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## U.S. MARKET COMMENTARY

# Can U.S. Corporate Profit Margins Continue to Defy Gravity?

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Wade O'Brien  
Alex Jones  
Matthew LaPaglia

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# Can U.S. Corporate Profit Margins Continue to Defy Gravity?

Wade O'Brien, Alex Jones, & Matthew LaPaglia

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**Equity investors are right to be focused on corporate earnings, given that a lackluster recovery and slowing global growth may weigh on sales. However, profit margins may be of lesser concern, due to index mechanics and the limited correlation between margins and returns.**

S&P 500 companies have enjoyed a stunning rebound in profits since the depths of the credit crisis, with operating earnings more than doubling between first quarter 2009 and first quarter 2011. This recovery in earnings has been accompanied by a return to near-peak margins, triggering concerns over their sustainability and the outlook for equity returns. Possible headwinds to margins are seemingly numerous, including slowing top-line growth due to an economic slowdown and cost pressures from higher commodity prices. While more difficult to quantify, macro risks such as sovereign debt issues and resulting austerity measures also contribute to investor concerns.

This comment discusses recent trends in margins and their outlook. Despite today's lofty level, the outlook for index margins may be more constructive than is commonly thought. This is not to suggest that companies will become more profitable; rather, increases in aggregate index margin could simply reflect faster sales growth at higher margin companies. Given this, and the low correlation between margins and subsequent equity returns, some of the current nervousness over margins may be misplaced. However, an understanding of what drives margins and what they signal about the economic outlook is useful in making sense of earnings prospects.

## Measuring Margins

One of the dynamics that muddies the discussion is the numerous ways of measuring profit margins. The most common is the Bureau of Economic

Analysis' measure of aggregate corporate profits earned as a percentage of U.S. GDP, also referred to as the NIPA (National Income and Product Accounts) measure. Data for this series are available going back to 1950, which makes it useful in assessing long-term trends in corporate profitability. Alternatively, some analysts prefer to focus on the net margin for the S&P 500 or other equity indices, which reflects profits after all expenses have been deducted, as this serves as a direct proxy for the profitability of companies in their portfolios.

Exhibit 1 compares how these two measures have fluctuated over the years. Despite differences in how they measure profits, they appear to follow similar trends. Both series of data suggest that margins mean revert over time and that margins currently are well above historical averages. The current NIPA margin is 12.6%, nearly 2 standard deviations above its long-term average of 9.4%, while S&P 500 firms earned a net margin of 8.3% for the trailing 12 months ended March 31, around 1.3 standard deviations above their long-term average of 6.0%.

Looking at the long-term NIPA data for which we have more history, margins can remain above or below long-term averages for extended periods. For example, margins languished below their long-term average for most of the 25 years from 1969 to 1994 before entering another cyclical upswing, only to decline and then bottom during the tech crash of 2000–01. One explanation for the upturn in recent years (which is matched by trends in S&P 500 margins) is that U.S. companies have become more reliant on foreign revenue, which typically

enjoys higher margins. The share of NIPA profits earned overseas nearly doubled between 1998 and 2010. The increase in foreign profits for the S&P 500 has been similarly dramatic, with non-financials that record more than 25% of their sales abroad enjoying a net margin (10.4%) that was more than 50% greater than that of companies that sell less than 25% abroad (Exhibits 2 and 3).

## What History Tells Us

Historical data on S&P 500 margins reflect the cyclical nature of corporate profitability and are useful for performing sensitivity analysis with respect to what drives margins. However, several pitfalls should be avoided when attempting to extrapolate future profitability based on historical results. One is that the composition of the index changes over time as sectors' economic importance changes and constituents are added and removed, which means that the earnings power and cost sensitivities of its firms change. Another is that the sensitivity of margins to trends in costs may shift along with trends in what is sold and where. For example, as companies in the index switch to service-based models and move more operations abroad, margins become less sensitive to changes to domestic inputs such as labor costs, tax rates, and U.S. economic growth. Finally, cause and effect relationships are important—at times, higher input costs may be a result of, or allowed by, high margins rather than something that is impeding their rise. For example, high labor costs can be the result of companies earning high profits and thus employing more workers, rather than vice versa.

Business cycles are important. Revenue growth and margin have historically tracked each other quite closely (Exhibit 4). In terms of economic growth, margins typically peak when domestic economic growth is strongest. This relationship has broken down in recent months, however, as margins are near their historical peak despite

somewhat lackluster growth and certain elevated input costs. Understanding why this has occurred, and whether margins are thus at risk, is important to understanding the outlook for margins and earnings.

## Historical Relationship Between Margins and Costs

The largest operating cost for U.S. companies is cost of goods sold (COGS) (Exhibit 5). Net margins and COGS are inversely related, as a rise in margins is typically followed by increases in various costs as more competition chases elevated profits. This is also illustrated in Exhibit 6, which shows that cyclical peaks in margins are followed by troughs in unemployment. The inference is that as companies reach high levels of profitability, they hire additional workers, which could cut profits both by lowering efficiency and by increasing the cost of labor. Of course, a healthy labor market boosts consumption. Drilling further down into COGS, labor costs are the largest subcomponent, and may be about three times as large as commodity costs for S&P 500 firms, according to data from BofA Merrill Lynch.

These patterns raise a few questions about the outlook for margins—in recent months these associations have broken down as margins have risen despite limited job growth. One theory is that spending and thus margins have been propped up by government transfers and decreased savings, rather than higher wages, and at some point higher unemployment will eat into profitability. Helping to offset this would be any improvement in unemployment from elevated levels. The wild card is that as more S&P 500 profit is generated abroad, the health of the U.S. labor market may be decreasing in importance for corporate margins.

The recent rise in commodity prices has also led to much speculation about the implications for margins. Historically, commodity costs and margins

generally have been positively correlated. Again, while this may seem counterintuitive, it is likely that the same forces that push commodity prices higher, such as economic growth in emerging markets, have also benefitted the S&P 500's bottom line. In any event, the fact that S&P 500 firms both produce and consume commodities helps mitigate the sensitivity of margins to any fluctuations in prices. One way to think about this is by looking at the percentage of S&P 500 profits earned by different sectors. Commodity-sensitive sectors such as consumer staples and discretionary together accounted for 21% of index profits in 2010, while two sectors positively geared to commodities—energy and materials—accounted for 16%. Industrials (10% of index profits) can also benefit from higher commodity prices, as rising energy and agricultural prices lead to increased demand for engineering firms and machinery.

Capital expenditure (cap ex) levels have also come in for investor scrutiny, as capital stock in the United States is growing at the slowest pace since World War II. However, this has resulted in little boost to margins—recent cap ex spending by S&P 500 firms has been in line with historical averages. This apparent contradiction may be reconciled by the fact that much of this cap ex is occurring outside the United States. The example of the energy industry may be suggestive. According to BofA Merrill Lynch, Chevron, ConocoPhillips, and Exxon Mobil together are expected to account for nearly 14% of all S&P 500 cap ex next year; much of this spending is targeted for overseas. To the extent that this spending accrues to other S&P 500 firms in the form of revenues as it has in the past, there may be no immediate impact on margins. Eventually, however, it may have implications for U.S. consumption-related spending if domestic employment remains depressed.

A lower net interest expense for S&P 500 companies boosted net margins in recent years, given less debt on corporate balance sheets and

lower interest rates (Exhibit 7). (Note that we have *excluded* data for the financial sector when looking at the data, as interest is also a revenue for the sector and thus trends are less meaningful.) Looking forward, companies may continue to limit leverage, but it indeed seems likely that rates will eventually have to rise from historical lows, impacting net margins. However, *why* rates rise is important. For example, if interest rates are responding to an uptick in economic growth, companies may be able to pass on the cost to their customers. In contrast, if rates are rising during a period of stagflation, the implications would be far more negative.

