

# Technical Notes

## From Blue Jeans to Buyouts— Shrewd Portfolio Managers or a Nation of Spendthrifts?

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The personal savings rate in the United States is low relative to most industrialized countries and particularly so relative to Japan's. While the Japanese save over 20 per cent of their net national product, Americans save less than 6 per cent. The U.S. consumer is not alone. U.S. government spending went from about 20 per cent of GNP in 1970 to 24 per cent in 1985. Government deficit has gone from 1.5 per cent of GNP in 1970 to 4-1/2 per cent in 1986. On the corporate side, capital equipment per worker is about \$22,000 in Japan, only \$16,000 in the U.S. Worse still, the rate of growth of capital stock per worker is 6.1 per cent in Japan, while it is below 2 per cent in the U.S.

This situation is worrisome because a nation's economic growth relies on its willingness to defer consumption and channel its financial resources into durable and productive assets. Like corporations, economies grow at a rate equal to their rate of return on total assets—the ratio of GNP to national wealth at the country level—plus their earnings growth rate—GNP growth at the country level. Growth can be accelerated by increasing productivity and financial leverage, as long as earnings exceed the cost of borrowing. Individuals, corporations and countries alike face limits to growth when they exhaust their borrowing power and their rate of capital formation or reinvestment rate.

Many of the reasons behind the low U.S. savings rate are well known—inflation in the 1970s, a tax system that encouraged consumption and discouraged investment, demographics, strong regulatory constraints that preempted business restructuring in the '70s during a phase of energy shocks and competitive pressures from the Far East and Europe. Most of these reasons no longer play a major role in the current economic setting of industrial and financial deregulation and tax reform.

### We May Not Need to Save More (Unless International Cooperation Breaks Down)

It has been pointed out that the U.S. savings rate is really higher than reported, because GNP statistics

do not include capital gains in financial or real assets, although individuals include them in their consumption and savings plans. This is true. But more important than the effect of ephemeral portfolio gains on consumption patterns are three factors that have generally been ignored in most macroeconomic analyses of U.S. savings pattern and are likely to reduce the need for and level of savings, despite any fiscal incentives to save more.

- The increased participation of women in the paid economy has increased national wealth and productivity, reduced the financial risk of family portfolios, decreased the savings needs of individuals and ultimately increased the productivity of personal wealth.
- Financial and corporate deregulation has all but eliminated the need for equity capital, increased the availability of personal and corporate credit and increased the productivity of human and financial capital to an unprecedented degree.
- A large portion of economic growth and productivity increases has taken place in the service sector; GNP statistics are not well equipped to capture improved technology, and certainly do not capture the bulk of the underground economy, which is mostly found in services.

Because of these forces, the reported savings rate and the rate of capital formation over the next five to 10 years could continue to decline and yet not necessarily threaten the future growth and competitiveness of the American economy, barring a major collapse in world capital markets. Unfortunately, uncertainty is the cost of opportunity, and errors can play havoc in a highly levered economy, particularly one in which major countries disagree on the optimal course for monetary and fiscal policies.

### Women's Work, Portfolio Risks and Savings Needs

Women's share in the labor force grew from 35 per cent in 1965 to 45 per cent in 1985. A large portion of these employment gains has taken place in the high-er-paid professions.

The incorporation of a larger number of educated women into the paid economy has increased significantly the wealth of the nation. Although we may never reach agreement on the precise method to calculate the amount of the increase, we can approximate the figure by the following process. Assume the 10 per cent growth in women's share of the labor force represents 15 million college-educated women. Take their average age as 40 and assume they have 25 years of active work life and their average upper

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quartile salary is \$20,000 in constant 1985 dollars. Finally, discount to present value the \$20,000 annuity stream at a real rate of 2 per cent (the long-term real rate of interest). The result is \$6 trillion. This wealth increase is "booked," or monetized on a yearly basis, by a \$150 billion increase in national income. Relative to total national wealth of \$135 trillion (calculated as the present value of a \$4.1 trillion 1985 GNP constant perpetual annuity), the employment gains of women have increased national wealth by over 4 per cent.

