

The Case for New Techno-Econometric Indexes

Modern economic metrics, such as the Technology-Economy Index (TEI) developed by our research team, are needed by business and government leaders to more accurately measure the impact that IT is having on various aspects of the global economy (i.e. Productivity, GDP, and Industrial Output).

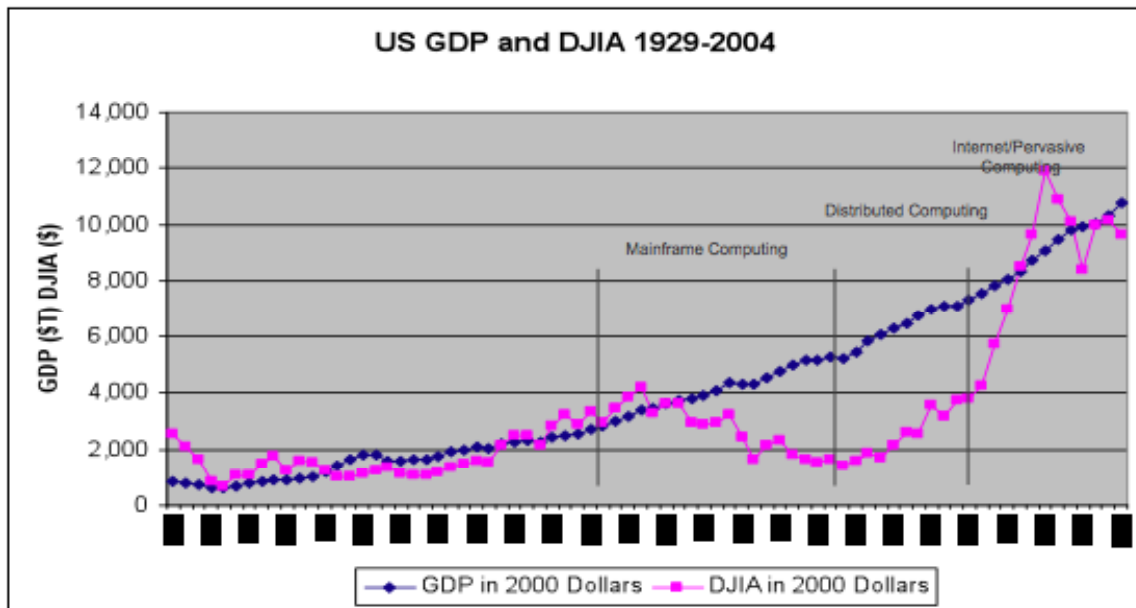


Figure 1. Historical linkage between technology eras and GDP trends.

In addition to macro-economic analyses, our metrics are also extremely useful tools for leaders of individual organizations to help them determine the cost-effectiveness of their IT investments. Corporate leaders often ask me how they can use benchmarking measurements to compare the cost and efficiency of their IT operations against competitors, like-sized companies in other industries as well as Best-in-Class organizations.

When it comes to IT, 'Best in Class' is typically viewed as those organizations which have the lowest-cost IT operations relative to revenues or operating expense. That's a fallacy, because the lowest-cost users of technology aren't necessarily the best or most efficient.

Instead of focusing solely on cost, companies should be applying techno-economic metrics to make more critical and meaningful evaluations, such as comparing how their IT investments and returns ranks among the most profitable IT investors in their sector or to evaluate the IT spending patterns of those companies that have increased their business performance earnings per share over a period of time.

The chart below is drawn from Rubin Worldwide's Technology Leadership Index (TLI), which measures the impact of making a significant investment in the development and utilization of IT by tracking the market caps of the 500 most efficient global IT spenders. The graphic illustrates the cumulative performance of 300-plus technology firms against the Dow Jones Industrial Average, the S&P 500 and the Fortune 500 since 2006.