Finally, it is useful to analyze the relationship between tax rates and margins, as some believe lower corporate tax rates help explain today's elevated margins. The fact that U.S. corporate tax rates have changed little over the past 20 years seems to undermine the suggestion that lower *domestic* taxes have played a role. The explanation may be that as an increasing percentage of profit comes from abroad, lower *foreign* tax brackets are what matters. This could explain why tax burdens for U.S. companies have been negatively correlated to net margin over time (Exhibit 8), and reinforces the importance of foreign sales in helping companies maintain current margins.

In sum, much of the conventional wisdom regarding costs and margins may be misguided, failing to recognize the symbiotic relationship between the two and account for the importance of the business cycle. Further, as we continue to see a two-speed global economy, foreign activities have an ever more meaningful impact on S&P 500 net margins, and the sensitivity of firms to domestic variables may be changing. Historical data is useful, but only if accompanied by an understanding of the nature of relationships and their context, not blind extrapolations.

## Looking at Margin Mechanics

In addition to considering the sensitivity of margins to cost structures and the business cycle, it is also useful to understand how index margins change when companies with different levels of profitability grow revenue at different rates. It is not necessary for individual companies to increase their margins for index margins to rise. Rather, index margins can rise when higher margin firms grow their sales more quickly than less profitable index members. For example, consider an index composed of two firms, Company A and Company B. Each company has \$1 in sales but margins are 10% and 20%, respectively. The index margin would be  $[(\$1 \times 10\%) + (\$1 \times 20\%)] / \$2.0$ , or 15%. After one year if Company B grows sales at 30%, however, and Company A has no growth, the index margin would rise to  $[(\$1 \times 10\%) + (\$1.3 \times 20\%)] / \$2.3$ , or 16%. Some analysts refer to this dynamic as “margin math” or “margin mechanics.”<sup>1</sup> This is linked to the earlier point that what, where, and to whom companies in the index sell evolves over time, and is supported by evidence that firms expanding into new markets typically experience faster rates of sales growth.

Margin mechanics can be illustrated by examining trends in revenue across different sectors of the S&P 500 over the past two decades. Overall index revenue has grown at a compound annual rate of 5.3%, but some sectors, such as health care and information technology, have grown more quickly (Exhibit 9), while others, such as materials and consumer discretionary, have lagged. As a result, the percentage of overall S&P 500 sales attributable to each sector has changed significantly. In 1993, 22% of index sales came from consumer discretionary stocks; by 2010, it was just 13%. Over the same period, information technology revenue

increased from 6% to 10% of the total. During this period, diverging trends in margins for these sectors impacted the index margin (Exhibit 10). Consumer discretionary stocks saw net margins increase from 3.4% in 1995 to 6.3% in 2010, while information technology stocks saw net margins double to 15.7%.

These differences in revenue and earnings growth may help explain why net margins for the S&P 500 are now higher than they have been for most of the last 15 years. Exhibit 11 compares what each sector in the S&P 500 contributes to overall index margin now to what it contributed 15 years ago. Four of the ten sectors in the S&P 500 are now actually *less* profitable than they were 15 years ago; as a result, their contribution to the overall index net margin has dropped, from 43% to 34%. Conversely, the contribution of sectors with higher net margins to overall index net margin has risen from 57% to 66%, even though their share of overall sales has actually dipped (from 72% to 65%).

The two sectors that have shown the biggest improvement in profits—energy and information technology—have doubled their combined contribution to overall margin and now generate over 32% of overall index net margin. Mechanically, although the sales for the more profitable sectors in some instances have not grown as fast as those in industries where profitability has declined, net overall margin has risen due to the improved profitability of the more efficient industries.

One thing that stands out in this analysis is that many of the sectors that have seen net margins (as percentage of sales) drop over the past 15 years are domestically focused, such as financials and utilities. In contrast, sectors with a high degree of international revenue, such as energy and information technology, have seen steady increases in margins and enjoy margins well above the index average. This reinforces the arguments about the importance of foreign profits, but also highlights

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<sup>1</sup> See, for example, Goldman Sachs, “The Great Margin Mathematics Debate and 1Q Earnings Season Calendar,” April 8, 2011.

that S&P 500 profits are now vulnerable to slowdowns either at home or abroad.

Exhibit 12 compares the top 20 companies by market cap in the S&P 500 at the end of 1995 and 2010. In 1995, just four of the largest 20 came from the information technology sector; in 2010, this number had increased to six, underlining how company substitution in the index can impact margins. Google and Apple make sizable contributions to index margin, yet were not even part of the mega caps 15 years ago. It is interesting to note that margins for the information technology firms that do make an appearance on both lists have actually *increased* over the past 15 years, despite the apparent commoditization of products such as the personal computer and word processing software. This underlines these firms' historical ability to protect margins through innovation and expansion into new geographic markets. The flip side, of course, is that some of their ventures into new product markets have had a negative impact on margins of other firms, and may ultimately put downward pressure on their own.

## Cyclical Versus Secular Trends

While corporate margins ultimately should mean revert due to new competition, it is worth asking whether structural changes for a given industry can impact margins for extended periods. For example, some believe U.S. automakers (part of the consumer discretionary sector) may enjoy higher profits now that bankruptcies of some of the main players have allowed them to shed legacy costs for retirement and benefits. While there may be benefits in the short run, we are dubious of any long-term implications for margins. One reason is that the auto industry is global, and competition from Asian and European firms without such concerns is likely to keep a lid on margins. Another is that trimming these expenses has entailed reducing the purchasing power of at least some

potential customers, which in turn may limit the price the industry is able to charge for its cars.

The energy industry provides another example where some believe a secular change in profitability is occurring given increased demand from emerging markets. The near-term outlook for energy profits appears robust. However, we are again reluctant to agree that margins several years down the road will be higher given potential headwinds facing the industry. These include the increasing cost of tapping natural resources via techniques such as deep-sea drilling, substitutes such as wind and solar gaining traction, and the regulatory cloud hanging over the industry.

One wild card for margins is the trend for the financial sector, which has been under attack from a number of directions since the financial crisis worsened in 2007. Financials are hugely important to the S&P 500, generating over 16% of overall margin in US\$ terms in 2010 (Exhibit 11). In 2010, financials earned \$118 billion in net income, which equated to a net margin of 9.0%. While this represented rapid recovery from depressed levels of profitability in 2008–09, it was still well below the \$214 billion of net income, or 13.6% net margin, they earned at their 2006 peak. A number of dynamics will put pressure on financial profits in upcoming years, including higher funding costs, greater capital requirements, and increased regulatory scrutiny. Where the sector's profits normalize will have a significant impact on overall index margins.

## Outlook for Margins

The outlook for S&P 500 margin hinges on several factors, which include economic variables such as GDP growth and commodity prices, margin mechanics that relate to the composition of the index including the contribution to margins from foreign sales, and the regulatory environment.

Critics of the margin math argument point out that these dynamics have always been in place, yet index margins have always mean reverted. What may be different this time is the impact of foreign sales and the related growth of certain sectors, which may delay the period over which margins would normally compress. However, the headwinds to higher profitability should not be underestimated, particularly given that margins are at cyclical highs. On the domestic front, the state of the employment and housing markets is troubling, and government transfers will need to be cut back as pressure grows to balance the budget. The financial sector seems especially vulnerable, given pressure from regulators to raise capital and restrict profitable activities such as proprietary trading. Serving to offset this would be any improvement in the labor market, though it is clear that S&P 500 firms themselves may become less important here given more foreign operations. Meanwhile, the sustainability of high margin foreign sales should not be taken for granted, given the sovereign debt crisis in key trading partner Europe and the risk of a slowdown in China. The good news, at least for now, is that second quarter earnings thus far have looked positive in this regard. Through August 12, 58% of companies had beaten earnings estimates, with another 24% reporting earnings that were in line with expectations. Industries such as information technology have cited foreign sales as one driver of rebounding profits.

