-risk, high-return activity for investment and commercial bankers and for institutional investors. Banks were major merger lenders throughout the eighties restructuring boom. Conventional merger credit and collateral standards were broken down quickly [Bianco 1986], in part by the emergence of high-yield ("junk") bonds. During the late 1970s and early 1980s, Michael Milken at Drexel Bumham--desperate to crash the top investment bankers' club--transformed a small collection of "fallen angels" (prior issues of financially distressed companies) into a massive new-issues market. This innovation was based on Milken's recognition of the potential demand among institutional investors, reaching for higher returns and willing to accept new interpretations of the risks involved. The junk market took off in 1983, partly due to its novel use in funding leveraged buyouts (LBOs). At first these "going private" transactions aimed at streamlining and focusing target firms; later their astronomical returns attracted a huge flow of speculative institutional capital [Crotty and Goldstein 1993], which--like in oil and gas-served as a springboard for massive borrowing. Meanwhile, investors ignored an accelerating imbalance between new buyout debt and cash flow to service it [Wigmore 1990]. Most of the junk markees $200 billion 1988 peak was held by institutional investors and S&Ls ["Shaken and Stirred" October 1989]1; plunging in junk by a relative
few thrifts and insurance companies was symptomatic of the dynamics that shook both industries by the decade's end.

On the underwriting side, junk's allure lay in the access it provided to M&A business, the extremely high underwriting fees for Drexel, and capital gains from insider investing by Drexel itself and its top employees. For these reasons, junk bonds induced a powerful competitive response from the bankers whom Drexel had outmaneuvered and outpaced in creating this market. Main line investment banks countered with "merchant banking"-merger bridge loans, intended to be replaced within a few months (usually by junk bond issues); and major equity and/or debt investment, with an eye toward cashing out within a few years ["Roundtable: How Wall Street is Expanding in Merebant Banking" 1988]. Commercial banks also quickly tried to capture some of this business. Citicorp, Bankers Trust, and Manufacturers Hanover pioneered what were essentially bank-underwritten merger loan syndications. Like in the oil boom, they made instant huge loan commitments (often obtaining equity stakes), then brought in one or two major syndicating partners, and finally sold off participations to regional banks, institutional investors, and thrifts [Bartlett 1987]. An informal Federal Reserve study estimated that merger lending as a portion of all commercial and industrial loans rose from 2.1 percent during 1984 to 17.6 percent in 1988, with many large banks found to be channelling about 40 percent of their C&I lending into merger-related deals.(10) The institutional investors' reach for return was also key, and operated from where they sat on both sides of the buyout table--as selling shareholders of targets and as debt and equity investors in these now highly leveraged corporate assets.

The growing excess in leveraging and pricing led to losses that eventually burst the merger and junk bubbles in 1989. Restructured firms went bankrupt in growing numbers, especially dating from the hottest deal years; 40 percent of the large management buyouts from 1986 ended in default by 1989 [Kaplan and Stein 1993]. When the junk market imploded in late 1989 and 1990, many investment and commercial banks were left with massive "hung" bridge loans, now unable to be refinanced; and the banks' "highly leveraged transaction" loans had become a major source of regulatory concern [Bleakley 1991].

While many financial institutions stumbled badly on their leap into corporate restructuring, 1980s investment in commercial real estate was far more disastrous. In yet another plunge driven by their secular profit squeeze, the big banks "... dove [sic] into real estate just as
they got their heads above water on third world debts" [Passell 1991, 1]. Banks' commercial property exposure rose from 11 percent of all their lending in 1981 to 18 percent in 1988, at a total of $350 billion ["The Once-Welcome Properties of America's Banks" December 1989, 83]. Thrifts newly free to compete in wider lending markets did likewise, with commercial real estate investment peaking in 1988 at $313 billion [Thomas and Ricks 1990, A10]. And institutional investors rushed to increase their own lending. Life insurers pumped $150 billion into commercial real estate during the decade, raising their total investment to $250 billion [Passell 1991, 4]; pension funds had $72 billion invested by late 1989 [White 1989, C1]. What followed was asset-boom coercive competition par excellence, as each ". . . had to follow suit, lending on risky terms, if they were not to be undercut" ["The Once-Welcome Properties of America's Banks" December 1989, 83].

