Recession Risk Rising

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RECESSION RISK RISING

By

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Recession Risk Rising

Kenneth T. Rosen
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Working Paper 01-273
Introduction

Is the U.S. economy heading for a recession? Ten indicators suggest that the threat of recession is rising: 1) venture capital excesses and the Internet bubble, 2) the high-tech slowdown, 3) an over-valued stock market relative to historical P/E ratios, 4) tightening in the credit markets, 5) high private sector debt levels, 6) higher energy costs, 7) a record trade deficit, 8) an extremely tight labor market, 9) an inverted yield curve, and 10) a contractionary fiscal policy (large government surplus).

The following graph illustrates the precarious position of the U.S. economy. The current environment has more severe versions of each of the five to six core factors present during previous recessions and, in addition, is saddled with a record current account deficit, volatile venture capital bubble, and large government surplus. As a result, we conservatively estimate the risk of recession in 2001 to be 45 percent. Evidently, the Fed acknowledges this rising risk as their recent aggressive easing of mandatory policy indicates. The 50 basis point decline in the fed funds rate target on January 3rd suggests the Fed believes the economic situation is very fragile as this paper sets forth. If the Fed does not continue a rapid easing of rates, the odds of prolonged recession increase to 70 percent.

<table>
<thead>
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<th>Year</th>
<th>Recession Risk</th>
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<tbody>
<tr>
<td>1970</td>
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<tr>
<td>1972</td>
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<td>2000</td>
<td>30%</td>
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<tr>
<td>2002</td>
<td>70%</td>
</tr>
</tbody>
</table>

1974 - 1975:
1) high oil prices
2) tight labor market
3) over-valued stock market
4) debt level spike
5) tight monetary policy and inverted yield curve
6) credit crunch
7) abandoned gold standard

1980 - 1982:
1) high oil prices
2) tight labor market
3) debt level spike
4) very tight monetary policy and inverted yield curve
5) credit crunch

1991:
1) high oil prices
2) tight labor market
3) over-valued stock market
4) debt level spike
5) tight monetary policy and inverted yield curve
6) credit crunch
7) gulf war

2000 - 2001:
1) high oil prices
2) record trade deficit
3) tight labor market
4) vc and high-tech bubble
5) over-valued stock market
6) debt level spike
7) tight monetary policy and inverted yield curve
8) government surplus
9) credit crunch
10) middle east conflict-the trigger
I. Venture Capital and the Internet Bubble

- *Impact: Significant Job Loss*

As much venture capital has been raised in the past two years in America as in the previous 20. In 1999, venture capital funds received a record $36 billion, according to PWC MoneyTree, more than 90 percent of which was directed toward Internet-related businesses. Through the third quarter of 2000, another $58 billion was raised, 95 percent of which was invested in web ventures, more than twice the $21 billion raised during the first three-quarters of 1999. Despite the abundance of risk capital, new economy profitability continues to remain elusive, a large proportion of venture investments have been proven unsuccessful, public market interest has receded and stock prices have begun to collapse. Recognizing the reduced potential for a billion dollar IPO, venture funding declined 11 percent in the third quarter of 2000 from the prior quarter, the first drop in four years, and the beginning of what will be a massive correction in risk financing, with devastating consequences for the start-up tech sector. Despite the $58 billion invested in 2000, web-related layoffs already near 30,000 in the U.S., Internet indexes are down an average of 58 percent, and web-firm casualties exceed 300. Venture capital has helped to support an industry that is in general not profitable. As efficiency replaces irrational enthusiasm, the job loss will be considerable.
II. High-Tech Slowdown

-- Impact: Decreased Capital Spending, Layoffs, Slower Economic Growth

America’s high-tech expansion, triggered by excessive enthusiasm for the Net, has been supported in large part by a cycle of cheap and readily available credit funding massive investments in technology and telecom. During the second half of the 1990s, technology spending has accounted for roughly one-third of GDP growth. During the third quarter of 2000, high-tech spending was responsible for 40 percent of GDP growth. However, mounting web-firm failures and high corporate debt levels have contributed to a growing sense of caution among lenders and within the public market, which has upset the debt-financed capital expenditure - productivity cycle, and resulted in a slower rate of growth for the companies that supply the technology (software, hardware, telecom firms). Even the bluest chips of the high-tech economy, Intel, Microsoft, Apple, Gateway, AMD, Dell, are issuing sales and earnings warnings, in part related to venture investment losses. Estimates for tech-sector earnings growth in the fourth quarter of 2000 have been slashed from 29 percent to 15 percent and estimates for 2001 have been trimmed seven percentage points to 17 percent. All of this presages a probable cyclical downturn, not just a slowing of growth. The tech-telecom sector is plagued by short-term over-capacity, bad debts and bad investments. A virtuous circle of investment is rapidly metamorphosing into a vicious cycle of retreat, which will have dramatically negative consequences for economic growth.

