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And the Market for Loanable Funds

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Labor's Capital, Business Confidence, And the Market for Loanable Funds*

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Abstract:

The market for loanable funds provides a useful framework for determining changes in investment and interest rates. In the United States, a significant source of supply originates from labor in the form of pension assets. However, despite the increased contribution by labor to the supply curve over the past several decades, levels of investment have remained less than robust. Here, we highlight the changes in the demand curve for loanable funds in order to explain the empirical trends. Data series provided by the Conference Board capture the confidence of U.S. business and thus provide a gauge of Keynes' "animal spirits"—an essential factor in the demand curve shifts. Correlation of the data series with both quarterly changes in real interest rates and quarterly changes in payroll employment offers documentation for these macroeconomic claims.

*We extend our greatest thanks to Christopher Ekman, Andrew Harless and James Wu for their insightful contributions to this article.

Introduction

Even though investment represents a mere 15% of Gross Domestic Product, the variation in investment accounts for fully two-thirds of the variation in GDP from one year to the next. Given the profound weakness of the macroeconomy in recent years, this little-publicized fact implies that increasing the level of investment is the key to producing consistent, sizeable increases in GDP. Unfortunately, the United States has long been entrenched in a climate of persistently low investment, producing an array of macroeconomic challenges. However, recent gains in real interest rates and job creation suggest that the U.S. economy may have turned the corner. In this paper, we identify and apply a simple but elegant framework which we believe offers a compelling explanation for these remarkable developments.

In that regard, we introduce a straightforward model for loanable funds, with real interest rates on the vertical axis and real loanable funds on the horizontal axis, and analyze the observed macroeconomic data in terms of shifts of the supply and demand for loanable funds. Much of the dialogue on the subject of America's investment malaise has focused on a perceived inadequate supply of loanable funds. Indeed, many have identified the anemic rate of personal saving, and the concomitant shortage of loanable funds, as the fundamental driver of national investment trends in recent years. Relatively little attention has been devoted to the demand side of the model.

This paper will demonstrate that the conventional wisdom in this area is deeply flawed with respect to both the supply and demand factors at work. On the supply side, a significant portion of this country's capital stock comes one way or another from the wallets of U.S. workers, most prominently through pension funds. Thus, labor is responsible for a large and growing share of the loanable funds generated in the U.S. economy. Labor's contributions to

capital have skyrocketed in recent decades thanks to the implementation and institutionalization of pension plans at many U.S. employers. Given the infusion of massive quantities of loanable funds through Labor's Capital, contrary to popular notions of insufficient supply of loanable funds, the investment crisis facing the economy in recent years cannot properly be attributed to an inward shift of the supply curve for loanable funds.

Because Labor's Capital furnishes a large and increasing reservoir of loanable funds, we believe one must look to the demand curve to understand this country's persistent shortfall in investment in recent years and its sudden hike in recent weeks. Using the Conference Board's CEO Confidence Survey as an instrument for gauging shifts in the demand for loanable funds, we observe that the demand curve for loanable funds experienced an inward shift in the late 1990s, before undergoing a pronounced outward shift in the first quarter of 2004. This abrupt, massive shift out of the demand curve for loanable funds provides a convincing explanation of both the dramatic increase in real interest rates and the increase in job creation in the U.S. economy observed in March 2004.

I. Importance of Investment in Achieving Economic Growth.

At the outset, it is crucial to recognize the centrality of investment as a driver for GDP growth. One may be tempted to minimize the importance of investment in overall GDP, given that on a percentage basis investment makes a relatively small contribution to GDP. In fact, since 1950, investment has typically hovered at a level of approximately 15% of GDP.¹ However, that simple statistic does not tell the full story.

¹ In particular, the median figure for investment as a percentage of GDP from 1950 through 2003 is 15.9%, with a maximum of 19.2% (registered in 1979) and a minimum of 13.4% (recorded in 1991). These calculations were made using nominal aggregates for both the United States Gross Domestic Product and the United States gross private domestic investment series. This technique is appropriate given that these series utilize different deflators.

If, instead of looking at investment as a share of GDP, we examine the relationship between the growth rate of real GDP and the growth rate of investment, a compelling picture emerges. Table 1 reflects the results of a simple regression of the growth rate of real GDP on the growth rate of investment since 1950.

Table 1.

The Relationship Between Growth Rates of Real GDP and Real Investment			
Sample: Time-series data from 1950-51 through 2002-03.			
N: 53			
Model: Standard regression of growth rate of real GDP on growth rate of real investment.			
Dependent variable: Annual growth rate of real GDP (mean 0.034143, standard deviation 0.022879)			
Variable	Mean (S.D.)	Parameter Estimate	Standard Error
Intercept		0.026	0.002
Change in Investment	0.04 (0.10)	0.193	0.019
<u>Regression Statistics</u>			
R-Squared	0.666		
Adj. R-Squared	0.659		
Std. Error	0.013		
Source: Andrew Harless			

The critical figure in Table 1 is the R-squared of 0.666. A straightforward interpretation of this statistic is that fully two-thirds of the year-to-year change in real GDP may be explained by the year-to-year change in real investment. Reduced to simplest terms, this regression yields a simple, yet powerful, insight: To increase real GDP, it is vital to increase real investment.

This objective is more easily stated than accomplished. In 2003, nominal investment as a fraction of GDP was just 15.2%, down from a historical average of around 16%. As shown in

Table 2, the 2003 figure was not an aberration, but rather reflects a substantial, ongoing decline in investment relative to GDP in the 21st century:

Table 2.

Investment as a Fraction of GDP Over Time	
1999	0.175
2000	0.177
2001	0.159
2002	0.152
2003	0.152
Median since 1950	0.159

Source: Andrew Harless

As demonstrated by Table 2, investment as a share of GDP was some 14% lower in 2003 than it was just three years earlier, and 4.4% below the average during the last 50 years. A similar trend is observed if we look at the annual change in real investment. From 1996 through 2000, real investment grew at an average annual rate of 8.9%. By contrast, from 2000 through 2003, the average annual rate of change in real investment was a **negative** 1.8%. Under any rational interpretation of this data, there has been a marked lack of investment and a marked lack of growth in investment in the U.S. economy in recent years.

In an effort to understand the root cause of the investment crisis in America, we first consider the supply side of the equation and, in particular, look to an emerging and powerful force in the supply of loanable funds: labor. We then examine the demand side in an effort to identify and quantify trends in the demand for loanable funds by American businesses.