By the mid-1980s, credit standards had crumbled under this competitive lending frenzy. For example, "mini-perm loans"--intended for payoff years after project completion-proliferated; like the LBO market's zero-coupon junk bonds, mini-perm loans pushed the borrower's cash obligations off to the (inevitably rosier) future. In addition, lenders broke with past practice by their willingness to cover all construction costs without seeing any signed leases in advance [Wessel 1991; Passell 1991]. At last, an accelerating deterioration in the real estate market itself caught up with its financiers. As vacancy rates in central business districts rose to about a fifth and rents fell steadily, defaults spread [Passell 1991). Banks were paid according to terms on only one third of the commercial real estate loans that came due between mid-1990 and mid-1991 [Wessel 1991]. Because different financial institutions often borrowed and lent on given commercial properties, mortgage defaults intensified the "fratricidal" aspect of their competition [Crotty 1993b]; for example, Citicorp initiated foreclosure proceedings on a Chicago office building owned by Equitable Life, as ". . . the real estate slump ... caused a breakdown in the normally collegial atmosphere that existed between big institutions" [Barsky 1991, A4]. By the early nineties, institutions were selling chunks of their commercial real estate portfolios for prices ranging from 50 to 60 cents on the dollar.

These four speculative plunges--into the LDC's, the oilpatch, corporate restructuring, and commercial real estate--were highly visible ventings of the long-building competitive pressures described earlier. But competitively driven speculation and innovation pervaded many other aspects of financial institutions' behavior as well. The 1980s saw a quantum leap in the diversity and volume of trade in financial
instruments, many newly created. More traditional accounts of these innovations have stressed their provision of financing alternatives to users, and of liquidity and efficiency to markets. Without claiming that these benefits never arise, I point here to different causes and consequences—the struggle to escape competitive profit squeezes, competition to build market share, and boom-time buyers' and sellers' willingness to rush into new and untested arenas.

For example, many teetering S&Ls tried one last disastrous gamble on a bewilderingly complex technique called "risk-controlled arbitrage." It involved purchasing mortgage-backed securities, funded by short-term liabilities, hedged by interest rate swaps (in which banks broker companies' exchanges of fixed and floating rate payments). The programs were aggressively marketed to hundreds of thrifts for tens of billions of dollars by fee-prospecting investment bankers. Unfortunately, "[n]either the thrift operators nor the high-priced experts who promoted the idea had any experience with how the hedges . . . would work in practice" [McCoy 1991, A1]; falling long rates led to unexpectedly large refinancings and bond calls, while short rates stayed high and wrecked purported hedges. In another instance, the billion-dollar run that brought down Mutual Benefit Life Insurance in 1991, triggered by news of its massive real estate and buyout investment losses, created an obscure spillover into the municipal bond market. Mutual Benefit, along with other large insurers, turned out to have been active in a new market in bond "guarantees," in which a fee was charged to industrial development bond issuers in return for the insurer's promise to back up interest and principal payments. Mutual Benefits seizure roiled the bond market as "sophisticated" institutional investors scrambled to find out which bonds in their holdings carried such now--worthless or suspect backing [Power and Mitchell 1991].(11) Finally, when Bank of New England (BNE) sank in 1990 under the weight of its bad commercial property loans, its demise almost caused a meltdown in the multi-trillion dollar, international "derivatives" market. The bank was holding more than $30 billion in these instruments--largely swaps and contracts to buy and sell foreign currencies. Urgently needing to unwind these commitments to avoid a hemorrhage in the value of the portfolio, BNE suddenly found itself snarled in a banking system that no longer trusted its ability to pay. Other, larger banks to which it owed payments in these deals were therefore also put in limbo. Ultimately the contracts were unwound, and "banking regulators' latest nightmare," derivatives-induced "global banking system ... gridlock," was averted [Torres 1991, A1].