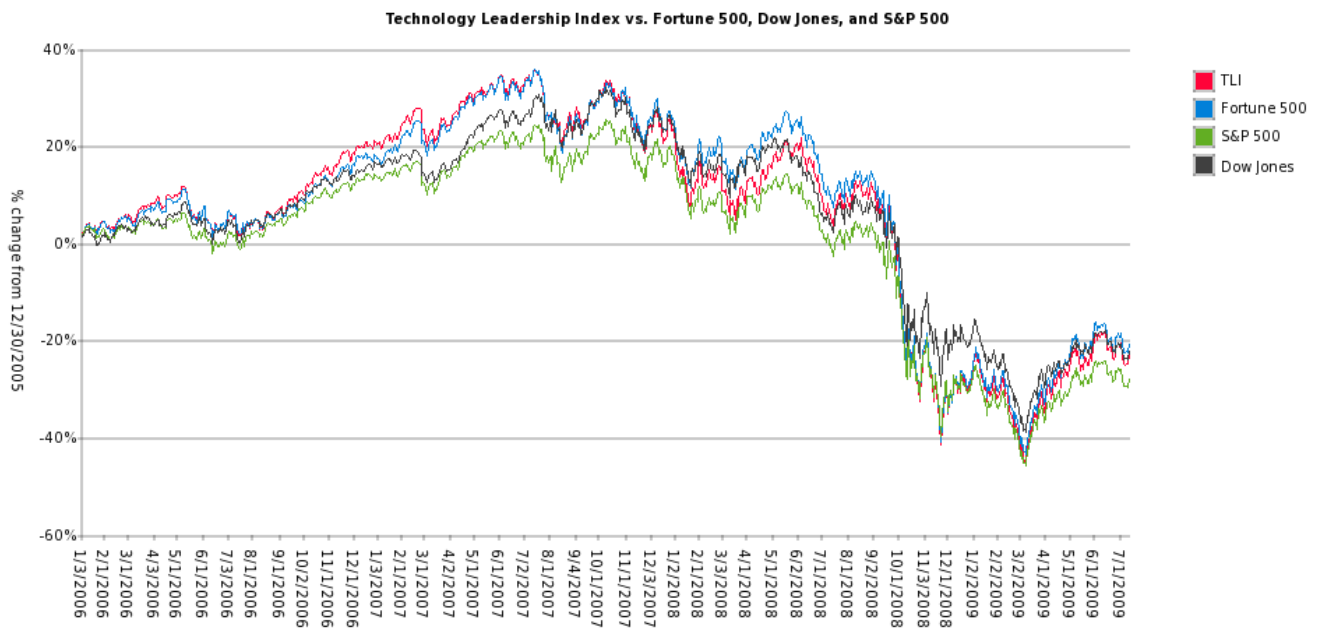


Figure 2. Technology Leadership Index vs. Fortune 500, Dow Jones and S&P 500

The Link Between IT and Productivity Growth

In the late 1990s, labor productivity growth accelerated to rates not consistently seen since the 1960s. Labor productivity growth averaged about 1.5% per year from 1975 to 1995, and then took off with an average annual gain of about 2.5% between 1995 and 2000. Between these two periods, we saw a 67% jump in productivity growth. This occurrence is extraordinarily important, since productivity growth is the most critical determinant of future economic growth rates in a mature economy.

Several major studies have linked IT and productivity acceleration growth in the U.S. economy, as shown in the table below (source: The Information Technology Industry Council: <http://www.itic.org>). These studies reveal that IT has been responsible for at least half of the productivity growth acceleration between 1974 and 2000.

Study	Authors	% Productivity Growth Acceleration Attributed to IT	Time Periods
Computers, Obsolescence & Productivity ¹	Whelan	73.7%	1974-1995; 1996-1998
The Resurgence of Growth in the Late 1990's ²	Oliner and Sichel	62%	1991-1995; 1996-2000
The Budget and Economic Outlook; Fiscal Years 2001-2010 ³	Congressional Budget Office	54.5%	1974-1999; 1996-1999
Raising the Speed Limit: US Economic Growth in the Information Age ⁴	Jorgensen and Stiroh	50%	1990-1995; 1995-1998
2001 Economic Report of the President ⁵	Council of Economic Advisers	49%	1973-1995; 1995-2000

Table 1. Studies linking IT and productivity growth. Source: ITIC.