II. The Rise of Labor's Capital.

Over the last half-century, U.S. workers have become significant contributors to the country's capital stock. An important financial vehicle which has enabled this over the last half century is the Funded Employee Benefit Plan ("FEBP").² Although these plans come in many shapes and sizes (including pension plans, medical benefits, post-retirement services, etc.). For purposes of this paper, the FEBPs of interest are pension plans and pension funds. The primary benefit of these vehicles is to provide and secure pension pay to employees. However, pension plans were initiated about midway in the 20th century for the specific corporate purpose of reducing employee turnover.³ Although they were initially conceived as insurance annuities, the structure of pension plans has morphed over time into defined benefit plans and, more recently, defined contribution plans. In their various forms, pension plans have grown exponentially over the last 50 years, and now cover more than 55% of all workers.⁴ Even as pension plan benefits to workers and associated pension fund assets have developed into major U.S. financial institutions in recent decades, however, public recognition of the ascendancy of pension funds in labor and capital markets has been slow to take root. Indeed, the employee turnover-reducing motivation for pensions is largely overlooked, and the growing contribution of aggregate pension

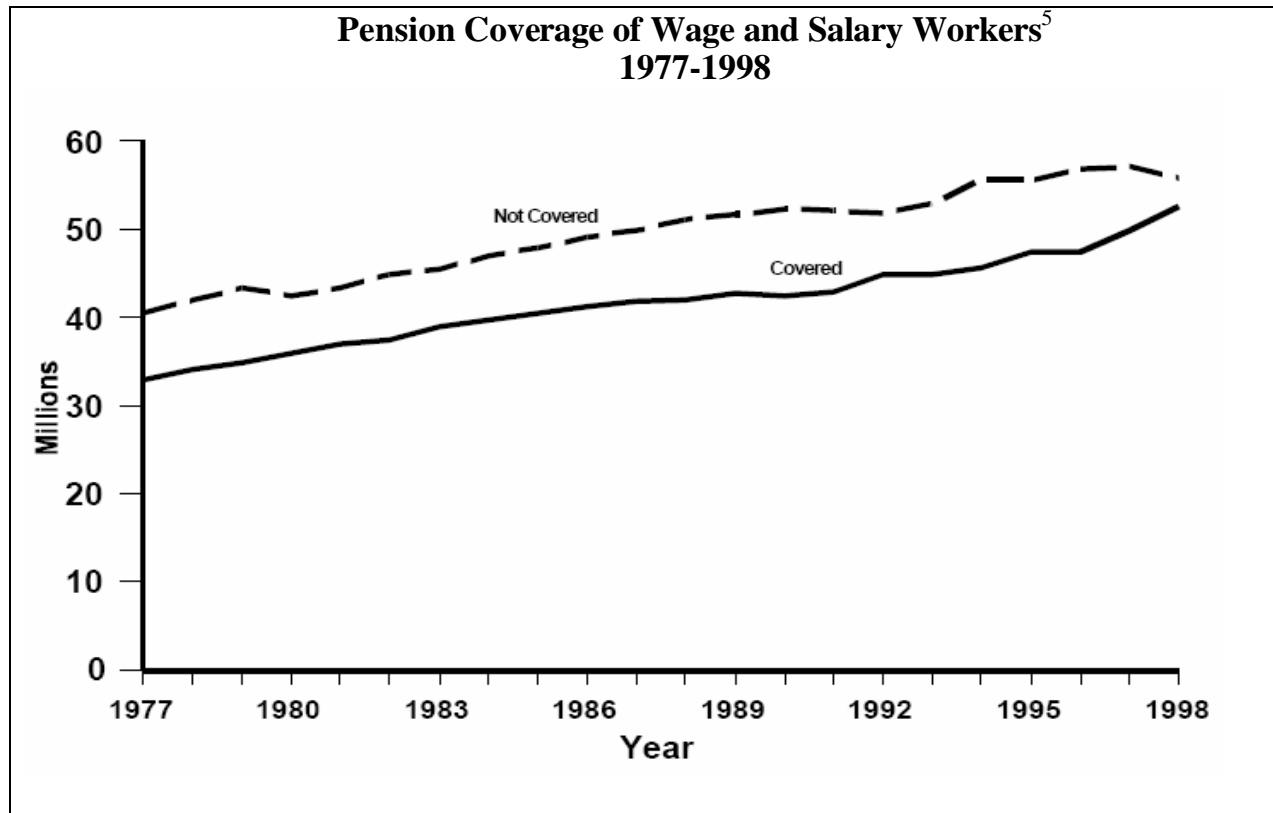
² See Ronald W. Sellers, "Employee Funded Benefit Plans," Atlantic Asset Management, 2004.

³ As a number of researchers have found, pensions have in fact succeeded in reducing turnover in U.S. workplaces. For detailed treatment of the evidence establishing this relationship, see Dorsey, Cornwell & Macpherson, *Pensions and Productivity* (1998); Clark & Quinn, "Effects of Pensions on Labor Markets and Retirement" (Brookings conference presentation, 1999), <http://fmwww.bc.edu/ec-p/wp431.pdf> and Ippolito, "Encouraging Long-Term Tenure: Wage Tilt or Pensions?," *Industrial and Labor Relations Review* 44(3): 520-535 (1991).

⁴ A 2001 study by Munnell and Sunden concluded that, after increasing sharply in the post-World War II period, the percentage of the private sector work force covered by pension plans has hovered in the vicinity of 50 percent since the 1970s. Munnell & Sunden, "Private Pensions: Coverage and Benefit Trends" (2001), <http://www.pensioncoverage.net/PDFs/ConversationPaper.pdf>. Even as the share of workers covered by private

fund assets, which we will call “Labor’s Capital,” to the U.S. economy may not be fully appreciated. Figure 1 documents the evolution of pension coverage over time.

Figure 1.



Initially, these pension plans were conceived as insurance annuities, but they soon overwhelmingly assumed the form of defined-benefit plans, in which eligible workers contributing to the plans were promised certain fixed retirement benefits upon reaching a certain age and/or achieving a certain number of years of service.⁶ As a result of the high inflation of the 1970s, however, defined-benefit plans fell into disfavor among employers and pension plan sponsors, as the combined effects of increasing benefit costs and falling real returns on invested assets conspired to cause the costs of those plans to spiral out of control. Having thus been

pensions plans has plateaued, however, the assets within the umbrella of pension coverage have continued to accumulate at an astounding rate during the last three decades.

⁵ Source: Form 5500 series reports filed with the Internal Revenue Service for 1977-1998 plan years, <http://www.dol.gov/ebsa/PDF/1998pensionplanbulletin.PDF>

chastened by this bitter experience, few employers in the 1970s rolled out new pension plans simply because most employers found it cost-prohibitive to offer new plans or even to expand existing plans. During and after the 1980s, however, many employers shifted their focus from defined-benefit plans to defined-contribution plans, in which workers were not promised any set amount of benefits upon retirement but rather were obliged to bear the market risk of favorable performance of their invested retirement assets themselves. The advent of the defined-contribution plan was viewed as a boon by many employers, inasmuch as it addressed the cost issues of defined-benefit plans while simultaneously shifting the market risk from employer to employees. Not surprisingly, U.S. employers converted from defined-benefit plans to defined-contribution plans in droves in the 1980s and 1990s, even as the total fraction of workers covered by pension plans remained relatively constant. Indeed, from 1988 to 1997, the incidence of defined benefit plans in medium to large establishments fell from 63% to 50%. During the same time period, the incidence of defined contribution plans in those same establishments jumped from 45% to 57%.⁷

Although some have decried (and not without good reason) the fact that nearly 50% of American workers lack access to pension benefits today, the absence of universal pension fund coverage has done little to deter the runaway growth of pension fund assets during the last 50 years. Indeed, the assets of U.S. pension plans now represent the largest single source of capital for the U.S. Economy. This capital is available for investment – and is thus a critical element of the supply of loanable funds – to increase national output, productivity and profitability.

