C | A

CAMBRIDGE ASSOCIATES LLC

# U.S. MARKET COMMENT: TECH SPENDING

## February 28, 2001


Ian Kennedy
Robert Lang
Stuart Wall
Laura Brooks
Leigh Pate

**Tech Spending: Will the Virtuous Cycle Turn Vicious?**

The economic expansion of the last decade was powered, in large part, by spectacular growth in capital spending in general and technology spending in particular. Over the last five years, investment in technology grew at an average annual rate of 25% in real terms, accounting for anywhere from 20% to 33% of total economic growth. Expenditures on equipment and software now represent a record 10% of nominal GDP, up from 7% in 1992 (see Table A).

Having over-invested during the expansion's heady years, corporations are now in the uncomfortable process of digesting these excesses. Tech orders fell 7.9% during the latter half of 2000, after growing 12.9% in the first half (see Table B). For the entire year, orders grew only 4%, down from their average annual 11.7% growth rate for the five years from 1995 through 1999. Some analysts believe that the drop in orders portends a 4% fall in tech spending in the first quarter of 2001, which would be the first decline for tech spending in a decade.

Profits fell 11% in the fourth quarter of 2000 (the worst performance since the recession year of 1991), compelling many firms to slash their capital spending budgets, as a toxic combination of diminishing sales and high debt expenses drains their ability to generate the cash flow needed to sustain the pace of investment spending.  At the same time, external funding sources have become far less accommodating as tighter lending constraints and weak equity markets have raised the cost of capital.  Retrenchment at the micro level is fanning fears that the investment boom will turn into a bust at the macro level, as a sharp deceleration in technology spending has a multiplier effect throughout the economy—the malign mirror image of the virtuous cycle propelled by capital investment during the boom years.

In today's economy, the amplification of a drop in tech spending is likely to be more severe than would be the case in an economy less dependent on growth in capital spending and productivity.  In addition, the wealth effect functioned as an accelerator for both the economy and equity market when they were rising, and is doing so in the opposite direction on their way down. In this "reverse wealth effect," lower equity prices depress household spending, which intensifies pressure on product demand and corporate earnings. This, in turn, forces companies burdened with excess capacity and substantial debt to limit their capital spending. The question is whether this dynamic has already more-or-less run its course through the usual process of self-correction, as companies liquidate inventories and slash capital spending, or whether we have only just started down a long slippery slope, at the bottom of which lies a darkened plain of high unemployment, reduced purchasing power, diminished demand, and anguished retrenchment by consumers and corporations alike.

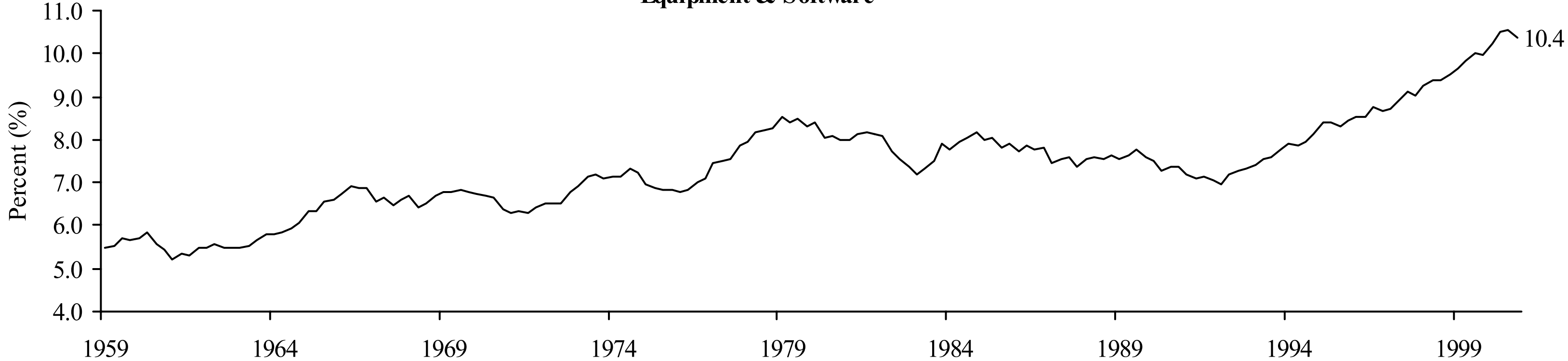
If the virtuous cycle indeed turns vicious, the slowdown would grow more pronounced and prolonged, confounding hopes for a V-shaped recovery in the second half of 2001. This may seem like an unlikely worst-case scenario, but if productivity growth and capital spending continue to deteriorate, as they did in the fourth quarter last year, we may see the underpinnings of the new economy's brave new world unravel further.