One may ask, if national income is up and the big change has occurred in the higher-income, college-educated, dual-income, traditionally higher-saving-bracket family, why are we not saving more? The answer is, we may not have needed to. If social security and welfare payments cover basic subsistence needs, we may not need to save much more because the perceived risks of being out of work or of not matching the consumption pattern of your peer group, which are the most important reasons why individuals would save over their contractual saving rates, have been cut significantly.

The risk exposure of a two-income family's wealth portfolio (savings), inclusive of human capital stock, measured as the present value of expected income, could well have been halved relative to that of a one-income family, because the two incomes are likely to come from different professional pools. Rightly or wrongly, they are not perceived to be highly correlated with each other. A one-income family that needs to save \$20 for each \$100 earned would need to save only \$10 or less if it became a \$200, two-income family. The savings rate would have dropped from 20 to 5 per cent of disposable income without increasing the financial vulnerability of the family unit. On the contrary, the two-income family unit would have not only contributed to an increase in labor productivity but, more importantly, increased the productivity of family capital by reducing the need for savings to preserve a stable consumption pattern.

In real life, this may not be quite the case, because when economies slump all social strata are affected to one extent or another. Also, women tend to earn less than men. But we are dealing with perceptions of risk. Women's work has not only increased national wealth and income, it has reduced the family's perceived "bankruptcy" risk and therefore its savings needs. This, added to the impact of social security and other welfare programs and the easy access to consumer, housing and small business credit (which does not exist in Japan and Europe), explains why the U.S. personal savings rate continues to decrease while consumer debt increases.

The rest of the world, particularly Japan, has yet to benefit from incorporating highly trained women into their paid economy. Such incorporation is not, of course, costless; the price is the temporary and sometimes permanent displacement of less productive male workers and the potential decrease in the quali-

ty of family life. The benefits, however, include increases in measurable wealth and national income and a reduction in necessary savings rates, because a family that lives on two incomes thinks it can, and may be able to, survive on one alone. Furthermore, consumers can keep on borrowing and spending without adversely affecting productivity increases, as long as trained women continue to increase their participation in the labor force. In monetary terms, there are at least another \$3 trillion of wealth and \$150 billion a year in national income to be earned by another 7.5 million women yet capable of joining the labor force if economic expansion calls on them.

### **Deregulation, Productivity and Financial Inflation**

The changes that have taken place over the past six years in the market for corporate assets may also have altered the corporate investment-savings pattern, capital budgeting decisions and the productivity of capital in the U.S. Prior to the onset of double-digit inflation, unpredictable energy costs, high and volatile interest rates, environmental controls and regulatory uncertainty, stock market prices were generally harbingers of economic cycles. Not only is the stock market a giant discount-to-present-value machine, but access to relatively cheap equity money during bull markets has usually led, with the help of technological innovations, to expansions in plant and equipment and economic growth.

The cycles had a rhythm bounded by interest rate ceilings, which effectively constrained credit expansion and investment when inflation rose and interest rates hit regulatory ceilings. While credit was available, if corporate managements wanted to grow they had to expand capacity and markets. They could, alternatively, invest in unrelated businesses and enjoy financial, operational or marketing economies of scale in a conglomerate setting. These transactions, however, were generally not easily reversible, and they were usually preceded by higher savings and investment rates to finance them through rough cycle-through periods.

During the 1970s, European, Japanese and other Far Eastern economies, fueled by technological innovations, much lower labor costs and higher productivity, displaced American manufacturing industry. This displacement occurred, not only in foreign markets but, more importantly, in American markets. Many U.S. manufacturing companies were trapped between obsolete equipment, labor and management and inability to restructure operations because credit was restricted by interest rate ceilings and corporate mergers and acquisitions were restricted by anti-trust legislation.

The picture changed drastically in the '80s. Relaxation of anti-trust enforcement and financial deregulation eased the credit and merger constraints of the '70s. Individual and corporate savings were invested,

not in new plant and equipment, but in purchasing undervalued and undermanaged corporate assets.

The conceptual, eminently rational and productive drive behind this phenomenon is not new; in economic literature, it is known as Tobin's Q. Tobin's Q, simply stated, is the ratio of book value over replacement costs. Other things being equal, when the ratio is higher than one, investments in plant and equipment will increase because it is more productive to expand by adding new capacity than by buying other companies. When the ratio is lower than one, it is cheaper to expand by buying existing companies rather than new plant and equipment.