To assess the potential impact on equities if margins or earnings disappoint, it is worth examining what is baked into 2011 forecasts. Current consensus operating earnings are \$99 for the S&P 500 this year, an 18% increase from 2010's \$84. Exhibit 13 lays out some scenarios under which operating earnings could reach this level. Even if margins rise by 80 basis points to a new historical peak of 9.1%, sales would still need to expand by 14% for earnings to reach \$100. This revenue growth would be very unusual on a historical basis and underscores one risk to these estimates. Ned Davis

Research reports year-over-year revenue growth has not been above 14% in over a decade, and since 1983 it has only been above 14% around 1% of the time.

## Investment Implications

There are numerous takeaways from this discussion of margins.

- Despite the macro environment weighing on margins of some individual companies, index margins may remain elevated. Eventually, margins will mean revert, and this could happen quickly, as it did during the 2008 downturn. However, assuming the U.S. economy continues to grow at even a lackluster pace, this may take longer than some suspect. This is especially true for offshore markets; Goldman Sachs believes that European corporate margins have been structurally rising for three decades, given shifts toward higher-margin industries and more flexible labor contracts.<sup>2</sup>
- Investors need to consider more than domestic U.S. data when thinking about the outlook for margins and profits, given that the S&P 500 generates over 30% of its profits abroad. Foreign sales impact margins two ways: they have higher margins *and* they have grown more rapidly than domestic equivalents. Of course, this opportunity is also a key risk. U.S. companies will need to work hard to protect their foreign sales. If the dominance of U.S. sectors such as technology fades in overseas markets, S&P 500 margins may feel a disproportionate impact. Some good news may come from a weaker currency (Exhibit 14), as historically a weakening of the U.S. dollar has been associated with stronger margins.

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<sup>2</sup> Goldman Sachs, "The Margin Debate: Cyclical Risks Versus Structural Gains," April 18, 2011.

However, opinions on the direction of the U.S. dollar are very mixed. Some believe that the currency may be poised for a rally as global risk appetite wanes.

- Looking at the sensitivity of margins to specific U.S. statistics such as U.S. labor costs or taxes in isolation can be misleading, given foreign operations and the importance of business cycle. Statistics such as commodity and labor costs may also track margins in a way that seems counterintuitive for some. The impact of cap ex spending may be misunderstood, as it could be the case that as more occurs abroad, collateral benefits to other S&P 500 companies may not be as great as in the past.
- It would not require a broad-based slowdown to see index margins suffer, given that a handful of firms generate a significant percentage of index margin. If even a handful of profitable mega caps were to experience disappointing sales growth or see margins erode, the impact on index margins would be disproportionate.
- Even a positive outlook for index margins may mean little for equity investors given that there is little correlation between net margins and subsequent equity returns (Exhibit 15). There are several reasons for this, but chiefly, investors are more concerned with absolute levels of profits than margins. This may explain why there is also little relationship between margins and normalized earnings multiples, which have a greater predictive power over future returns (Exhibit 16).

## Recent Events

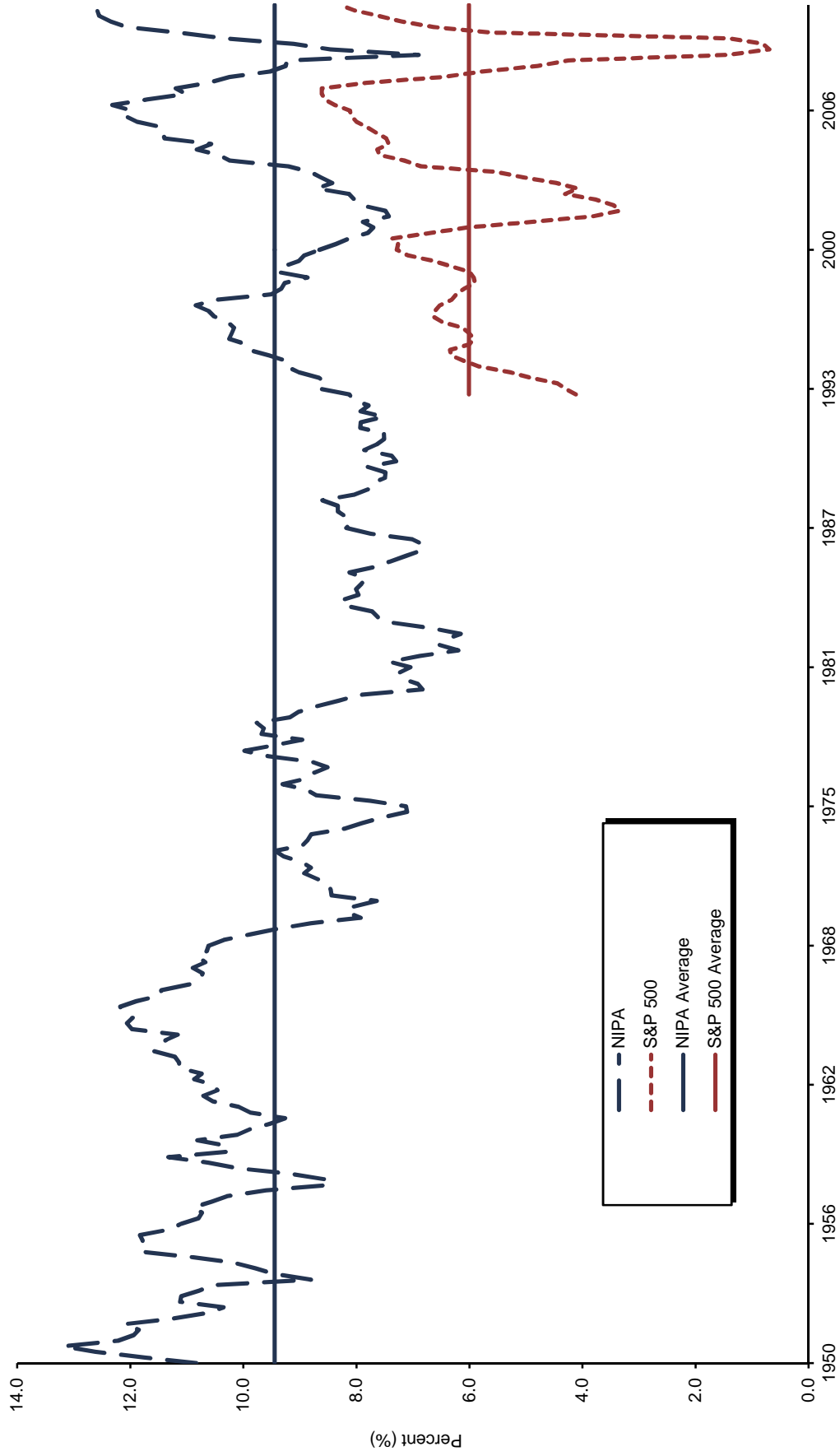
In recent weeks, market volatility has increased, driven by worries over worsening economic data, the European sovereign debt crisis, and the U.S. debt ceiling debacle/political gridlock. This sell-

off has occurred despite a backdrop of impressive earnings for the S&P 500, as investors have switched focus to a potential slowdown. We agree that the absolute level of earnings is a concern, given that revenue estimates appear aggressive. However, we are less focused on margins, because index-level margins have more to do with the changing sources of S&P 500 revenues than they do with excessive profitability. This is not to say that margins won't drop for some industries, and a few seem obvious candidates. Regulatory reform and higher funding costs continue to dampen financial profitability, while a sustained drop in energy prices may impact energy companies.