⁷ Source: Bureau of Labor Statistics Employee Benefits Survey.

Figure 2a quantifies the magnitude of private pension fund assets in the U.S. today and demonstrates their meteoric rise to prominence in recent years.⁸

Figure 2a.

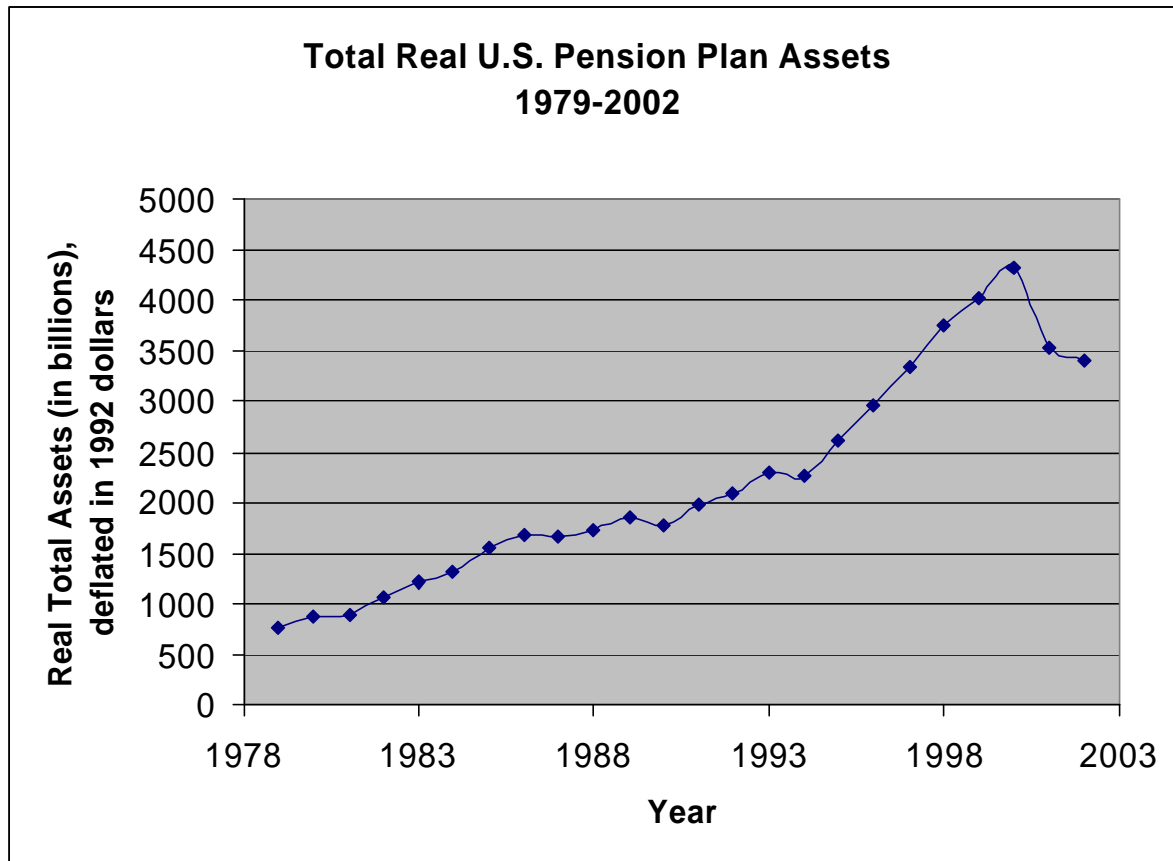


Figure 2a shows that in this country, real private pension fund assets--which include private defined contribution plans and private defined benefit plans calculated in 1992 dollars--were about \$4.0 trillion in 2001, a significant increase from \$1.7 trillion at the end of 1990.

⁸ Real Total Pension Plan Assets include private defined contribution plans and defined benefit plans. Source: Form 5500 series reports filed with the Internal Revenue Service for 1977-1998 plan years, <http://www.dol.gov/ebsa/PDF/1998pensionplanbulletin.PDF>. Total Pension Plan Assets include private defined contribution plans and defined benefit plans. The nominal data has been deflated using annual core PPI in 1992 dollars, <http://www.bls.gov/ppi/home.htm>.

Figure 2b.⁹

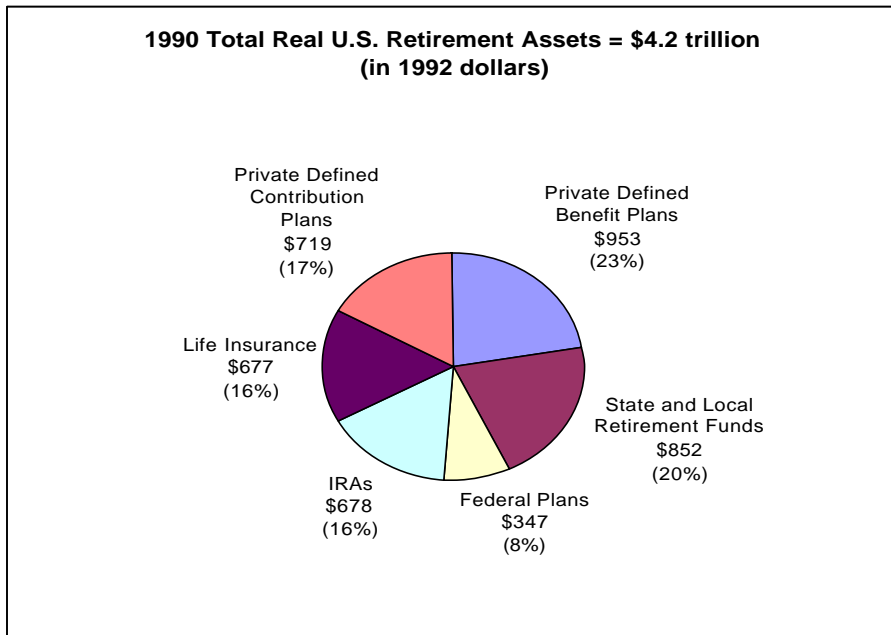
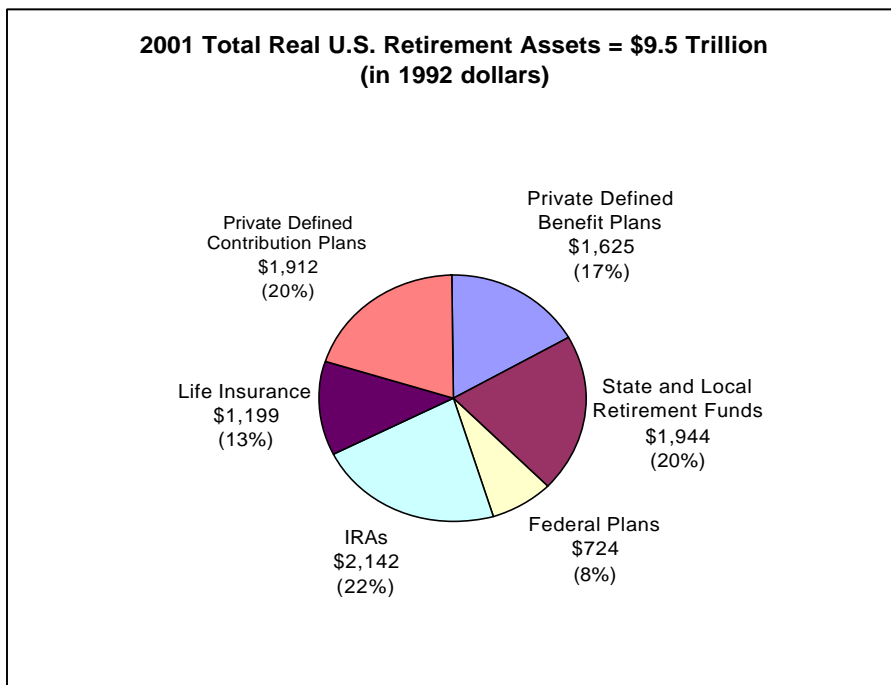


Figure 2c.