The financial market's equivalent of Tobin's Q is the ratio known as "price-to-book," which measures the relation between stock prices and book values. In the 1970s, price-to-book ratios were in many instances lower than one because of poor management and poor earnings prospects in a structurally threatened economy with limited financial resources. Towards the late '70s, able managements began to find ways to finance the takeovers of whole companies or divisions of companies with very little equity capital by borrowing from commercial banks at unregulated market-clearing interest rates and by issuing lesser-quality debt with and without equity kickers. Institutional investors were willing to lengthen their investment horizon to five years or more, in exchange for higher returns from better management and business structures, lower effective tax rates, and lower market risk, as investments would be carried at book value within a partnership legal framework.

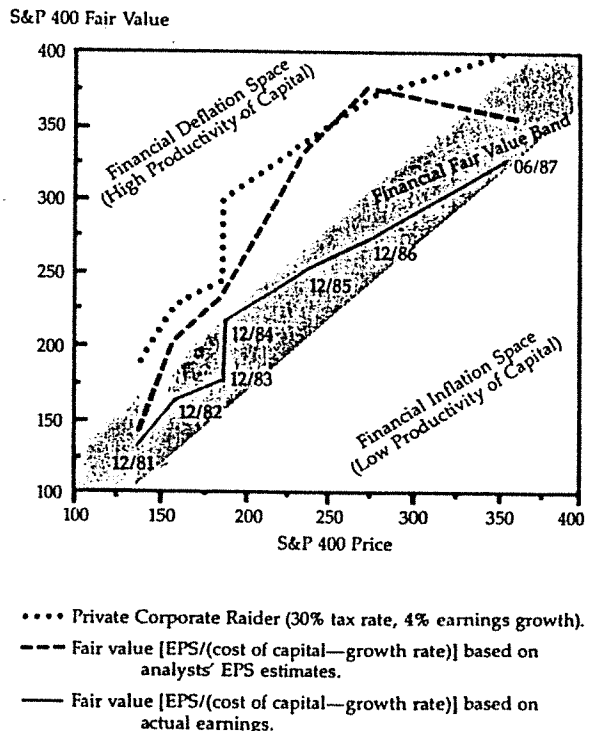
Thus started the period of leveraged buyouts and corporate raids. Tobin's Q and deregulation worked together to increase significantly the productivity of U.S. capital. At the extreme, it was no longer necessary to use equity capital, because it was possible to raise interest-bearing loans up to 100 per cent of capital needs. Price-to-book ratios began mounting as the bidding process continued. Many of the takeovers sprang from competitive realignments that called for the survival of the fittest. Also, the shareholder manager was more likely to increase productivity than the professional manager with no net worth to worry about or the absentee owner with no effective say in the running of the company.

The current picture, however, is no longer so clear. There are certainly gains to the economy from making most corporate transactions reversible through easy access to credit. Also, bankruptcy is no longer an end to the availability of credit and the productivity of capital is clearly higher now than any time in the last 10 to 15 years. However, the leverage used in many of the takeovers and the prices paid for the underlying assets could be excessive in an environment of sustained high real interest rates and low economic and earnings growth. Also, a year of poor profits could wipe out most of the managers' equity and leave them as unmotivated as they were 10 years ago.

The prices paid today for company assets measured by the P/B ratio for the S&P 500 is 2.1—certainly above replacement cost. Earnings are only exceeding the after-tax (30 per cent effective rate) cost of capital by a 1.7 multiple. To the extent P/B ratios exceed actual earnings-to-bond-yield ratios, the recent bull market might be described as a period of financial asset inflation rather than a harbinger of higher economic growth or a period of high productivity of capital.