Assessing the opportunity created by the recent equity sell-off is tricky, particularly given the recent choppiness of markets. However, following substantial volatility in August that included sizeable market declines, the total return of the S&P 500 through August 18 was -8.2%, and the drop from the April 29 high was 15.8%. This (at least for the moment) has improved many of the normalized valuation metrics we track for U.S. equities and brought some into a range that we would call fairly valued. Given this, we have suggested that those investors that were underweight U.S. equities could judiciously begin to rebalance toward targets. However, we would take a gradual approach to moving back to policy targets, developing a plan to do so on further meaningful declines, assuming no significant deterioration in long-term fundamentals. This would include looking at margins, and the reasons they may have changed. A decline in margins due to increased sales for less profitable sectors, for example, would be more favorable than one driven by disappointing sales at mega caps in technology and energy. ■



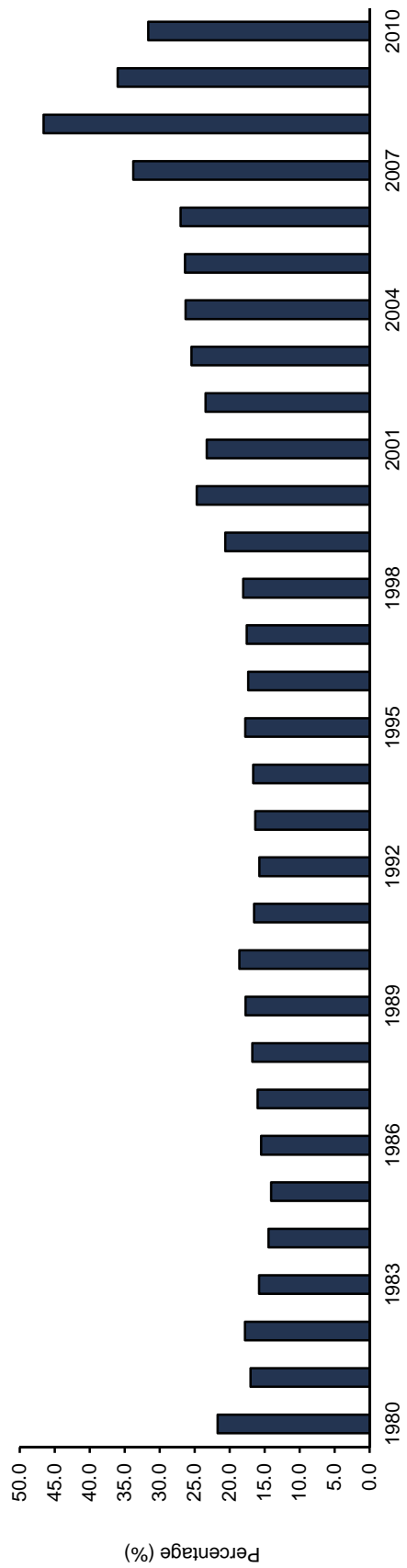
**Exhibit 1**  
**S&P 500 Net Margin and U.S. NIPA Profit Margin**  
 March 31, 1950 – March 31, 2011



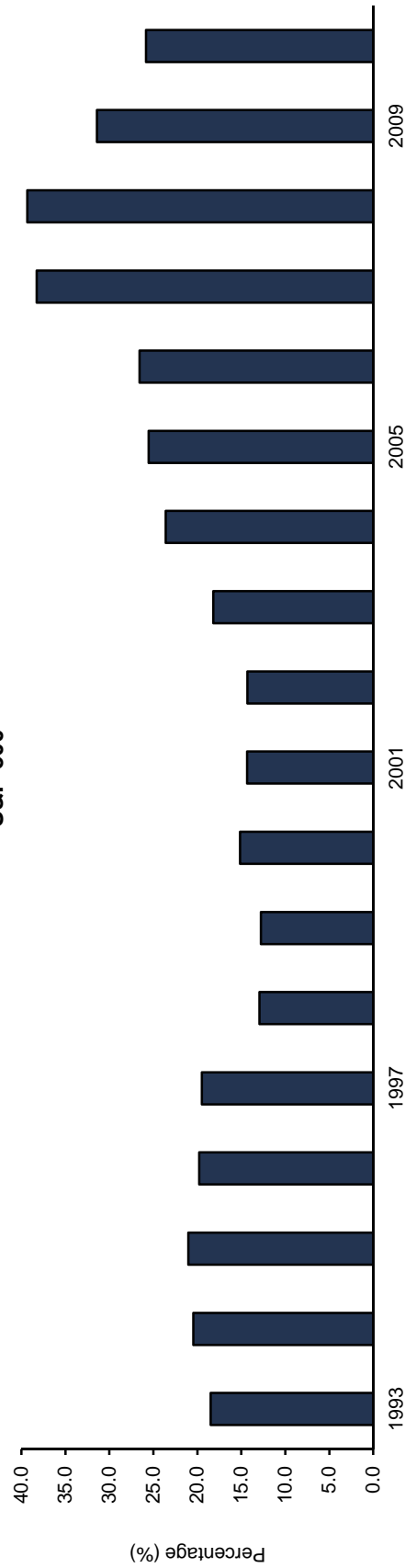
Sources: Standard & Poor's, Standard & Poor's Compustat, and Thomson Datastream.  
 Notes: All data are quarterly. S&P 500 net margin and NIPA profit margin are calculated using trailing four-quarter data.

**Exhibit 2**  
**Foreign Profits as a Percent of Total Profits**  
 December 31, 1980 – December 31, 2010

**NIPA Corporate**

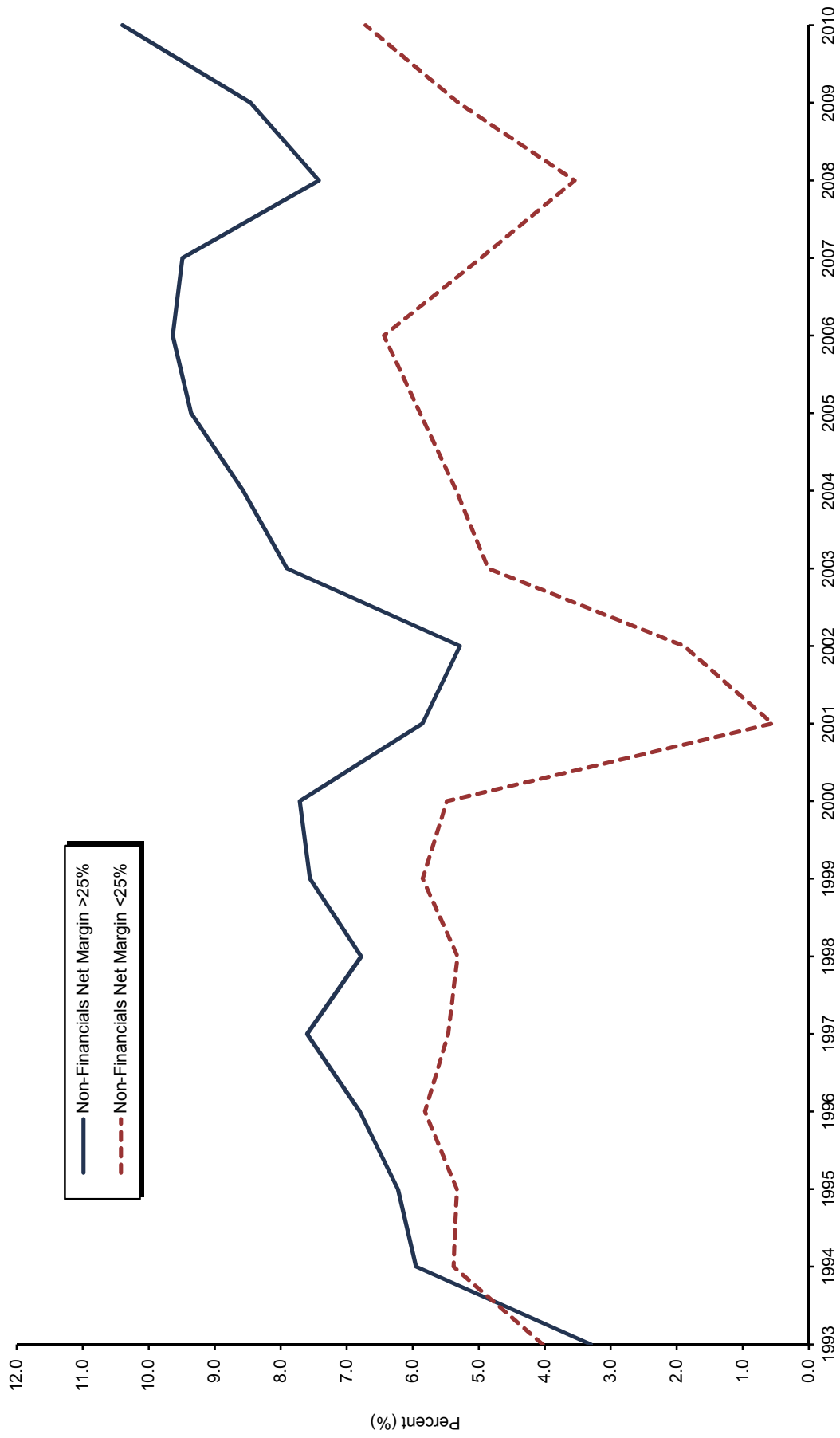


**S&P 500**



Sources: FactSet Research Systems, Standard & Poor's, and Thomson Datastream.  
 Notes: All data are annual. S&P figures represent operating income.