⁹ Source for figures 2b and 2c: ERBI's *Pension Investment Report*, American Council of Life Insurers, Federal Reserve, U.S. Census Bureau, U.S. Department of Defense, U.S. Office of Personnel Management, and the Federal Thrift Investment Board. The nominal data has been deflated using annual core PPI in 1992 dollars, <http://www.bls.gov/ppi/home.htm>.

Including IRAs, Federal plans, Life Insurance, and State and Local Retirement Funds, real total U.S. retirement assets grew from \$4.2 trillion in 1990 to \$9.5 trillion in 2001 (see Figures 2b and 2c). By comparison, the current value of all traded U.S. equities is about \$11.1 trillion and the U.S. Bond market (both public and private) is about \$18.8 trillion, deflated in 1992 dollars. By these numbers, total U.S. retirement assets (of which pension plan and pension fund assets for public and private employees constitute approximately two-thirds) today represent approximately 30% of the nation's total capital. Because U.S. law provides that qualified pension fund assets are held in trust for the benefit of employees [pensions], we refer to them as Labor's Capital.¹⁰

Providing 30% of total capital, we estimate the national output contribution of Labor's Capital to be at least 10% of GDP. This is based on the long term marginal productivity of labor being about 0.7 (70%) and the marginal productivity of capital being about 0.3 (30%). Ten percent of GDP is a significant contribution to national output (about double the annual rate of automobile sales in the U.S., for example) and concomitantly a significant increase in labor's productivity – ten percent more output for the same labor.¹¹

¹⁰ In this regard, the Employee Retirement Income Security Act of 1974 ("ERISA") requires that pension assets be held in trust for the benefit of pension participants, with the plan administrator operating under certain fiduciary obligations. *See* 29 U.S.C. § 1103(a) (declaring that "all assets of an employee benefit plan shall be held in trust [for the sole benefit of employee-participants] by one or more trustees"); 29 U.S.C. § 1104(a)(1) (requiring that "a fiduciary shall discharge his duties with respect to a plan solely in the interest of the participants and beneficiaries and for the exclusive purpose of: (i) providing benefits to participants and their beneficiaries; and (ii) defraying reasonable expenses of administering the plan; with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent man acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims"). ERISA provides that, with a very few exceptions, "the assets of a plan shall never inure to the benefit of any employer and shall be held for the exclusive purposes of providing benefits to participants in the plan and their beneficiaries and defraying reasonable expenses of administering the plan." 29 U.S.C. § 1103(c)(1).

¹¹ Further productivity gains would be expected to arise from Labor's Capital as a result of the diminution in employee turnover associated with pension plans. High turnover is associated with relatively low productivity because of all the adverse costs and expenses associated with recruiting, screening, hiring and training new employees. By contrast, reduced turnover is associated with increased productivity because employers may forego the expenses and inefficiencies identified above. Because pension plans have been empirically shown to reduce turnover, they can also be expected to increase labor's productivity through that mechanism, as well as the more conventional route of capital-deepening (*i.e.*, creating more equipment per employee in a given work environment because Labor's Capital has supplied the loanable funds needed for that employer to invest in plant and equipment).

By increasing labor's productivity, Labor's Capital brings about higher wages for labor, which in turn enables labor to generate and invest more of Labor's Capital into productivity-enhancing plant and equipment. The more the cycle repeats itself, the better off workers are, inasmuch as they have higher productivity, higher compensation, and higher pension assets accruing retirement benefits for them. The above-described cycle likewise works to the advantage of capital markets, inasmuch as steady increases in Labor's Capital increase the supply of loanable funds, easing pressure on real interest rates while making more money available for investment purposes. Such advances redound to the benefit of the macroeconomy, as well, in the form of higher labor productivity, greater investment, and ultimately increasing Gross Domestic Product. This is a wonderful story today that may be expected to continue in years to come as the weight and effects of Labor's Capital become more pronounced.¹² This far-reaching significance of Labor's Capital as a positive driving force in the U.S. economy could hardly have been anticipated as early pension benefit programs were designed and those first investments were made a half-century ago.¹³

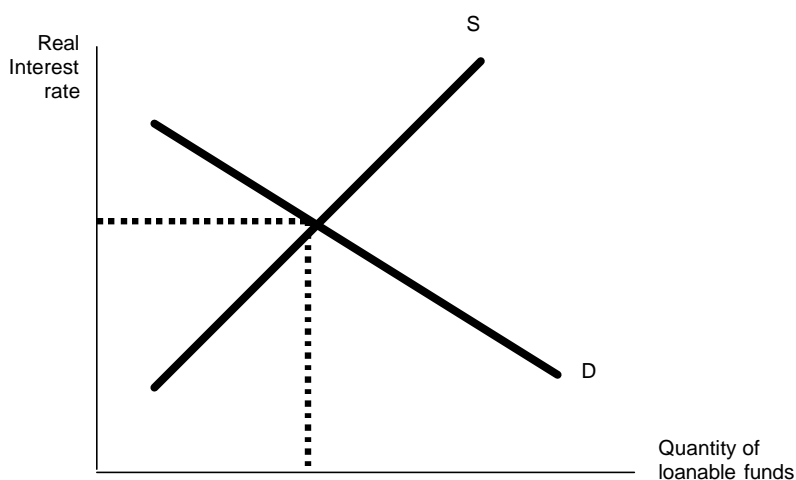
III. An Overview of the Market for Loanable Funds.

¹² Given that such pension plans are a well-entrenched fact of life in the modern-day workplace topography, there is no indication that Labor's Capital will be diminished substantially as a source of loanable funds in the years to come, even as the baby boomers reach retirement age and begin drawing down on their pension benefits. To the contrary, labor's tax-exempt savings plus the invested returns on those savings, in a relatively permanent manner with an extremely long-term investment horizon spanning an employee's entire working life, all but ensure that this substantial source for funds for investment is here to stay. This relative constancy of the supply of Labor's Capital should in turn drive down the cost of capital for investment purposes and reduce its volatility.