Through all the details of these episodes run common threads, leading
from the nature of competition as financial markets evolved. I turn now to a last discussion of those common themes.

**Conclusion**

Under true uncertainty, participants' view of the relevant fundamentals of financial pricing and practices may change rapidly. Competitive pressures may push that change in directions that are highly innovative but highly risky as well. With the coercive herd behavior that arises from uncertain competition, danger signals are discarded or ignored, and unsustainable financial bubbles occur. In this light, the speculative episodes of the eighties may be seen as the natural market outcomes of long competitive squeezes on the major financial players. These pressures ultimately derived from changing technologies, institutions, and market environments; however, the responses often engendered further destabilization rather than "optimal" adjustments by markets and their actors. During the LDC, oilpatch, merger, and property booms--and much of the related innovation in instruments and activities--overheating financial markets became less efficient, rather than more so, in serving their economic ends.(12)

These boom-bust cycles were stimulated by the long-term erosion of financial barriers, which also intensified the processes of erosion. On the one hand, the walls separating financial institutions broke down under the relentless pressure of turf wars and innovation. Reduced impediments--ratified by deregulation--stimulated further innovation. Meanwhile, innovation eroded neat distinctions among financial instruments. Traditional securities and derivatives based on them (futures and options) became more interchangeable and interlinked; bank commitments moved off-balance sheet (swaps and standby credits); and securitization turned a wide array of financial services into tradeable assets (mortgages and credit card receivables). The search for and creation of profit opportunities drove the erosion of barriers for both institutions and instruments, but because participants repeatedly went too far too fast, competition brought excess and instability in its train, rather than mainly reduced costs and increased services.

A concomitant of this competitive evolution was the emergence of a financial culture based on transactions rather than relationships. Because any time's conventional wisdom about the fundamentals of finance is socially constructed, the markets' culture affects their performance. In the 1980s, a deal-making ethos arose as long-term mortgage, investment, and commercial banking relationships gave way respectively to bundled securities, mergers, and commercial
paper. Institutional investors' rise to capital market dominance fed this trend, as the very concept of ongoing stock "ownership" lost focus when viewed in conjunction with rapid turnover of super-diversified portfolios. Partly these developments extended a U.S. tradition of "capital-market based" or "fluid" finance [Zysman 1983; Porter 1992]. But also at root lay secularly deepening uncertainty about business conditions across a broad spectrum of American industries, allowing product market connections to be loosened in favor of financial deal-making for its own sake.

By providing an explanation of how and why financial speculation occurs, the perspective offered here can contribute to a number of ongoing research areas. One is the problem of financial market volatility: Market players' innovative responses to rising volatility may in the aggregate only worsen the problem. (A case in point is the action of "portfolio insurance" during the stock crash of 1987.) Another is the interconnection of financial and real sectors. The kinds of bubbles explicated here encourage economic distortions; financial asset prices and credit flows are closely connected, and under uncertain competition they often suck resources into speculative activities and away from alternative uses.(13) The residue left by these episodes--overbuilt business districts, merger-induced disruption of corporate investment and labor relations, LDC austerity and disinvestment for external debt servicing, oilpatch stagnation--attest to the power of finance to affect economic development. Describing and explaining the precise mechanisms is an important theoretical task.