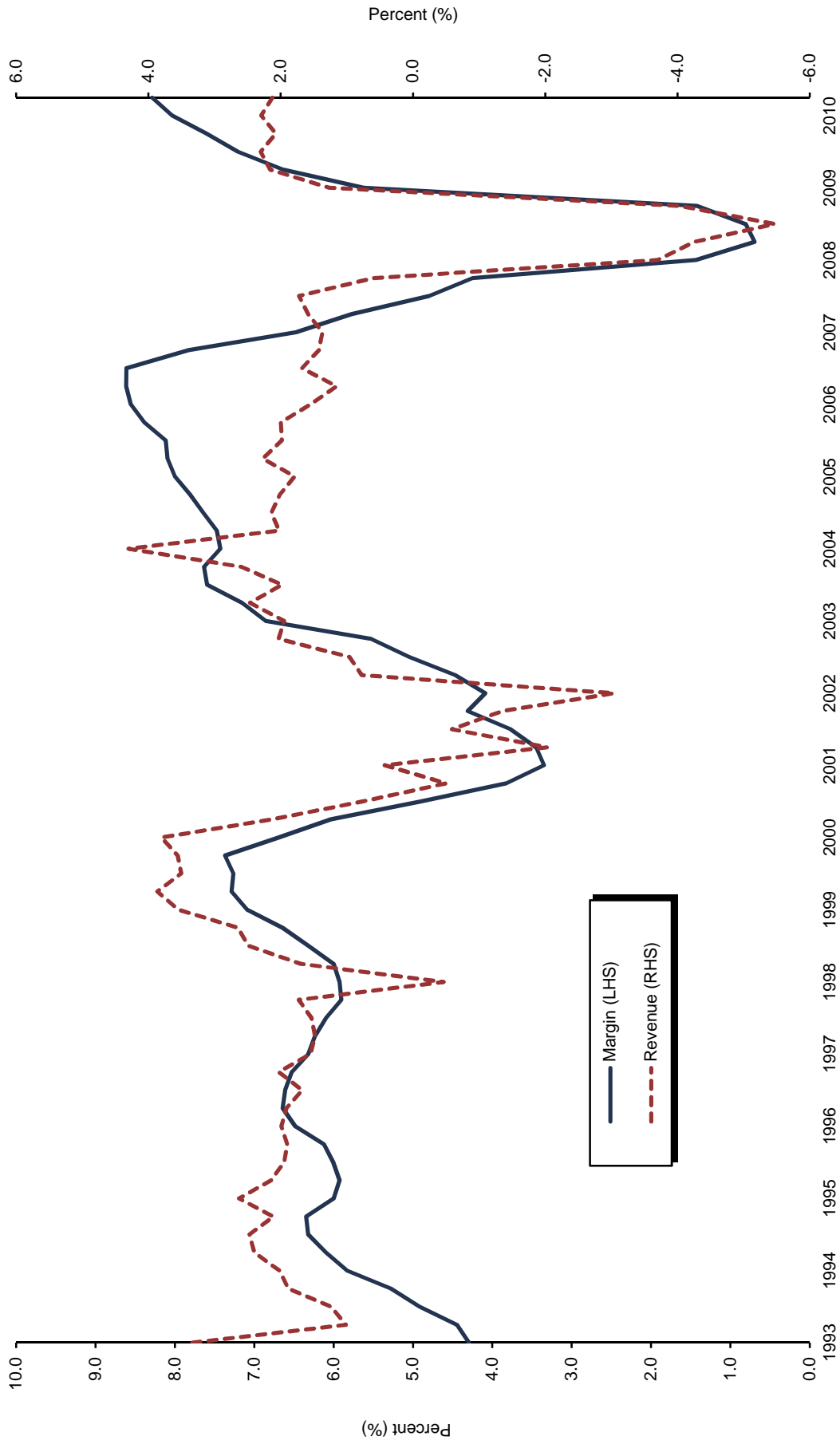
**Exhibit 3**  
**Net Margin for S&P 500 Non-Financials With Greater Than 25% and Less Than 25% Foreign Sales**  
 December 31, 1993 – December 31, 2010



Sources: FactSet Research Systems and Standard & Poor's.  
 Note: All data are annual.

**Exhibit 4**  
**S&P 500 Net Margin and Revenue Growth**

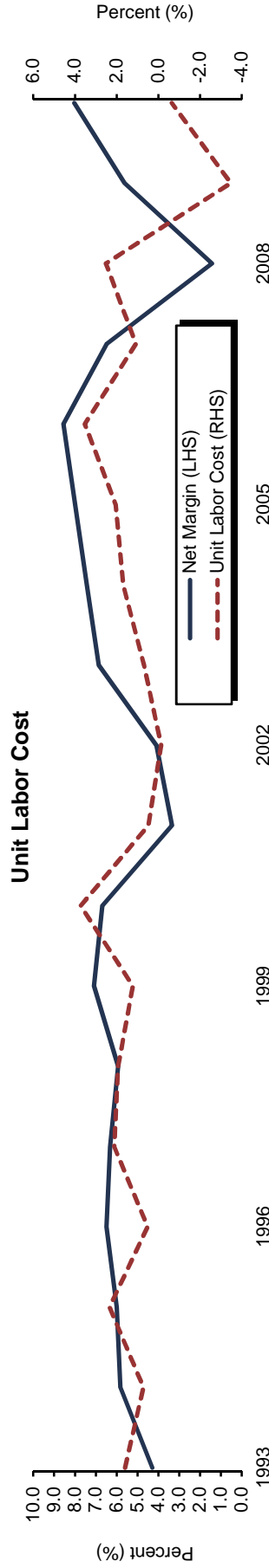
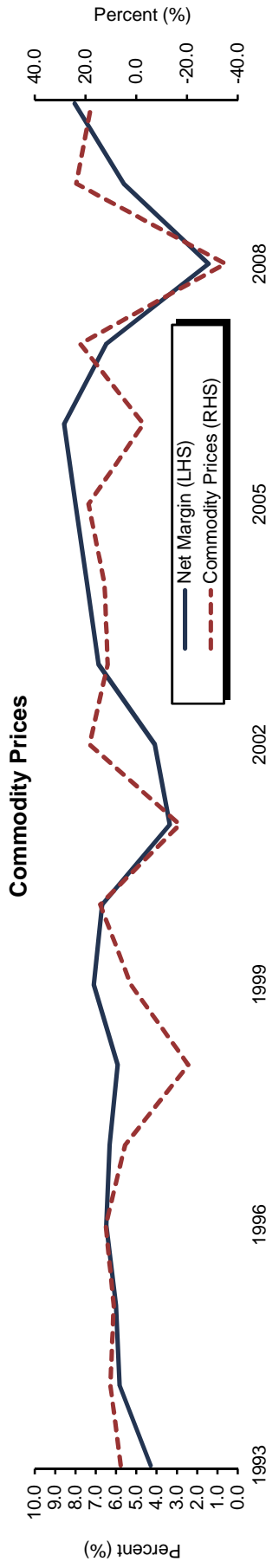
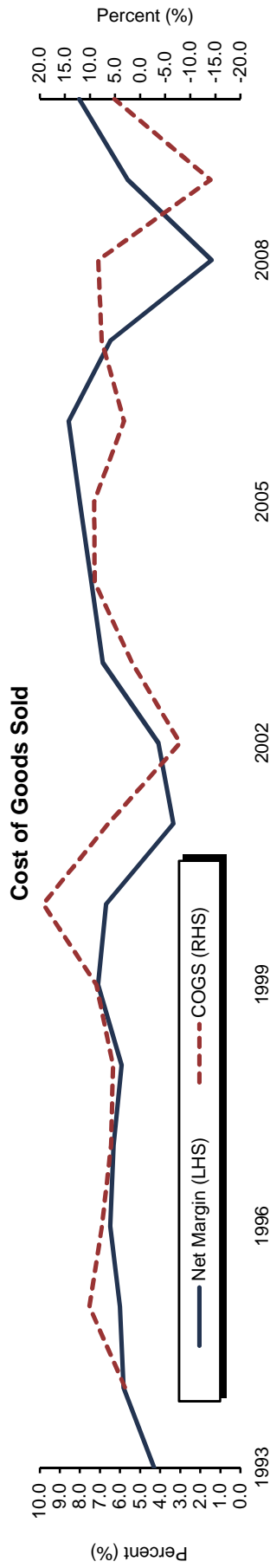
December 31, 1993 – March 31, 2011