¹³ Symptomatic of the explosive growth of pension plans in this country during the last five decades is the experience of the California Field Ironworkers, who began their pension trust in 1957. The trust remained modest in size for many years. Today the pension (defined benefit) and annuity (defined contribution) funds total almost \$2 billion in combined assets. This represents hourly-based contributions by 20,500 workers (including 14,000 active employees and 6,500 retirees) and their multiple employers plus accumulated investment returns. A similar success story may be found in the Omaha Nebraska School Teachers, whose pension plan commenced in 1909, rendering it the oldest plan in the U.S. Today the Omaha plan has \$800 million in assets covering 6,400 active employees and 3,000 retirees. The capital in the Ironworkers and Omaha plans protects the future pension benefits of employees who participate in the plans, and in addition, makes a sizeable contribution to the supply of loanable funds available for investment in the U.S. economy.

To understand the impact of Labor's Capital on investment in the United States, it is important to have a firm grasp on the market for loanable funds, the theoretical market construct in which suppliers and demanders of funds for investment purposes meet to set the price (*i.e.*, the interest rate) and quantity of those funds being bought and sold. Much like other markets, the market for loanable funds is driven by supply and demand forces. Traditionally, the supply of loanable funds is thought to originate from such sources as personal savings, government surpluses, retained corporate earnings, and foreign investment. Meanwhile, the demand for loanable funds arises from households and firms seeking to borrow funds for such purposes as purchasing new plant and equipment.¹⁴ The intersection of the supply and demand curves for loanable funds defines the equilibrium real interest rate and the equilibrium quantity of real investment in the United States.

Figure 3.



IV. Labor's Capital and the Market for Loanable Funds.

As discussed above, investment (whether viewed as a percentage of GDP or as a year-to-year change in real investment) has been at low levels in recent years. Observers of the market

¹⁴ The discussion of the market for loanable funds presented herein draws from N. Gregory Mankiw's treatment of the topic in *Principles of Economics* (2nd Ed. 2001), at 564-74.

for loanable funds have been quick to ascribe this outcome to supply-side forces and, in particular, the historically low personal savings rate. Indeed, the news media has seized on the pronounced decline in the National Income and Product Accounts (“NIPA”) personal savings rate (which defines “personal savings” as total income less personal consumption outlays and taxes), which has fallen from 10.6% of disposable personal income in 1984 to just 2.3% in 2001, before rebounding to a level of 3.9% in 2002 (U.S. Department of Commerce, 2003). Because the personal savings rate is a cornerstone of the supply of loanable funds, explains this theory, the unwillingness of the American household to save in recent years has shifted the supply curve for loanable funds towards the origin, reducing the total level of investment in the economy.

The explosive growth in assets controlled by pension plans as a major source of supply of loanable funds exposes significant weaknesses in the supply-side explanation that a low personal savings rate is the fundamental cause of diminished investment in this country. The NIPA formulation of the personal savings rate includes employee contributions to pension plans in its computations of income; however, that measure expressly excludes capital gains on those contributions. Therefore, this measure of the supply of loanable funds expressly overlooks the accumulation of retirement assets in pension plans.¹⁵

The \$9.5 trillion in pension fund assets are unquestionably loanable funds available for investment (subject, of course, to ERISA fiduciary limitations and any applicable plan restrictions on how that money may be used and invested). Any measure of the supply of loanable funds that excludes all or part of those assets is missing out on a substantial part of the

¹⁵ This conclusion is bolstered by the 2003 research of A. Lusardi, J. Skinner and S. Venti for the Center for Retirement Research, in which they concluded that “according to the official NIPA accounting rules, the entire retirement saving sector contributed nothing to measured personal saving between 1996 and 2000.” Lusardi, Skinner & Venti, “Pension Accounting & Personal Saving” (Center for National Policy, April 24, 2003), http://www.bc.edu/centers/crr/facts/jtf_8.pdf. These same researchers found that NIPA’s treatment of pension plan contributions and benefits accounted for fully 40% of the total reported decline in the personal saving rate from 1988 through the turn of the century. *Ibid.* Thus, once pension plan contributions and benefits are added to the mix, the empirical research showing alarmingly low (and even negative) levels of personal savings in the U.S. economy is exposed as a mere statistical artifact.

supply-side story. In light of that insight, it is our view that Labor's Capital (and not the NIPA personal savings rate) is the 800-lb. gorilla driving the supply curve of loanable funds, and that any attempts at a supply-side explanation for low investment in the U.S. economy simply cannot be reconciled with the facts of the matter.¹⁶ Far from retreating inexorably towards the origin in recent years, then, a fuller consideration of the supply curve of loanable funds (including specifically the dramatic and growing impact of Labor's Capital thereon) suggests that that curve has remained relatively fixed throughout the investment turmoil of recent years. Thus, the constancy of Labor's Capital has lent a degree of stability to the availability and cost of capital that might otherwise be lacking as other sources of capital shifted their funds in and out of the market for loanable funds based on the whims of actors in that market.

V. Towards a Richer Understanding of Outcomes in the Market for Loanable Funds.

Conventional examinations of the causes of investment trends are therefore left with something of a paradox. The traditional view blames low personal saving rates for this country's investment malaise, but ignores the meteoric rise in Labor's Capital in recent decades. As we have seen, the most commonly cited personal savings rate data disregards the accumulation of capital in pension funds, thus overlooking Labor's Capital's sizeable boost to the investment sector. Indeed, Labor's Capital injects massive and growing quantities of funds in largely free capital markets, utilizing generally discretionary management to seek the best return, providing enormous and efficient contributions to investment.

A related problem with the supply-side story is that it fails to account for the remarkable macroeconomic developments of recent weeks. In particular, we have observed sudden spikes in

¹⁶ Besides, if a shortage of loanable funds was responsible for the low levels of investment observed in the late 1990s and early 2000s, our simple model for the market for loanable funds counsels that we should expect to see substantial increases in the interest rate as the supply curve marches in towards the origin. In light of the extremely low interest rates prevailing in the U.S. during the last several years, the inward-shifting supply curve explanation is clearly flawed.

both real interest rates and job creation in March and April of 2004. Nothing in the personal savings rate or Labor's Capital appears to suggest a plausible supply curve explanation for this phenomenon.

Given the inadequacy of supply-side explanations to account for recent gyrations in the market for loanable funds, the logical alternative is to examine the demand curve for loanable funds. Historically, economists have had little to say about this curve and the forces that animate it. In fact, many have ascribed the demand curve for loanable funds to abstract concepts such as the "animal spirits" about which Keynes so famously spoke, the idea being that consumers of loanable funds are notoriously mercurial and unpredictable.¹⁷ In this "animal spirits" perception of demand for loanable funds, that demand would not gain positive momentum -- regardless of how favorable the developments in the U.S. economy might be -- until such time as investors' fickle animal spirits reversed themselves.