As illustrated by the next chart, there appears to be a direct correlation between technology 'eras' (such as dawn of the Internet Age) with productivity growth during each of those periods.

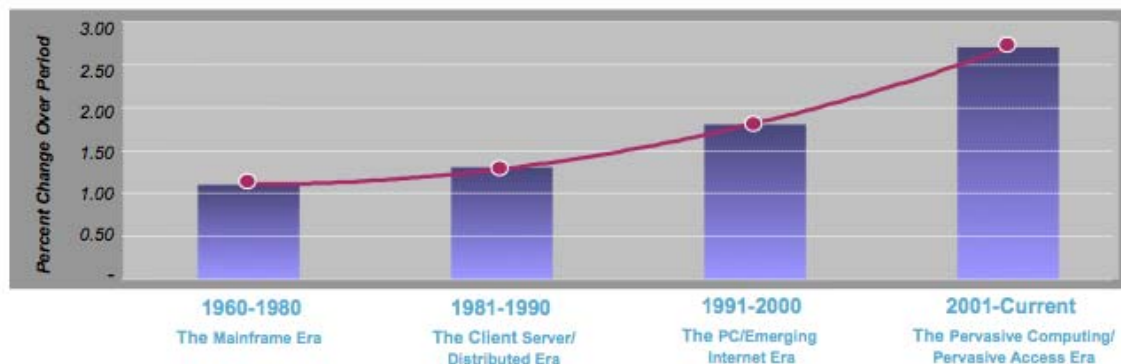


Figure 3. Correlation Between Technology 'eras' with Productivity Growth

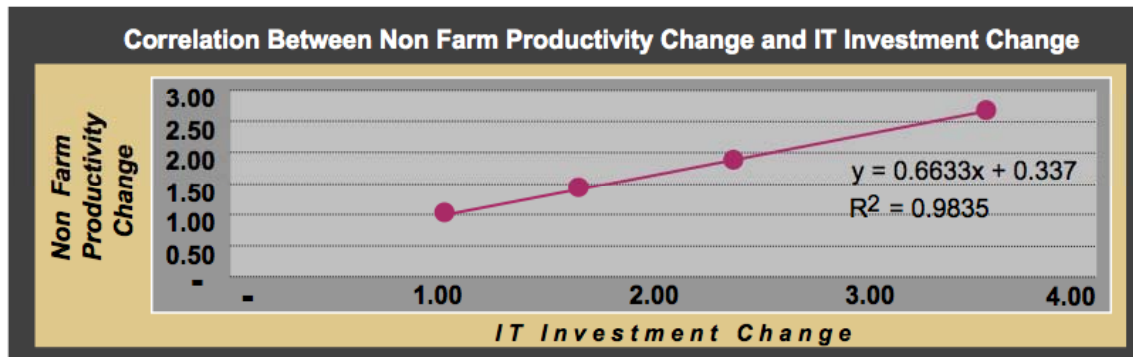


Figure 4. Correlation Between Non Farm Productivity Change and IT Investment Change

One of our indexes – the Technology-Economy Index (TEI) – is a useful measurement for capturing the connection between IT and productivity. Since IT is a major component of global productivity, the health of the IT industry is an essential requirement for a strong global economy. TEI captures the current status of the IT industry, including both technology companies and IT organizations within retailers, banks, energy companies, etc. It is our belief that TEI serves as a more accurate gauge of economic health and growth than other Industrial Age measurements.

Listed below are the individual factors we measure in compiling TEI:

IT Market Value

- The Morgan Stanley High-Tech 35: This is a composite index of the stock prices for the top high-tech companies. The index provides a view of the market value of top IT producers.