Sources: FactSet Research Systems, Standard & Poor's, and Standard & Poor's Compustat.  
 Notes: All data are quarterly. S&P 500 net margin and revenue are calculated using trailing four-quarter data.

### Exhibit 5 S&P 500 Net Margin Versus COGS, Commodity Prices and Unit Labor Costs

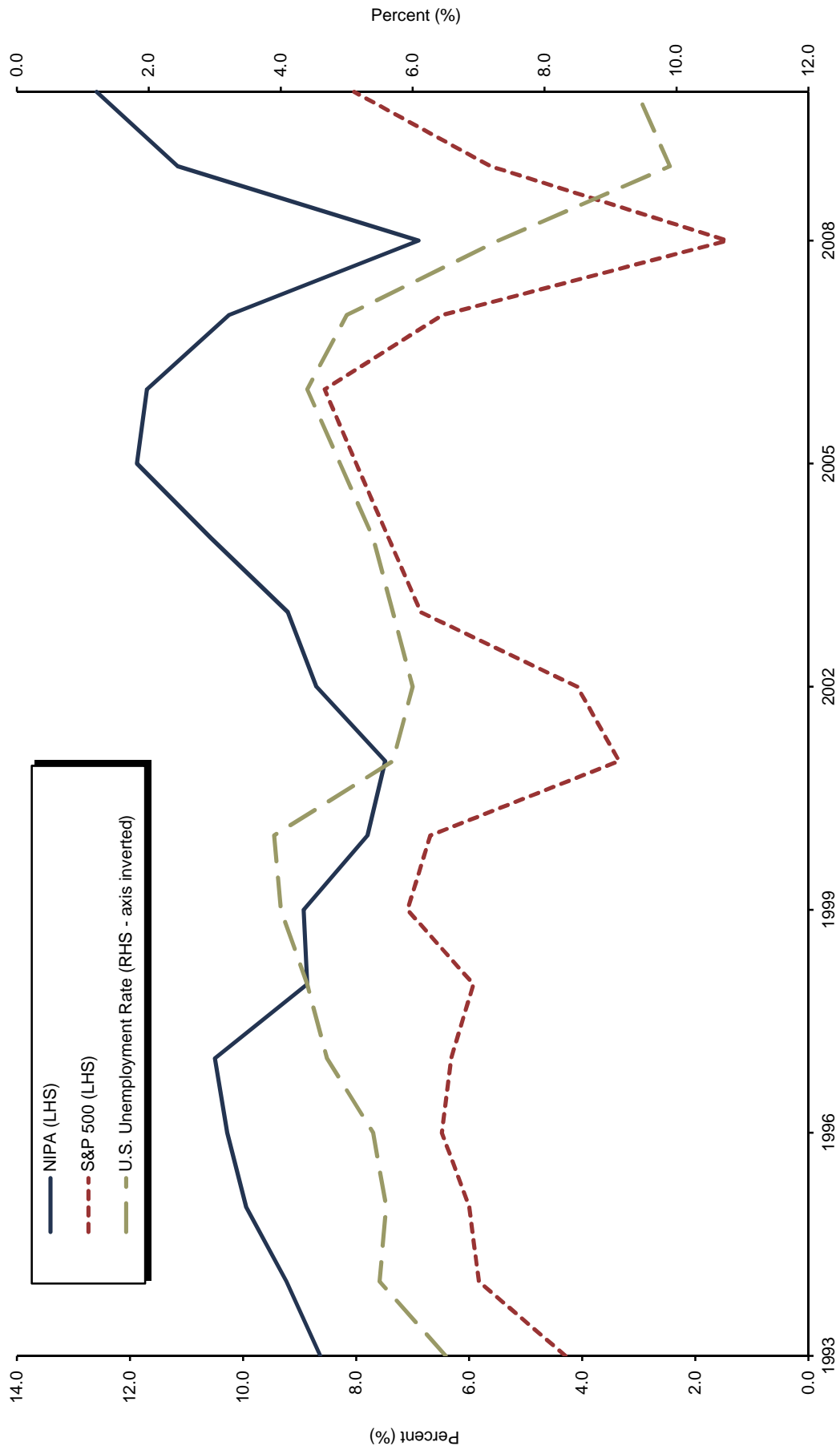
December 31, 1993 – December 31, 2010 • U.S. Dollar



Sources: Commodity Research Bureau, Standard & Poor's, Standard & Poor's Compustat, Thomson Datastream, and U.S. Department of Labor - Bureau of Labor Statistics.  
Notes: Data are annual. Cost of goods sold (COGS) data begin in 1994.