Given their inherently intangible and ethereal qualities, "animal spirits" have long eluded economists seeking to quantify and understand forces causing shifts on the demand side of the market for loanable funds. However, examination of an unheralded data series collected by the Conference Board yields invaluable insights on this front. Going back as far as 1976, the Conference Board has conducted a quarterly CEO Confidence Survey of approximately 100 Chief Executive Officers in a wide variety of industries. This survey details CEOs' attitudes and expectations regarding the overall state of the economy as well as their own industries. Although the survey includes a number of questions regarding such factors as the respondents'

¹⁷ As one commentator recently summarized Keynes' views on the subject, "Keynes saw animal spirits, not as a spontaneous way out of a protracted investment slump, but rather as a force likely to prolong slumps that, in turn, had to be offset by direct state intervention in "organizing investment." In Keynes's view, monetary policy could not be relied upon during serious slumps because depressed animal spirits meant that negative interest rates might be needed to spur spending, thereby rendering monetary policy useless, since interest rates cannot go below zero." J. Makin, "Animal Spirits and Policy Stimulants," *AEI Online*, American Enterprise Institute for Public Policy Research (December 1, 2003), http://www.aei.org/publications/pubID.19516/pub_detail.asp.

expectations for the economy in the next six months as well as their expectations for their own industries during the same time frame, the critical piece of data to be extracted from the CEO Survey is its “Measure of Business Confidence,” a composite index whose value ranges from 0 (extremely low business confidence) to 100 (extremely high business confidence).¹⁸

Based on both theoretical and empirical considerations, we believe that the Measure of Business Confidence is properly viewed as a bellwether statistic for assessing shifts in the demand for loanable funds in the U.S. economy.¹⁹ Conceptually, it is evident that CEOs have their fingers on the pulse of the business climate facing their respective industries and businesses. If that business climate is poor, then one can reasonably expect that: (a) their companies will be less likely to invest in new plant and equipment (and therefore will not be demanding loanable funds), irrespective of the interest rate; and (b) the CEOs’ responses to the Conference Board survey will be decidedly pessimistic. By contrast, in favorable economic times for their respective industries and businesses, CEOs will be expected to respond more enthusiastically to the Conference Board inquiries even as their companies are hungrier for loanable funds to invest in capacity-enhancing endeavors, again without regard to the prevailing interest rate.

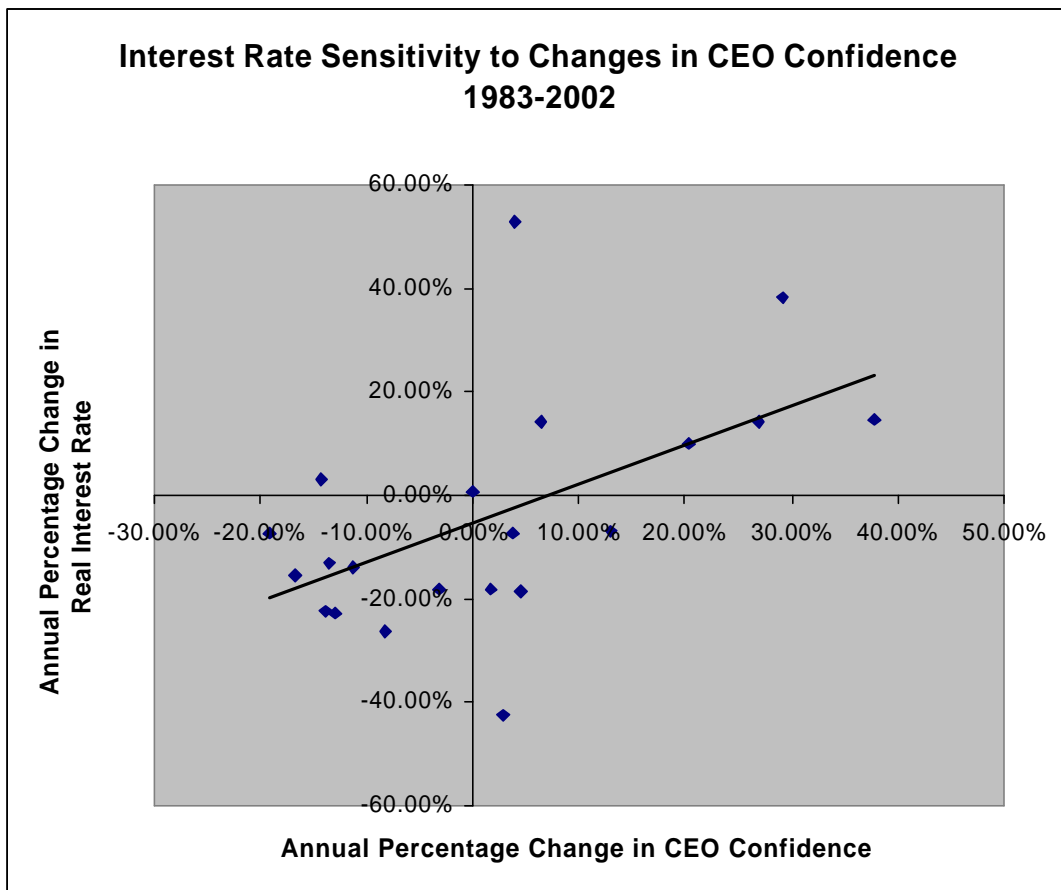
The link between the Measure of Business Confidence and shifts in the demand curve for loanable funds may also be established empirically. For example, Figure 4 plots the annual

¹⁸ In particular, the Measure of Business Confidence is computed as a weighted average of survey participants’ responses to three specific questions: (1) current economic conditions vs. six months ago; (2) expectations for economy, six months ahead, as compared to current economic conditions; and (3) expectations for own industry, six months ahead, as compared to current economic conditions. Responses to each of these three questions are assigned a score based on whether the answer was “substantially better” (100 points), “moderately better” (75 points), the “same” (50 points), “moderately worse” (25 points), or “substantially worse” (0 points). The resulting figures are tallied and averaged to derive the overarching Measure of Business Confidence discussed herein for each survey period.

¹⁹ In his influential text, *Principles of Economics* (Harcourt 1998), N. Gregory Mankiw describes the market for loanable funds. As an example of a force that might prompt a shift in the demand of loanable funds, Mankiw discusses the passage of an investment tax credit, which would cause U.S. firms to invest more at any rate of interest, thereby shifting out the demand curve. It is the position of the authors that an uptick or downtick in CEO

percentage change in the Measure of Business Confidence against the percentage change in real interest rates.

Figure 4.



Thus, as CEO sentiment (as captured by the Measure of Business Confidence) increases, real interest rates also increase. From the standpoint of the market for loanable funds, this result may be understood as follows: a fundamental increase in CEO sentiment shifts out the demand for loanable funds, increasing the total quantity of investment and raising the real interest rate.

A second means of gauging the suitability of CEO confidence as a barometer for shifts in the demand for loanable funds is to plot changes in the Conference Board indicator against

confidence is another force that might similarly shift the demand curve for loanable funds, causing an increase or decrease in the quantity of loanable funds demanded at any given interest rate.

lagged changes in United States gross investment.²⁰ Figure 5 below reveals the results of such an exercise.

Figure 5.