# Table A

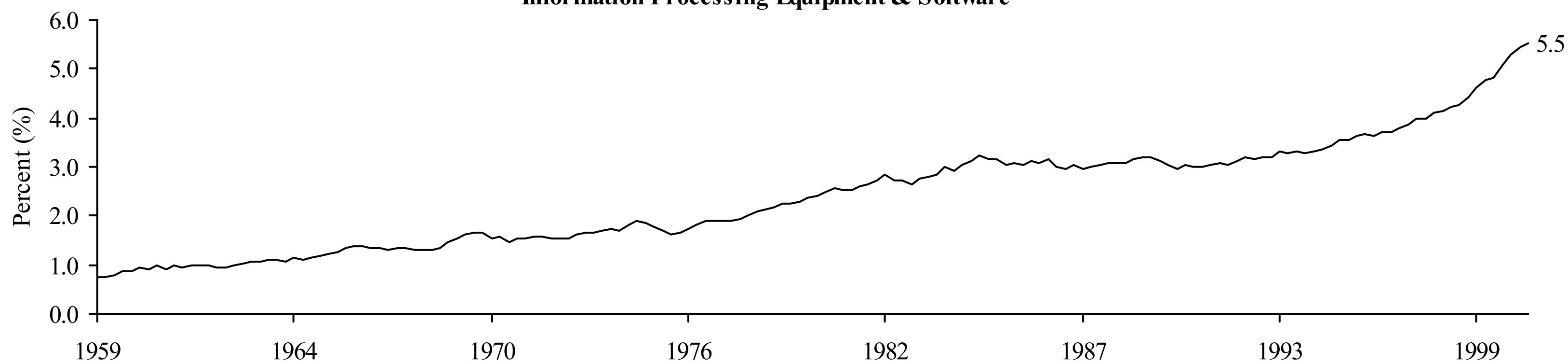
## PERCENT OF GDP ATTRIBUTABLE TO CAPITAL INVESTMENT IN COMPUTER EQUIPMENT AND SOFTWARE

### March 31, 1959 - December 31, 2000

**Equipment & Software**




**Information Processing Equipment & Software**



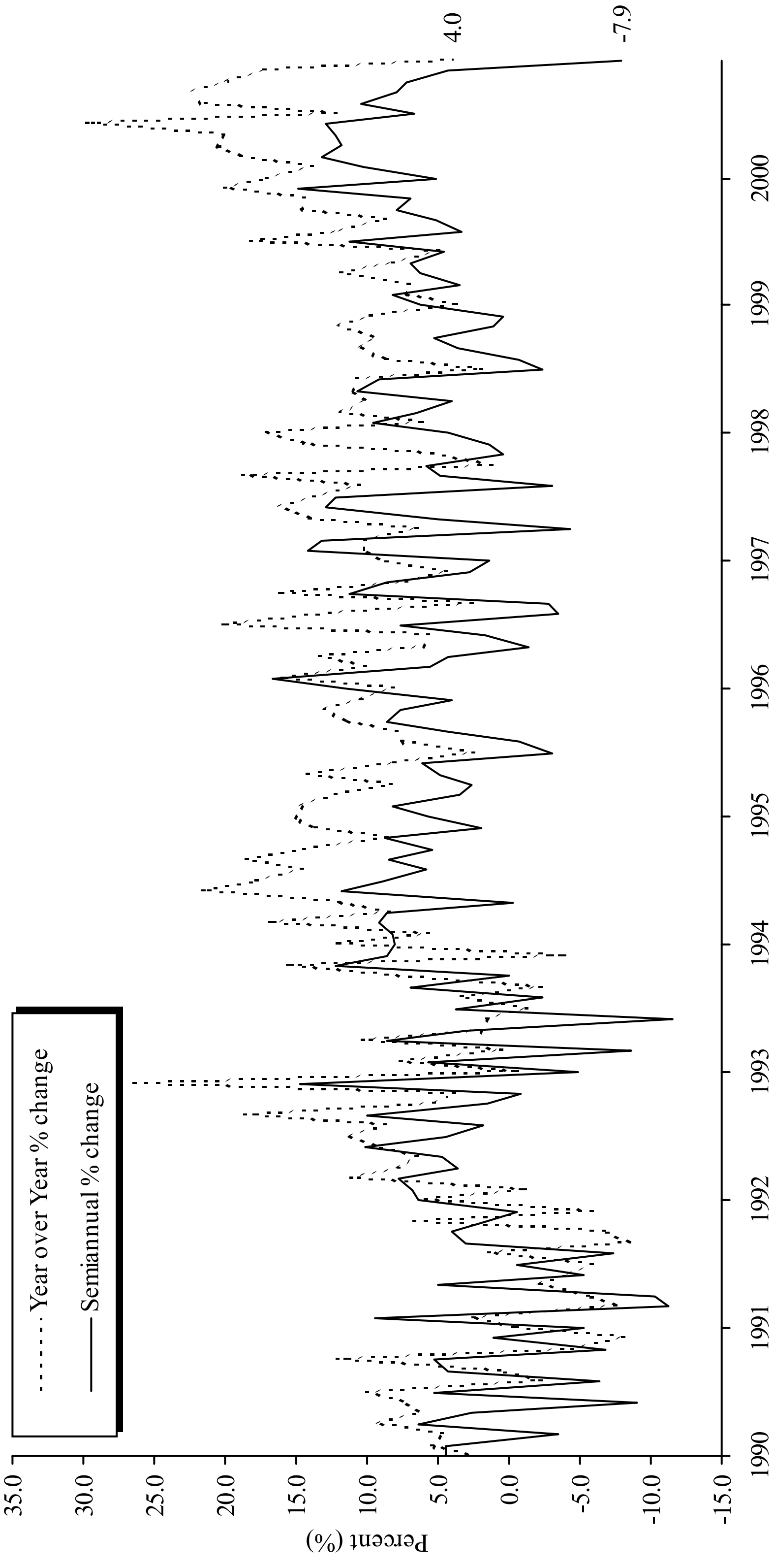

Source: Calculated from data provided by Datastream International.