IT Innovation

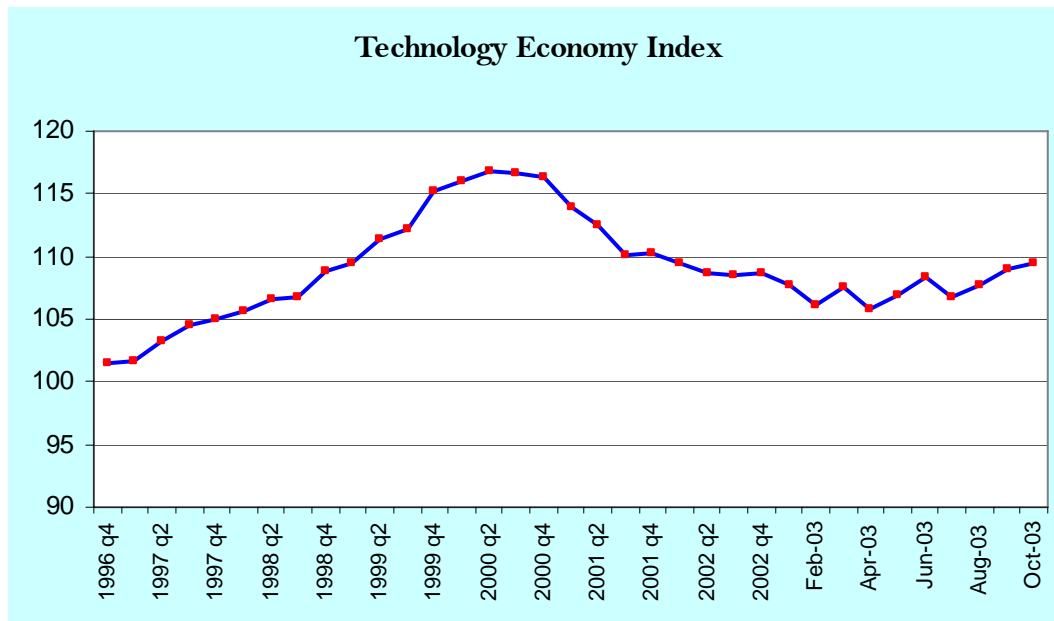
- Venture Capital Funding: The money invested in high technology ventures, which indicates the current level of activity and support of innovation in high tech.

IT Investment:

- Total Employees in IT: This factor captures the current level of employment for technology workers.
- Technology Consumer Confidence Index: An index which demonstrates the current level of confidence for technology consumers (both corporate and consumer).
- Corporate IT Spending: Monthly average, cross-industry.
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IT Industry Performance:

- Value of Shipments
- New Orders



If we analyze the events and economic activity in IT from late 1996 to late 2003, we see that TEI accurately reflects what the current economic conditions were. The strong and steady economic growth that occurred during the late 1990s is evident in TEI with a high point reached during mid-2000. At that point, we begin to see a slight decline followed by a considerable dive in late 2000, just as we did with the U.S. economy.

Indicators for the New Economics

Technology Consumer Confidence Index – A bellwether index of corporate and consumer technology purchasing. A more powerful alternative to the University of Michigan Consumer Sentiment Index and The Conference Board Consumer Confidence Index.

Leading Index of Technology Economy Indicators – the TEI. A more powerful and more meaningful alternative to The Conference Board's Leading Index of Economic Indicators.

Competitive Landscape Index (for Business Performance and Technology) – The CLI 100. A balanced scorecard-based assessment of business competitiveness which takes the Fortune 500 head-on.

The Technology CPI (Consumer Price Index) -- A specialty CPI with global and regional variations that has more meaning than any government data, including cost and price variations as well as labor, services and hard goods variations.

GITEI and GOI – Global Information Technology Economic Index and Global Offshoring Index. These are country by country ratings that compete with GDP-type indicators which demonstrate national standings in the new global technology economy.

To get a sense of the unprecedented opportunity available to business leaders through Technology Economics, consider the experiences of a relatively recent market leader. Bloomberg built its business and brand early-on and leaped ahead of the pack by recognizing a need for streaming economic and business data in the `old' economy. Corporate leaders who seize upon the workings of Technology Economics can also obtain extreme competitive advantage.

These organizations will be best positioned for leveraging opportunities in this technology-infused economy and become the `Bloombergs of IT'. Techno-economic trailblazers will be able to open real-time windows into economic performance, including IT-focused market data feeds, tools, models, and research that will enable business leaders to manage and direct the world's more than \$1 trillion investment in information technology.