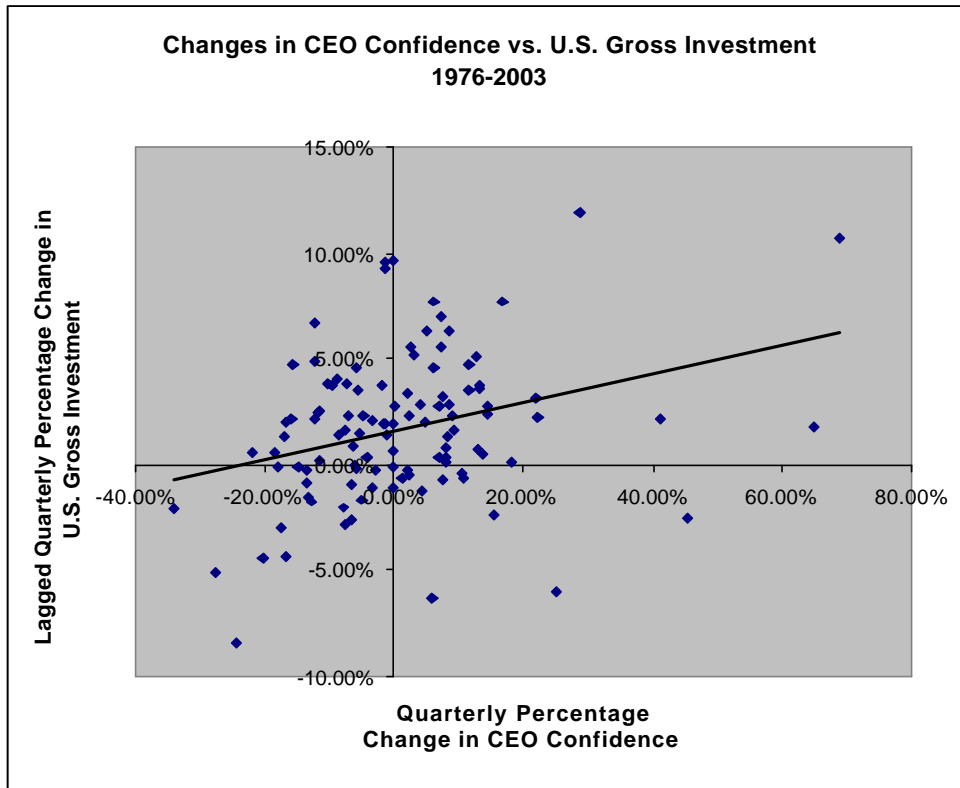


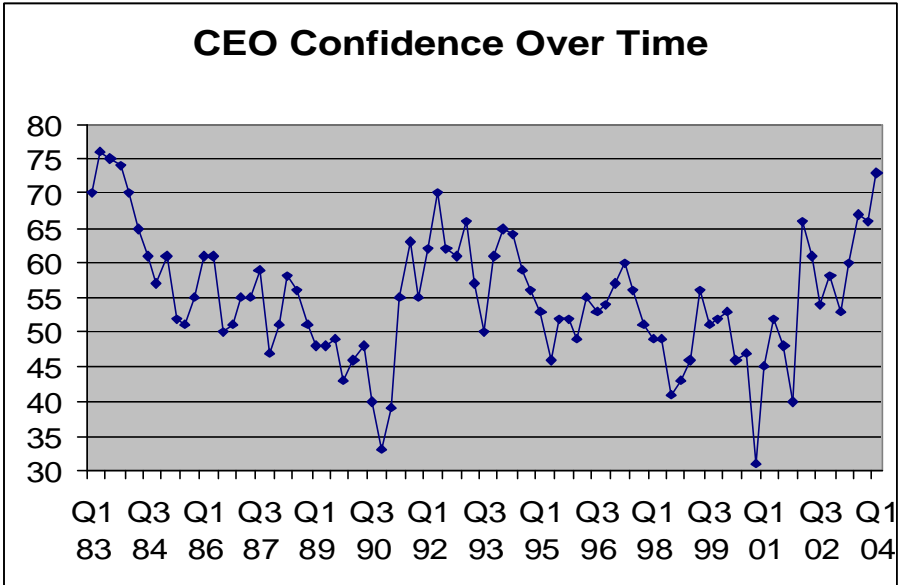
Figure 5 demonstrates a positive correlation between changes in the Measure of Business Confidence and changes in the quantity of capital investment in the economy. Thus, Figure 5 suggests that when CEOs are more confident in the economy, within a short time the total level of investment increases for any given interest rate. In the context of the market for loanable

²⁰ As we have seen, if the demand curve for loanable funds shifts, we will expect to see changes in both the real interest rate and the real quantity of funds invested. For that reason, if CEO confidence is a fair indicator of changes in the demand curve, we would expect to see a positive correlation between changes in CEO confidence and changes in U.S gross investment. However, we recognize that this correlation will likely operate only through a lag, as changes in business confidence should not instantaneously cause higher investment. Thus, Figure 5 acknowledges the reality that it takes time for changes in business confidence to manifest themselves in the market for loanable funds in the form of higher gross investment.

funds framework, this result is entirely consistent with the prediction that an increase in CEO confidence should cause the demand for loanable funds to shift out, raising the total level of capital investment in the U.S. economy.

Thus, based on comparisons of the Measure of Business Confidence to both real interest rates and gross investment, it appears that the Conference Board indicator is well suited to serve as an indicator for shifts in the demand for loanable funds. Marked, broad-based increases in CEO confidence over time are symptomatic of an outward shift in the demand curve for loanable funds, while persistent declines in CEO confidence suggest an inward shift of that curve. Figure 6 below shows the movement of the CEO confidence indicator over time.

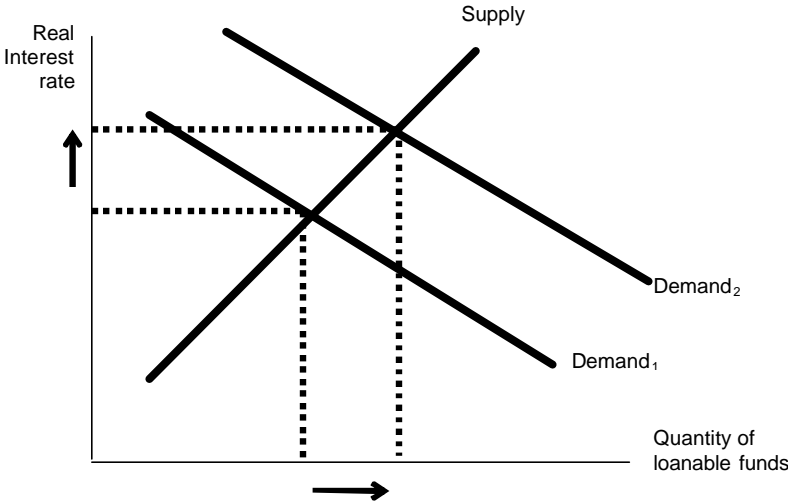
Figure 6.