In terms of policy-related research, space considerations have precluded a focus here on the important roles of regulation and deregulation in the events discussed. This choice reflects my belief that intrinsic economic processes, not distortions induced by bad policy, have driven these developments: Speculative plunges were undertaken by financial industries with and without the moral hazard problems of deposit insurance. Precisely because these dynamics are endogenous, deregulation will continue to create more problems than it solves. But given the processes I have described, a return to old regulatory structures is clearly impossible. The foregoing encourages the notion that regulation should be organized broadly and uniformly. Diminishing barriers are a fact of life; all institutions involved in the savings and payments systems should therefore be subject to the same regulatory bodies and rules regarding insurance, capital, and the like [see Darista 1993 for an interesting proposal]. The analysis presented here also underlines the importance of encouraging financial activity conducive to socially productive economic activity and
discouraging that which is not [see Crott and Goldstein 1993). We could tax short-term gains at steep rates--again, broadly defined and administered. And we could subsidize credit flows to underfinanced areas ranging from housing and business in low-income areas, to military-to-civilian industrial conversion. The funding requirements of these public priorities will not be met if finance is left to its own speculative devices; conversely, lacking the pull of healthy economic development, the speculative habit will be hard to break. But that is another story.

Postscript

Relationship banking is more than "Let's do lunch." It was out during the transaction-driven 80’s, it's in again now... The new Chemical is first in primary relationships with U.S. corporations ... In short, we use all our resources to build long-term relationships of trust, one successful transaction after another [Chemical Bank Advertisement, December 1992].

Notes

(1.) Despite recent challenges [see Fama and French 1992), the Capital Asset Pricing Model is still the most widely used and taught securities pricing theory. 
(2.) See the symposium issue of the Journal of Post Keynesian Economics 11, no. 1, 1988, for a set of highly relevant Keynesian discussions of uncertainty. 
(3.) In what follows, I will treat financial decision makers as profit seekers; but given the informational and competitive dynamics described, it will be clear that they cannot be profit "maximizers" as in neoclassical theory. A static notion of profit maximization "abstract[s] from the uncertainty, the transient gains and losses, the uneven, groping character of technical advance, and the diversity of firm characteristics and strategies--that is, from the key features of the capitalist dynamic" [Nelson and Winter 1982, 28).
(4.) Financial investment is "liquid" in that it is fast and easy to undertake; but when bubbles burst, prices collapse and liquidity dries up precisely when all investors are scrambling to reverse earlier decisions.
(5.) A more precise definition, and thus a definitive listing, of institutional investors is hard to come by [see Brancato and Gaughan 1988). For statistical purposes, I have chosen to focus (unless otherwise noted) on those institutions included in SEC data-insurance companies, endowments, and mutual savings banks.
(6.) Because the finance companies did not substitute commercial paper for bank loans, it was the nonfinancial corporate borrowing in the paper market that represented a threat to the banks and hence a competitive tightening in the financial sector.
(7.) Private placements were already a $16 billion market by 1980, and grew to about $170 billion by 1989--roughly a third of all debt and equity issues ["Shaking Up America's Capital Markets" 1990]. One study found evidence that bond spreads drifted downward from 1977 to early 1982 [Kidwell, Marr, and Thompson 1987].
(8.) The profitability measure used is pre-tax earnings before interest, with inventory valuation and capital consumption adjustments, as a ratio with the replacement cost of tangible assets. Data are from the Board of Governors of the Federal Reserve
A key underpinning of these beliefs was the perceived safety net provided by the fiscal and financial authorities [see Minsky 1986; Wolfson 1986; Brimmer 1989]. Repeated lender of last resort actions, along with the prop to profits provided by government spending, fostered a growing belief in the financial markets that riskier behavior was sustainable.

Details are available from this author.

Mutual Benefit's industrial development bond guarantees were further tainted by its having taken equity positions alongside property developers financed by some of these issues. If the issuer—Mutual Benefit—defaulted, then the guarantor—Mutual Benefit—would meet the bond obligations. Investors were evidently undeterred by this kind of fine print.

The present analysis has not stressed the role of financial "promoters" in generating speculative bubbles. But it is fully consistent with such a role; with rapid change and innovation, the gap between insiders' ("promoters") and outsiders' knowledge is widest, while the latter are most willing to believe the "information" created for their consumption by the former [Du Boff and Herman 1989].

Dymski [1990] distinguishes between "Schumpeterian" and "speculative" financial markets. The analysis presented here offers an explanation of the latter, with a focus on informational issues that benefit from Dymski's discussion.

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