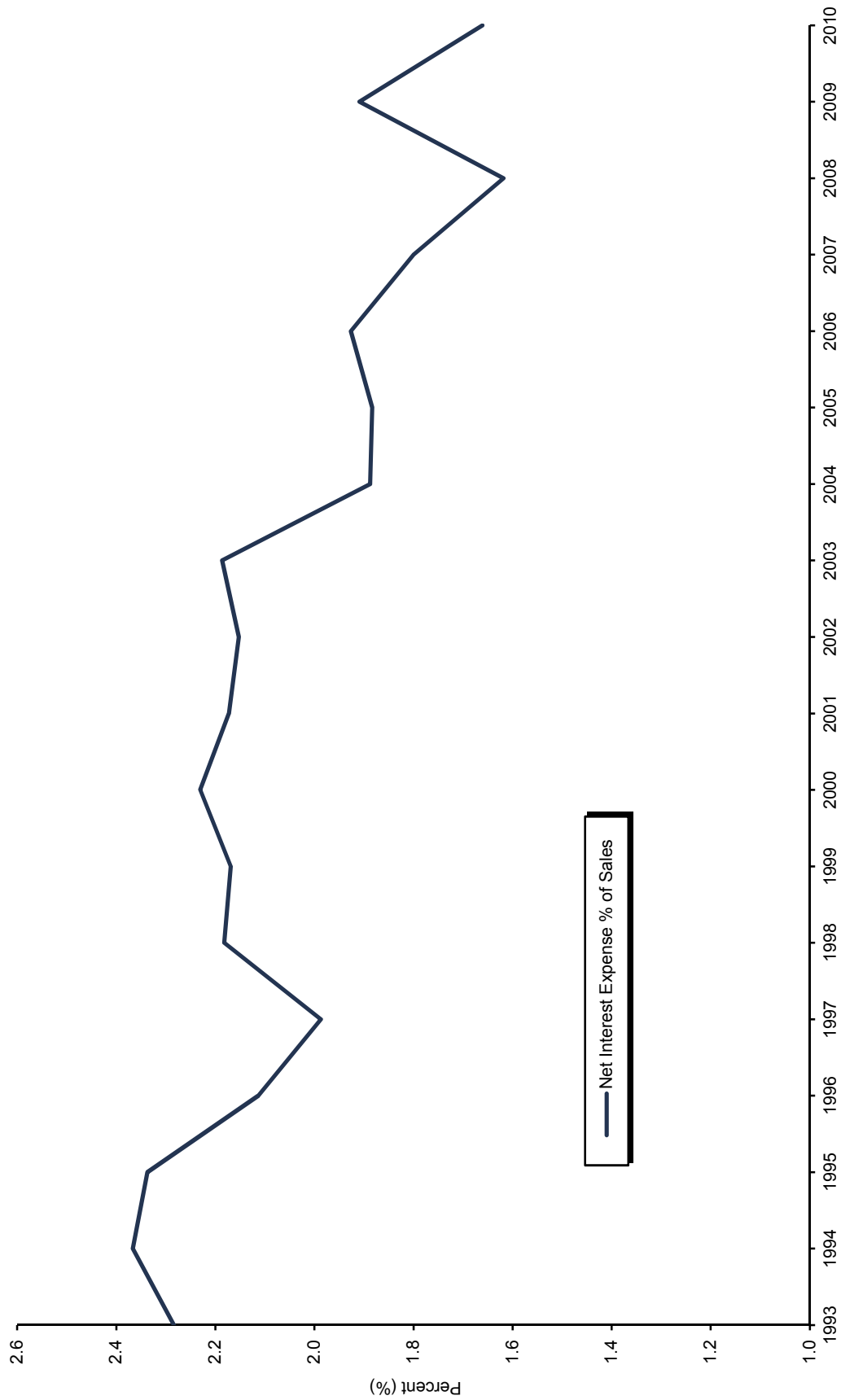
**Exhibit 6**  
**U.S. NIPA and S&P 500 Net Margin Versus U.S. Unemployment**

December 31, 1993 – December 31, 2010



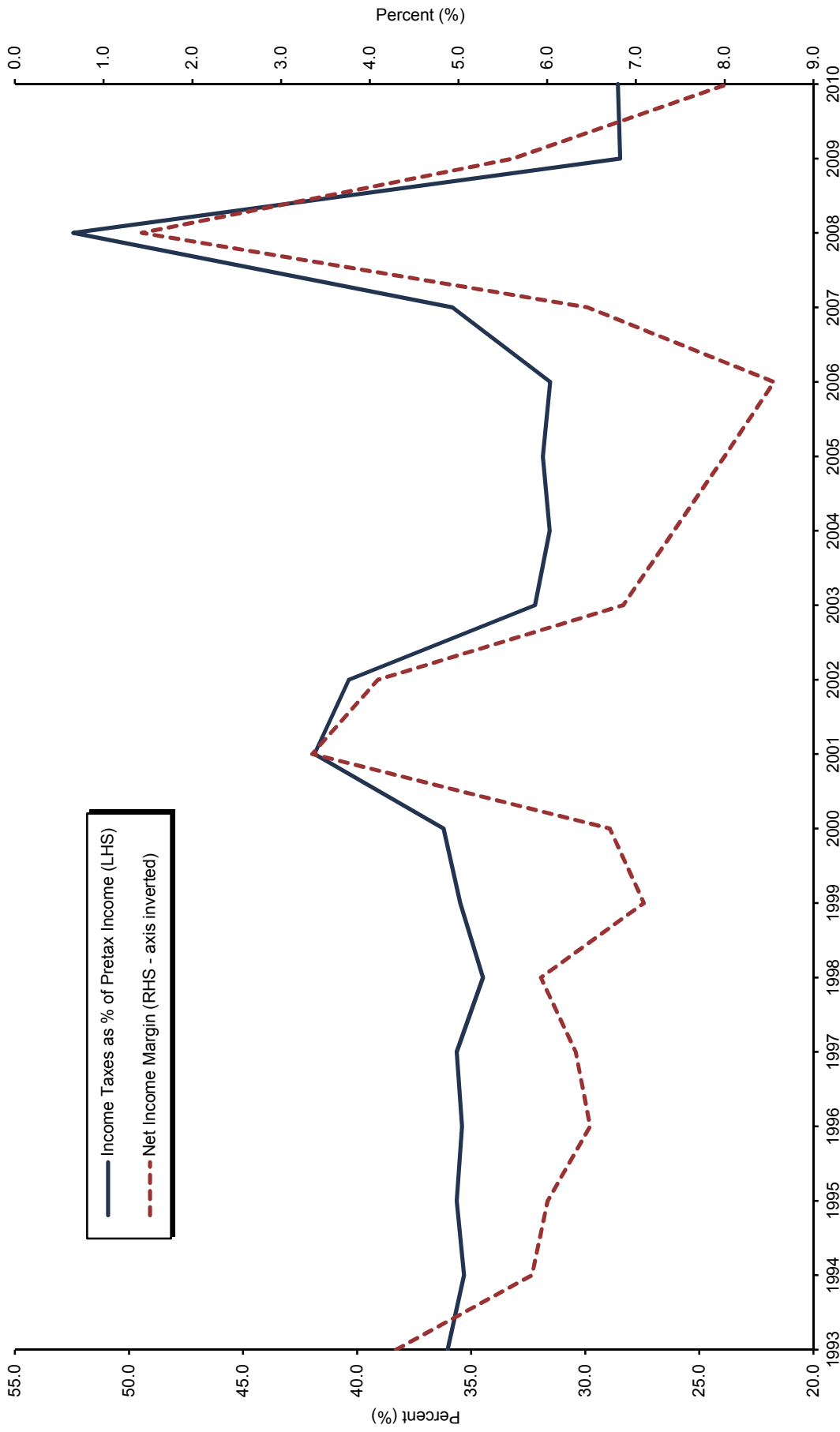
Sources: Standard & Poor's, Standard & Poor's Compustat, and Thomson Datastream.  
 Notes: Data are annual. U.S. unemployment rate data are inverted.

**Exhibit 7**  
**S&P 500 ex Financials Net Interest Expense Percentage of Sales**  
 December 31, 1993 – December 31, 2010



Sources: FactSet Research Systems, Standard & Poor's, and Standard & Poor's Compustat.  
 Note: All data are annual.

**Exhibit 8**  
**Impact of Tax Burden on Net Income Margin**  
 December 31, 1993 – December 31, 2010



Sources: FactSet Research Systems, Standard & Poor's, and Standard & Poor's Compustat.  
 Notes: All data are annual. Net income data are inverted.