III. Over-Valued Stock Market

-- Impact: Decreased Consumer Confidence/ Spending as Wealth Effect Reverses, Slower Economic Growth

The combination of abundant venture capital and hefty foreign capital inflows have contributed to an atmosphere of “irrational exuberance” that has sent stock market valuations soaring relative to historical averages. Even after a 45 percent correction from its March 2000 high of 4816, the NASDAQ 100 is trading at a 108.9 P/E multiple, compared with its seven-year average of 55.8. Speculation, rather than exceptional earnings growth, is the force behind such impressive multiple expansion. During the last four years, consolidated average annual earnings growth has been 12.9 percent, compared with 18.7 percent during the four years prior (1993 – 1996). Similarly, the S&P 500 Index is trading near a record multiple, roughly twice its historical P/E ratio. Since 1940, the index has traded at an average multiple of 14.9 compared with today’s level of 27.2. Again, earnings growth has been less than stellar to support such price rises, increasing at an average annual rate of 8.1 percent during the last four years versus 21.7 percent between 1993
and 1996. High valuations and extraordinary IPO price gains (55 percent on average in 1999 with average proceeds of $68.7 billion) have contributed to a considerable rise in "paper" net worth. Household net worth has quadrupled since 1994. However, during the last six months, as the market has begun to turn downward, more than $2 trillion of net worth has evaporated. With approximately 50 percent of households owning stocks, a historic high, a continued correction in the market will erode consumer confidence and negatively impact consumer expenditures. Already, we are witnessing a sharp slowdown in automobile, home and retail sales.

Source: Bloomberg

Source: Bloomberg, Datastream

Source: Federal Reserve Board
IV. Credit Squeeze

--Impact: Decreased Capital Spending, Slower Economic Growth

Tightening in the credit markets, characterized by widening spreads over the 10-year treasury, has contributed to each of the three U.S. recessions since 1970. Today, the spread between the 10-year treasury and AAA bonds is the largest in modern history. Junk bond yields are at their highest level since the 1991 recession and the spread over the 10-year treasury is a gaping 850 basis points. Tightening reflects both a deterioration in credit quality and increased caution among lenders. Moody's estimates that the default rate for 2000 will be six percent, increasing to 9.1 percent in 2001, near the record 10.1 percent recorded in 1991. A recent Fed survey found that a more than 40 percent of banks reported a tightening of lending standards to firms in November, the highest number since 1990 and more than 50 percent expect to tighten their standards in 2001. Capital spending, specifically investment in technology, has been the driving force behind the 37-quarter U.S. expansion, which in turn has been sustained by cheap and easily accessible credit. Without public market financing, the support of traditional lenders or significant earnings growth, corporations will be forced to rein-in investment spending, which in turn will slow economic growth.
V. Rise of Private Sector Debt and Negative Personal Savings Rate

- Impact: Heightened Vulnerability to Slowdown

Encouraged by the illusion that stock market gains are real, private sector debt as a ratio to GDP is at an all-time record level relative to the size of the economy. During the third quarter of 2000, private sector debt reached 132.2 percent of GDP. Only during the stock market boom of the late 1980s did debt accumulation approach current levels. At the same time that private sector debt has risen, the U.S. personal savings rate has turned negative (-0.8% as of October 2000). Excessive private debt, increasing debt service payments and a negative savings rate make the economy especially vulnerable to other shocks and heighten the risk of an economic slow-down deteriorating into a deep recession.

![Graph of Private Sector Debt (Ratio to GDP)](chart1)

![Graph of Personal Savings Rate](chart2)

Source: Federal Reserve Board

VI. Higher Energy Costs

- Impact: Like a Tax Increase, Higher Inflation Rates

Oil price shocks contributed to the three major recessions of the 1970’s, 1980’s and early 1990’s. In 1981, the price of West Texas (WTI) crude averaged above $37 per barrel, compared with an average price of $10 during the previous decade. In 1990, WTI crude was trading for more than $24 per barrel (with an October high of $41), versus an average price of $17 between 1986 and 1989. During the third quarter of 2000, the price of WTI has averaged more than $31 per barrel, and reached a high of $37 in mid September. In addition to rising oil prices, natural gas prices have quadrupled during the last 11 months, approaching $10 million BTU. In California, prices are as high as $19 million BTU, the equivalent of $120 per barrel of oil. In previous recessions, oil prices soared but natural gas prices remained relatively low. The combination of high oil and natural gas prices acts like a significant tax increase on the American public. Inflated gasoline,
heating oil and natural gas prices immediately show up as a weekly and monthly expense increase for the consumer (household heating bills could increase more than 50 percent this winter), which in turn causes consumer spending to slow. During the recessions of the last three decades, the Fed has focused more on the inflationary impact of higher oil prices than on their tax-like implications. In response to increased inflation (sparked in part by rising oil prices), the Fed raised interest rates substantially in the mid 1970s and early 1980s and 1990s, which ultimately caused deep recessions. The recent sharp run-up in oil and natural gas prices rouses fears that a similar sequence of events may unfold in 2001.