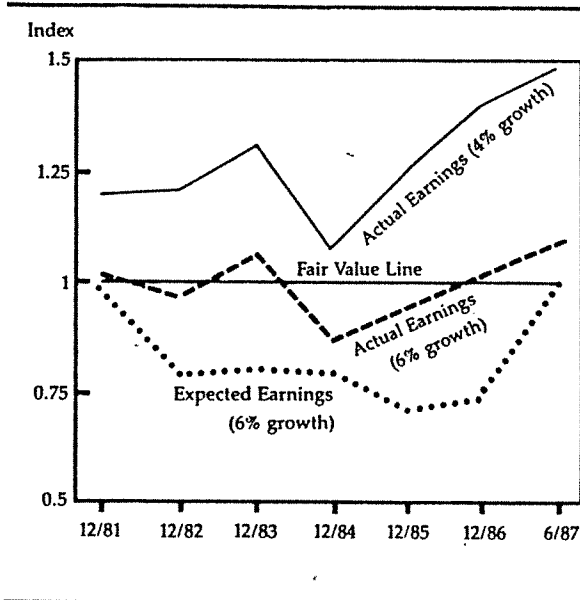
Figures A and B trace the path of fair value for the S&P 400 index, assuming corporate earnings grow at a 6 per cent annual rate to perpetuity. (A band is more appropriate than a line to allow for differences in accounting across firms.) The top dotted line in Figure A measures the potential fair value for a corporate raider who can deduct interest payments on debt raised to buy the equity of the takeover target, assuming an effective tax rate of 30 per cent, while tax on net earnings can be deferred until they are paid out. Clearly the value to a raider is higher than to a tax-free institutional investor such as a pension or endowment fund. The bottom line in Figure B measures analysts estimates. The top line

Figure A Financial Fair Value Map  
(6 per cent earnings growth)



Source: Merrill Lynch S&P 400 database for EPS estimates; cost of capital from Salomon Brothers BBB database, 15-year bond plus 1 per cent risk premium.

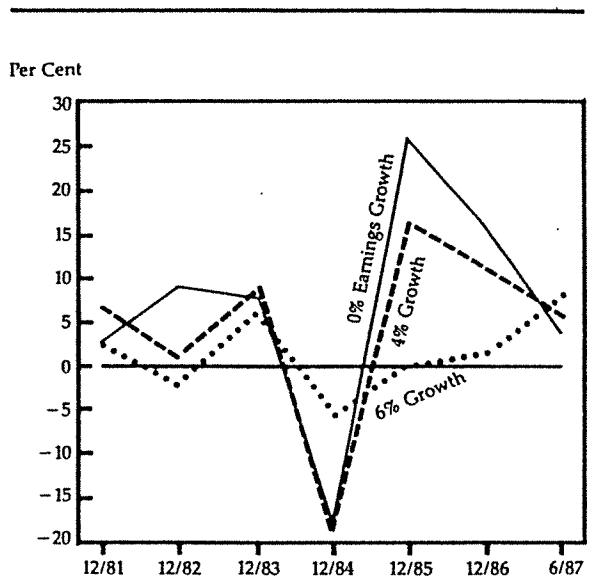
**Figure B Fair Value Index**



measures fair value on the basis of actual earnings, which have consistently trailed analysts' predictions by 1 to 4 percentage points. Figure C measures financial inflation rates based on actual earnings, assuming 0 to 6 per cent earnings growth. In all instances, financial assets showed a substantial inflation rate during 1985 and 1987. If analysts' predictions begin to materialize, however, financial asset prices would not be inflationary for some time, and equity prices could still be under fair value, if interest rates on BBB bonds remained under 10 per cent. If interest rates rose above 12 per cent, earnings growth alone could not fuel fair values and further price appreciation would be unlikely.

Financial asset inflation is no more conducive to appropriate savings and consumption patterns than the real asset inflation experienced in the 1970s. Savings and investments gone up in smoke because of excessive prices or leverage are not savings, they are consumption on an *ex post* basis. Moreover, the damage done to an economy by the wasteful use of investment opportunities can be more insidious than the damage done through excessive consumption, because it thwarts national expectations for a long time and puts an excessive burden on public policy, which generally results in increased government intervention and a lower productivity of capital. The crash of 1929 did much more lasting harm to the American economy than the consumerism and double-digit inflation of the '70s. The key to the constructive resolution of the uncertainties we are facing as we use leverage more aggressively to increase the productivity of capital in the face of apparent sluggish growth might lie in the intractable nature of a service economy.

**Figure C Financial Inflation Rates\***



\*Inflation in financial assets is computed only for fair value indexes over one, because fair value indexes lower than one represent periods of higher capital productivity growth, rather than inflationary price increases.