Notes: Graph represents quarterly data. Both series were calculated using seasonally adjusted current dollars. Information Processing Equipment & Software is one of four components of Equipment & Software.

**Table B**

**INFORMATION TECHNOLOGY SALES ORDERS**

**January 31, 1990 - December 31, 2000**



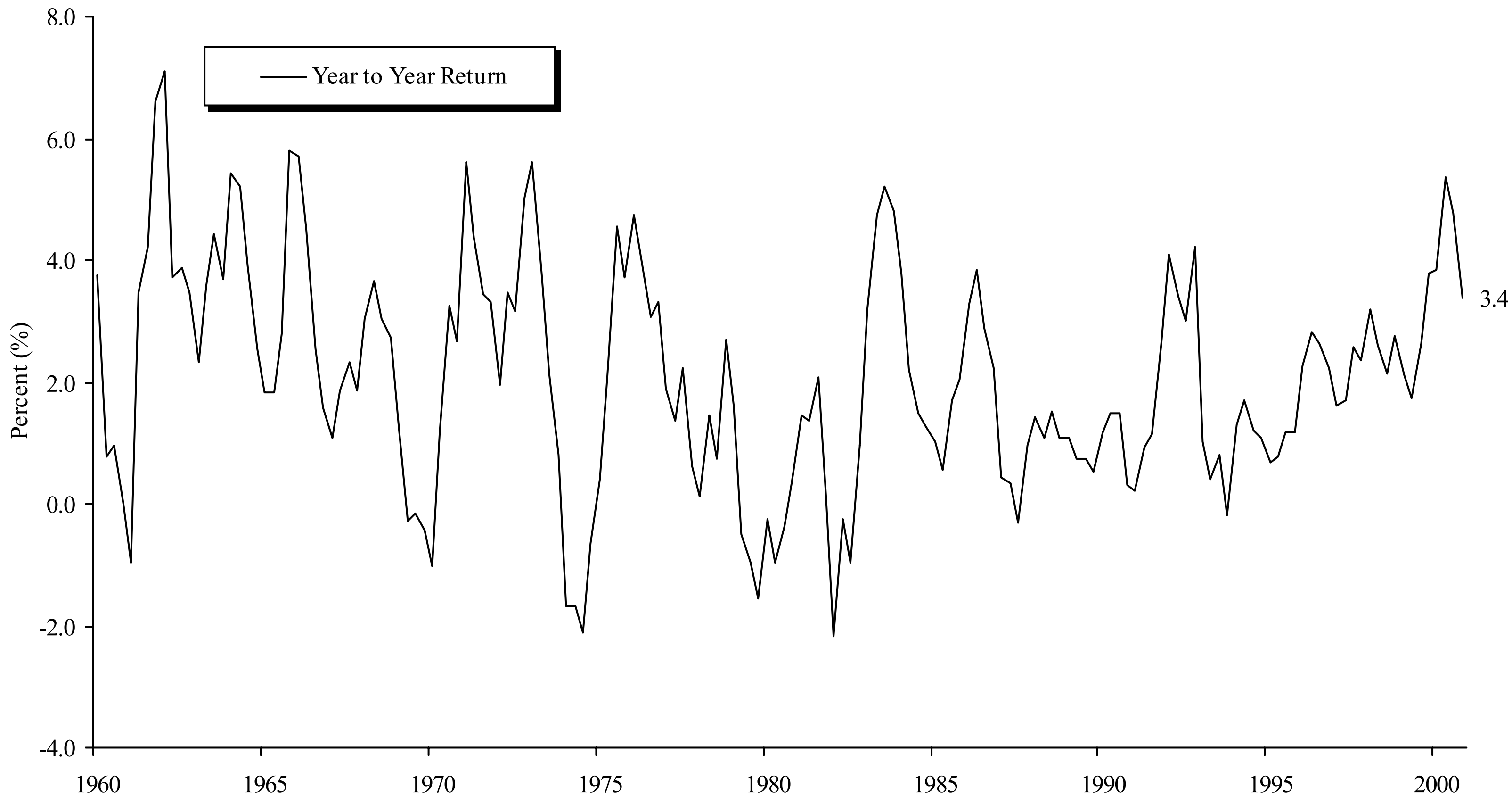

Source: U.S. Census Bureau.

Note: Graph represents rolling monthly data.

**Table C**

**NONFARM PRODUCTIVITY**

**March 31, 1960 - December 31, 2000**




Source: Datastream International.

Notes: Graph represents quarterly rolling data. Seasonally adjusted index.