The drastic increase in the Measure of Business Confidence in the last year and a half, and even more notably in the first quarter of 2004, suggests an outward shift of the demand curve

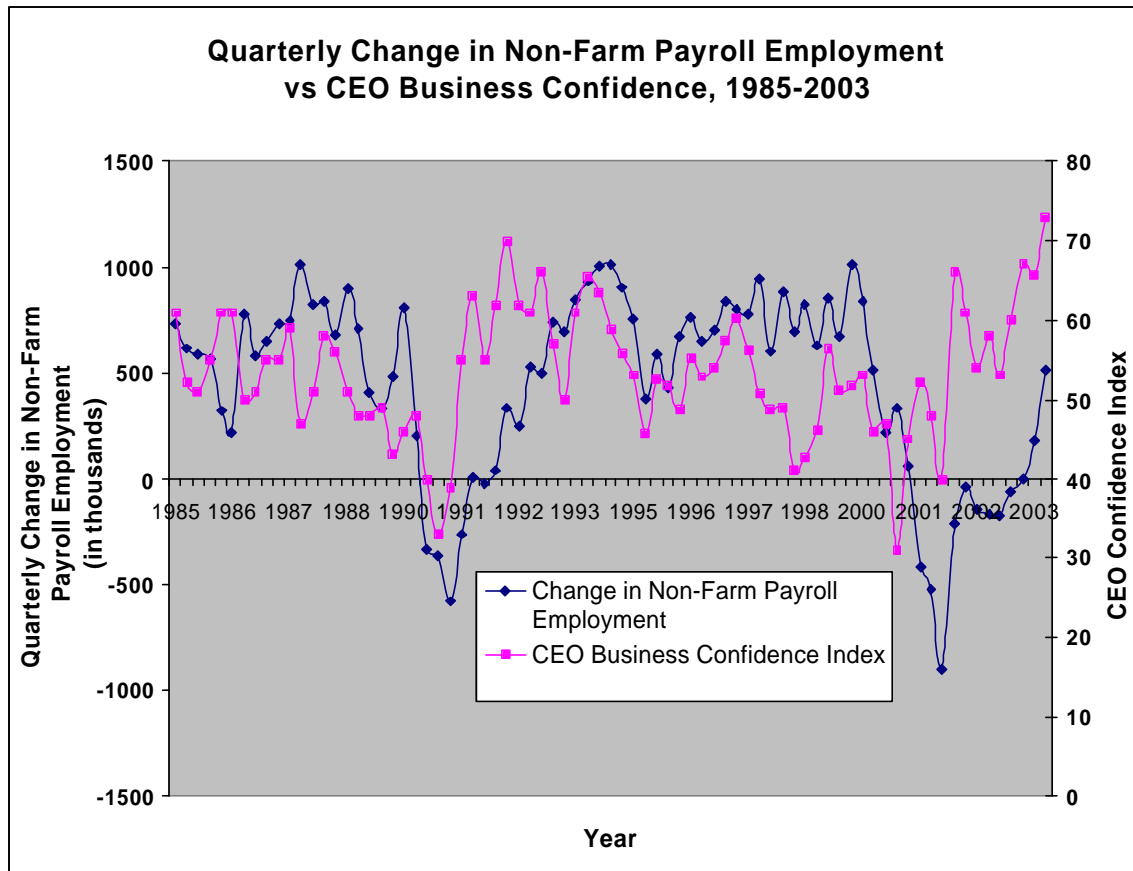
for loanable funds has occurred, portending higher real rates of interest and higher investment should this trend continue. Figure 7 depicts graphically the outward shift of the demand curve for loanable funds, with the concomitant predicted effects on both real investment and real rates of interest.

Figure 7.



The scenario described in Figure 7 can, in fact, explain what has occurred in the most recent financial quarter. The 2004 Q1 reading of the CEO Confidence Index reached 73, a high which hasn't been seen since 1983. The increased demand for loanable funds on the part of businesses has also manifested itself in the labor market. During the first three months of 2004, the U.S. economy added 513,000 non-farm payroll jobs, stemming extensive declines from 2001-2003. Figure 8 depicts the graphical relationship between the CEO Confidence Index and labor market activity, suggesting the expected strong correlation between business leaders' optimism about the economy and hiring practices in the labor market, and further corroborating the significance of the CEO Confidence Index in gauging the state of the macroeconomy.

Figure 8.



In Keynesian speak, recent events demonstrate that “animal spirits” may have suddenly come to life in the U.S. economy. We do not pretend to understand or to be able to explain what goes on in the psyche of the average U.S. investment-demanding firm. However, what we do offer is a benchmark statistic -- the Conference Board’s Measure of Business Confidence -- that captures the level of “animal spirits” in investment markets, as well as a heuristic device -- the market for loanable funds -- that identifies how changes in animal spirits affect the real rate of interest and the overall level of investment in the U.S. economy. Viewed through the lens of the Conference Board’s quarterly CEO survey as applied to the market for loanable funds, the investment and employment figures observed in early April 2004 are hardly surprising. As our model demonstrates, the dramatic increase in business confidence in late 2003 and early 2004

would be predicted to yield higher real interest rates, more investment, and more job creation. Much to the chagrin of many financial market actors who made bets to the contrary in April 2004, those predictions held exactly true in this case.

Conclusion.

This paper has introduced a simple but elegant model for understanding recent macroeconomic activity in the U.S. economy. Because changes in investment account for a tremendous percentage of changes in GDP, it is apparent that developments in the market for loanable funds have a substantial impact on the macroeconomic health of this country. Stated differently, to understand macroeconomics, one must have a firm grasp of changes in both the supply curve and the demand curve for loanable funds. Our analysis reveals one critical insight as to each of these curves. On the supply side, rather than bemoaning the ostensible lack of personal savings, one would be wise to pay close heed to the rise to preeminence of Labor's Capital, as documented through the remarkable rise in pension funds of U.S. employees that now represent approximately 30% of this country's total capital stock. Growth from continued contributions, investment income and increasing availability of pension coverage generally to workers (both defined benefit and defined contribution) in the U.S. implies this 30% number can and should be expected to increase with the passage of time. This is good news for employees in particular, and for the U.S. economy taken as a whole. This is because we should expect both the growth rate in output per labor hour and in capital Gross Domestic Product to remain strong. In terms of the market for loanable funds, the role of Labor's Capital should go a long way towards stabilizing and preventing inward shifts of the supply curve, irrespective of how low the domestic personal savings rate falls.

Meanwhile, on the demand side, we have shown that while the demand for loanable funds may well be the product of inscrutable “animal spirits” of individual actors in the market for loanable funds, sudden changes in those animal spirits may be documented and anticipated by movement in the Conference Board’s Measure of Business Confidence, which is strongly correlated to both real interest rates and the total level of investment relative to cash. Changes in the confidence of America’s CEOs may be expected to be manifested in shifts in the demand curve for loanable funds, with a concomitant impact on real interest rates, investment and job creation. This valuable framework well explains the anemic investment growth in the U.S. in past years as well as what appears to be a confirmation of the economic recovery in the most recent quarter. It is during this time that business confidence, as seen through the eyes of America’s CEOs, has risen significantly. The resulting outward shift in the demand curve for loanable funds has led to increasing payroll job growth and reversed the turnaround in real interest rates.

As this paper is written, financial analysts, economists, pundits and speculators all over the world are struggling to predict where U.S. financial markets are going from here. Is the recent growth in payroll employment and accompanying interest rate spike a one-time anomaly or does it auger in a new era of job creation and increasing interest rates? We are not so smug or sanguine as to be able to predict the answer to this question. However, the market for loanable funds framework presented herein holds the answer, and that subsequent readings of the Conference Board’s CEO Survey will be invaluable to assessing whether the first quarter’s outward shift in the demand curve for loanable funds is an ephemeral phenomenon, or whether it will prove to be a sustained, permanent outward shift.

We believe that an explanation for the low investment in the U.S. economy and any prescription for increasing that investment should include focus on the demand side, not solely the supply side.