### Growth in a Service Economy is Harder to Measure

The bulk of the U.S. underground, off-tax economy is in the service sector because this sector requires no hard assets that are visible and hard to get rid of. Also, service businesses offer financial flexibility and throw off and process large cash flows. None of this underground economic activity is captured by national income accounts. Real growth figures are significantly higher than they appear.

In addition to the underground leakages, some of the reported portion of the service sector slips through national accounts loopholes because it is hard to measure the increase in productivity that stems from higher-quality services. Witness money-teller machines that replace the branch bank; the branch building makes GNP go up, the small machine does not. Genetic engineering, medical technology, microcomputers—none of these factors assures a bigger and better economy, but they are likely to result in increased growth, productivity and return on capital despite reportedly low savings and investment rates. It clearly does not make sense for an efficient service nation to fight for a strong manufacturing sector only to be able to book economic growth. Alternatively, a revision of national income accounts to improve their ability to reflect the underground economy, the quality and technical improve-

ments in the service sector and a measure of real changes in wealth could make a significant difference.

Specialization in the service sector does involve a much heavier reliance on manufacturing countries—currently Japan and Germany, in future Korea, Taiwan, Brazil and China. Such reliance could succeed only if countries accept free-market principles. The evidence so far is ambiguous; the human race is still struggling with issues of trust and hope in the face of wide divergence in wealth and income and volatile economic cycles. While uncertainty is high, there is always the risk of war through economic or military means. Trade and capital-account barriers are part and parcel of the economic battleground. Either way, economic specialization and international cooperation and interdependence could be seriously threatened; in that case, U.S. reliance on the strength of its service economy might be seriously jeopardized.

### Summing Up

The lower savings rate of Americans is not necessarily bad if it is the result of higher productivity of family and corporate capital. At the family level, productivity has increased with women joining the labor force and with the reduced risk their earning power has brought to family wealth portfolios. At the corporate level, financial and industrial deregulation, unlimited access to credit, business restructurings and an increase in management ownership could lead to higher return on equity, productivity of capital and economic growth, despite inadequate economic performance measurement tools for the service sector. If business restructurings do not add to productivity, but merely feed the greed of a few sector participants, they would be wasteful and inflationary.

In the end, savings rates are so low in the U.S. because credit is so easily available, and it is so easy to yield to impulse-buying of anything from blue jeans to houses, stocks, bonds and whole companies. Such easy access to credit is not available anywhere else in the world. This places an added burden on private and public policy. America may well survive and prosper on the strength of its service sector and its high productivity of capital, although it will surely be more vulnerable to the fate of the international

economy. If monetary policy is not loose enough to accommodate new productivity gains, however, growth could stop. If monetary policy is *so* loose that trade surplus countries such as Japan and Germany lose faith in the dollar, however, real interest rates would rise beyond current levels, and growth could be thwarted by the higher cost of capital. If growth stops and international trade falters, taxes, legal and trade restrictions could bring the productivity of capital down sharply. Also, inflation (if not bankruptcies) could wipe out most of the inflated debt and equity values at the expense of already-low American savings and investment rates. This would not be a happy end, even if the big losers were the Japanese exporters and savers, who like OPEC countries did in the '70s, flock to the U.S. consumer and financial markets in the '80s.

Whether the U.S. is a nation of spendthrifts or of shrewd portfolio managers is yet unknown. There are enough elements in the economy of the '80s, however, that could make for safe, if choppy, sailing despite the threatening undertows.

### Optimal Portfolio Strategy

For portfolio managers, the key decision is how broadly to diversify, how best to hedge against short-term price volatility and against the long-term systematic deterioration of the competitive edge of some countries or asset classes. World financial markets are today less regulated, more levered and consequently more volatile than they have ever been. Market timing in the form of *dynamic* hedging models does little in an environment of trendless or severe volatility, while it increases transaction costs. *Strategic* hedging makes more sense if the most important sources of risk—interest and credit risk, earnings growth and currency risks—can be identified and hedged with assets that offer intrinsic value even in the absence of the volatility they hedge against. Strategic hedging is a corollary to "arbitrage-pricing" portfolio models, which focus on identifying the sources of risk that make financial asset returns uncertain. As such, strategic hedging models are proactive, rather than reactive. The current uncertainties call for above-average diversification in asset mix; quick market-timing tools provide little help in managing portfolio volatility.