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The Tech Depression: Will It Never End?

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The high-tech investment meltdown shows little sign of easing, with risk premiums remaining at prohibitive levels.

The outsized risks to capital -- the product of the lingering aftereffects of **the Fed's** deflationary siege as well as shorter-term factors including the growing possibility of war with Iraq -- continue to relentlessly chop at the market's capacity to finance innovation-driven growth. The IPO market has gone seven weeks now without a new offering, the pace of venture capital funding continues to slide, speculative-grade credit spreads have returned to their worst post-9/11 levels, and outstanding commercial and industrial loans have contracted by 7.5% year-on-year (a near record).

But perhaps the greatest cost of this period of feeble capital formation has come in disrupting the upgrade of the capital stock with the technological advances that powered the productivity "miracle" of the late 1990s. The value of that foregone opportunity will compound over time, with a long-term cost that is multiples of the decline in output growth witnessed over the last two years. The ongoing devastation of equity market capitalizations, now totaling more than \$7 trillion, can be seen as the market attempting to discount for its reduced estimate of the capital stock's power to produce future income.

Key to reversing this high tech investment depression is a reduction in the risk premium in the cost of capital. While that risk premium defies precise quantification, at this stage it's clear that growth expectations remain insufficient for risk-adjusted expected returns to justify the necessary commitment of investment resources.



True enough, it's possible to take a snapshot of the data coming out of the battered high tech economy and frame it as suggesting that at least a lukewarm recovery is in the works. On a year-over-year basis, for example, new orders for computers and electronics -- the high

tech component of the **Commerce Department's** durable goods series -- have risen by about 3.6%. That's no boom by any stretch of the imagination, but at least it seems to be moving in the right direction.

On closer look, though, the data offers little real comfort beyond providing a sense that tech is no longer being pulled into a contractionary vortex. With new orders for high tech capital goods having bottomed out after collapsing by nearly 50% from their mid-2000 peak levels through the third quarter of last year, it's a near certainty statistically that year-on-year comparisons would show some uptick. Using a more condensed time scale, however, the apparent progress evaporates. Durable goods orders are notoriously volatile, so smoothing is essential to gleaning any analytical relevance from the data. Viewed on a three-month moving average of three-month percentage change, the best part of the high tech recovery seen thus far actually came early this year when, in February, orders were growing at an annual rate of about 28%. As of the most recent reading in August, "growth" had turned negative, with orders falling at an annualized 1.3%. For a sense of perspective, consider that new high tech orders are currently running at an annual rate of about \$315 billion, on a par with the levels of late 1995 at the dawn of the information technology revolution. This pattern is consistent with the continued decline in technology company earnings, after a temporary uptick early in the year (see ["Earnings Tell the Tale"](#) October 3, 2002).

We find little support for simplistic notions that the technology depression is the consequence of the "excess capacity" created by a binge of "overinvestment" in the later stages of the '90s boom. Research by a variety of organizations strongly indicates that the high tech investment programs of scores of firms were positive-return endeavors right up until the time the economy started braking so sharply in late 2000. As a study by the **New York Fed** last year concluded, "firms believed that the economic boom would continue and, as a consequence, they made capital expenditures based on this expectation. Then, as the economy began to slow..., firms reevaluated their assumptions and abruptly revised down capital spending plans." That reevaluation can be seen as tantamount to imposing a heightened risk premium, dramatically compressing the time required for new investment to pay off.

While that process has been devastating, the available evidence also makes a powerful case that there remain huge needs for additional future investment to complete the adaptation of the capital stock to the high tech innovations of the '90s. By many estimates, less than 50% of that task was completed at the time the downturn hit two years ago. The efficiency gains available from completion of the implementation of Internet business applications alone are potentially enormous. **UC Berkeley's Hal Varian** conducted a survey of more than 2,000 US firms and found cumulative cost savings and revenue gains of more than \$2 trillion expected from planned Internet projects, with the bulk scheduled for completion by 2005.

Those investment plans, however, will not come to fruition until the risks to expected returns are reduced to levels that no longer pose an insurmountable hurdle. And while such recent factors as Iraq and the political risks arising from efforts to curb corporate malfeasance are not trivial to this risk/return calculation, the monetary climate in the aftermath of the Fed's deflationary errors continues to be the greatest source of uncertainty. Committing to put capital at risk in long-lived investment projects requires a significant measure of confidence that instability of the unit of account will not render the plans uneconomic. In a deflation, not only are gross revenue projections put at extreme risk, but the real burden of debt undertaken to finance investment is magnified by appreciation of the currency's real purchasing power.

In large measure, the perfect storm that has hit high technology over the past two years was the culmination of the Fed-engineered deflation that stretched from 1997-2001. Even the relief seen

in the dollar's softening this year against foreign exchange and key commodities (on a 40-day moving average, gold is now 13% above year-ago levels) will not translate into reduced investment risk as long as the sustainability of that progress remains in doubt. At the moment, there remains good reason for doubt, as the Fed's Byzantine operating procedures again are compelling the central bank to restrain the provision of dollar liquidity to the financial system.

In a *TrendMacro Live!* bulletin following the **FOMC** meeting last month, we suggested that by further encouraging speculation that additional rate cuts might be forthcoming, the Fed perversely could set in motion a dynamic in the reserve market that would actually result in a net tightening of liquidity. That now appears to be happening as growth of the Fed's balance sheet, after posting double-digit year-on-year rates for the bulk of the year, has slid to just 8%. In other words, it is premature to offer any solid assurances that the Fed has overcome its deflationary biases and is securely on a price-stable course. Such uncertainty seems likely to continue to pose unwelcome obstacles to higher-risk investment projects, with high tech capital goods paying the heaviest price. **TM**