VII. Record Trade Deficit

- Impact: Sharply Weaker Dollar, Reversal of Foreign Capital Flows, Higher Interest Rates

The U.S. will have a record $400 billion trade deficit for the year 2000. Such a mountainous deficit could undermine the current strength of the dollar. A weaker dollar would reduce the torrent of foreign capital flows to the U.S. Nearly $272 billion dollars was invested in the U.S. in 1999, compared with $182 billion in 1998. More international capital has flowed into the U.S. during the first two quarters of 2000 ($130 billion) than was invested during all of 1997 ($104 billion). Including portfolio and direct investment, foreigners are investing roughly one billion dollars a day in the U.S. A reduction in foreign investment could therefore have a significant negative impact on U.S. stock and bond prices. At the same time, a weak dollar could trigger inflation and constrain the ability of the Fed to lower interest rates as quickly as domestic policy considerations might dictate.
VIII. Extremely Tight Labor Market

- Impact: Wage Inflation, Higher Interest Rates

The November 2000 national unemployment rate was 4.0 percent, near a 30-year low. As labor market conditions have remained tight, the employment cost index has begun a steeper ascent, rising an average of 4.8 percent during the first three quarters of 2000, the largest increase since the early 1990s, and compared with an average increase of 3.1 percent during the same period in 1999. High apparent rates of productivity growth have so far offset the increases in employee compensation cost. In addition, a booming stock market has enabled employers to supplement wage compensation with stock options. The $570 billion net gain in options (between June 1999 and June 2000) is equal to 14.6 percent of wages and salaries paid by the companies in the S&P
500, up from 8.4 percent in June 1999. During 1999, about 10 million employees received some form of options compensation, ten times the level in 1992. However, with fewer successful technology IPOs and stagnant or falling stock prices, the attractiveness of options packages has declined and employers (in a constrained labor environment) will increasingly be forced to offer higher wages to attract employees; the employment cost index could begin to rise at an even more rapid rate.

![U.S. Unemployment Rate](image)

Source: Bureau of Labor Statistics

![U.S. Employment Cost Index vs. CPI, Excluding Food and Energy](image)

Source: Bureau of Labor Statistics

IX. Inverted Yield Curve

- **Impact: Historically Present Prior to Recession**

An inverted yield curve is an unusual event. Under normal economic conditions, investors demand a higher return for longer maturity bonds to compensate for time and liquidity risk. Historically, an inverted yield curve is a sign of tight monetary policy, and therefore it often appears prior to recession, as in the early and late 1980s. The present inversion of the yield curve is the result of two things 1) the government retiring debt (because of the current surplus, for example), and 2) a pushing up of short rates by the Fed to slow the economy. Since June 1999, the Fed has increased rates 175 basis points. The sudden weakness in the economy now makes us anticipate that the Fed will continue to cut rates in 2001 to stave off a possible recession.
X. Contractionary Fiscal Policy Because of Large Government Surplus

-- Impact: Drag on the U.S. Economy, Slower Economic Growth

With government receipts significantly outpacing government spending, federal and state fiscal policy is clearly contractionary. In 2000, the estimated Federal surplus is a staggering $215 billion (the largest in history), which corresponds to 2.2 percent of GDP. For comparison, in 1999 the Federal surplus was $124 billion, also a record, representing 1.3 percent of GDP. Everything else equal, a surplus of such substantial proportions will automatically slow the economy. The Bush presidency may propose a tax cut program to stimulate economic growth and reduce the surplus.
Conclusion
It is the interaction of all ten of these imbalances that make the risk of recession so great. Together, these economic asymmetries create a troubling matrix of slow-down and inflationary conditions. High oil prices, a tight labor market and a potentially weaker dollar will encourage price and wage inflation, and potentially even higher interest rates. However, Internet and related job losses, declines in household networth associated with falling stock prices, higher energy costs, record debt levels combined with a negative savings rate, and high interest rates will discourage private consumption, which accounts for two-thirds of GDP. Similarly a stagnant IPO market, decelerating (or negative) earnings growth, stricter lending criteria, high interest rates and rising wage costs will deter corporate investment spending, which has accounted for 25 to 40 percent of GDP growth since 1995. If private consumption and capital spending were to decrease by 50 percent, GDP growth in the third quarter of 2000 would have been less than one percent.

The common argument against recession has been productivity growth. Substantial gains in business productivity have led a number of analysts and economists to disparage the economy's vulnerability to a prolonged slump. They argue that technology-led gains in efficiency have created a virtuous cycle of investment, profitability and growth. Although technology has enhanced productivity, those gains must be examined more closely during an economic boom. In an expansionary environment with an inadequate supply of labor, work per employee must increase. As the output market softens, companies will not immediately contract their workforce and output per employee will decline. In other words, output will decline faster than employment, so reported productivity will slow. We have already begun to see the effect of a
slowing economy on productivity, during the third quarter of 2000, productivity growth fell nearly three percentage points to 3.3 percent from 6.1 percent in the prior quarter.

While advancements in technology have enabled notable productivity improvements, those gains are over-stated. The U.S. sits on the high end of an economic seesaw, held up by a series of related, and increasingly less sturdy, imbalances. The risk of recession is rising.