Exhibit 9

**S&P 500 Income Statement: Compound Growth Over Time (%)**

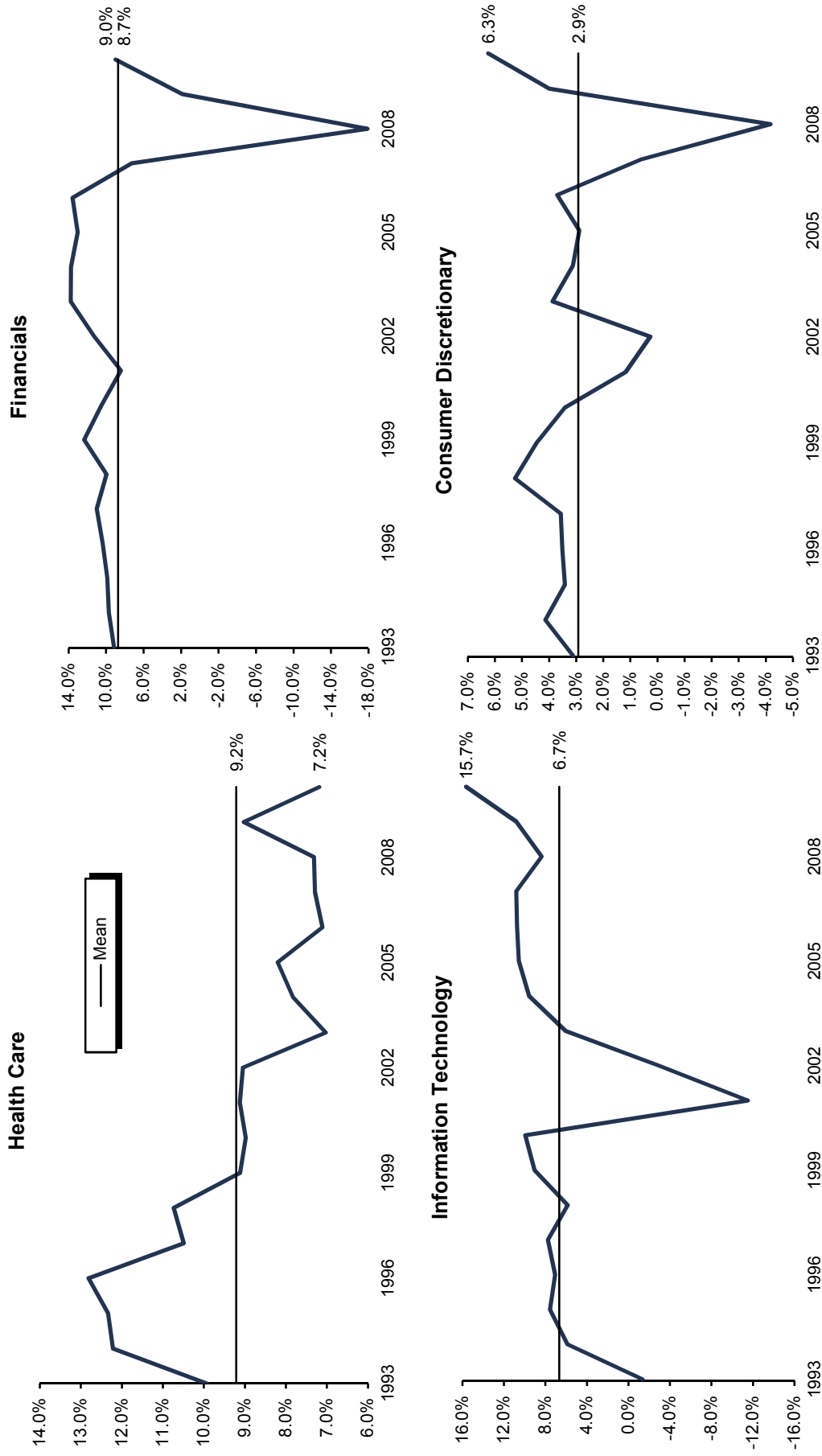
As of December 31, 2010

|                            | Sales               |       |       | Costs                   |       |       |                    |       |       | Net Income |       |       |
|----------------------------|---------------------|-------|-------|-------------------------|-------|-------|--------------------|-------|-------|------------|-------|-------|
|                            | Selling and General |       |       | Administrative Expenses |       |       | Cost of Goods Sold |       |       | Net Income |       |       |
|                            | 5-Yr                | 10-Yr | 17-Yr | 5-Yr                    | 10-Yr | 17-Yr | 5-Yr               | 10-Yr | 17-Yr | 5-Yr       | 10-Yr | 17-Yr |
| <b>S&amp;P 500</b>         | 2.1                 | 2.8   | 5.3   | 3.0                     | 3.5   | 5.4   | 1.7                | 2.6   | 4.9   | 2.2        | 4.7   | 9.3   |
| Consumer Discretionary     | -3.9                | -1.8  | 2.0   | -1.1                    | 1.2   | 5.2   | -5.5               | -2.7  | 1.3   | 12.2       | 4.3   | 6.3   |
| Consumer Staples           | 5.3                 | 7.2   | 6.2   | 4.1                     | 5.9   | 5.0   | 4.9                | 9.1   | 6.8   | 5.8        | 8.6   | 8.4   |
| Energy                     | 3.2                 | 5.2   | 6.2   | 6.1                     | 4.1   | 1.5   | 3.7                | 6.9   | 6.1   | -1.5       | 7.4   | 10.9  |
| Financials                 | 0.1                 | 2.8   | 7.6   | 5.7                     | 6.4   | 8.1   | 2.3                | 4.3   | 7.2   | -7.0       | 1.3   | 7.5   |
| Health Care                | 5.7                 | 9.4   | 12.9  | 4.6                     | 7.1   | 9.4   | 5.7                | 10.7  | 15.2  | 3.0        | 7.0   | 10.7  |
| Industrials                | 2.1                 | 3.3   | 3.5   | 0.7                     | 3.8   | 4.3   | 0.9                | 2.2   | 2.5   | 0.7        | 4.3   | 7.6   |
| Information Technology     | 5.1                 | 2.1   | 9.3   | 5.4                     | 2.0   | 7.8   | 3.1                | 1.2   | 8.6   | 13.7       | 6.9   | 15.0  |
| Materials                  | 1.6                 | 1.1   | 1.1   | 2.8                     | 1.1   | -0.3  | 1.1                | 1.0   | 0.7   | 1.3        | 6.7   | 10.7  |
| Telecommunication Services | 5.2                 | -0.5  | 2.3   | 6.7                     | -5.5  | -0.9  | 3.8                | -3.2  | 0.8   | 0.6        | -3.8  | 3.5   |
| Utilities                  | 1.1                 | -4.3  | 4.9   | -13.3                   | -8.6  | 1.7   | 0.6                | -5.0  | 5.4   | 4.5        | 6.7   | 4.9   |

Sources: FactSet Research Systems, Standard & Poor's, and Standard & Poor's Compustat.

Notes: All data calculated using the compound annual growth rate. The 17-year compound annual growth rate for information technology net income is actually 16 years due to negative earnings in 1993. SGA denotes selling and general administrative expenses.

**Exhibit 10**  
**S&P 500: Breakdown of Sector Net Margins**  
 December 31, 1993 – December 31, 2010 • U.S. Dollar



Sources: FactSet Research Systems, Standard & Poor's, and Standard & Poor's Compustat.  
 Note: All data are annual.

**Exhibit 11**

**Sector Contribution to Overall S&P 500 Net Margin**

As of December 31, 2010 • U.S. Dollar

|                            | 1995                     |                         | 2010                     |                                                       |              |
|----------------------------|--------------------------|-------------------------|--------------------------|-------------------------------------------------------|--------------|
|                            | Net Income<br>(millions) | As % of<br>Sector Sales | Net Income<br>(millions) | As % of<br>Sector Sales                               |              |
|                            |                          |                         |                          | Sector Contribution<br>to Overall Index<br>Net Margin |              |
| Consumer Discretionary     | 32,985                   | 3.4%                    | 70,937                   | 6.3%                                                  | 9.9%         |
| Consumer Staples           | 26,489                   | 5.4%                    | 77,437                   | 6.4%                                                  | 10.8%        |
| Energy                     | 19,824                   | 4.3%                    | 96,199                   | 8.0%                                                  | 13.4%        |
| Industrials                | 30,221                   | 5.2%                    | 71,342                   | 7.2%                                                  | 9.9%         |
| Information Technology     | 22,676                   | 7.6%                    | 136,709                  | 15.7%                                                 | 19.0%        |
| Telecommunication Services | 15,520                   | 7.0%                    | 21,279                   | 7.2%                                                  | 3.0%         |
| <b>Subtotal</b>            |                          |                         |                          |                                                       | <b>66.0%</b> |
| Financials                 | 52,443                   | 9.9%                    | 118,157                  | 9.0%                                                  | 16.4%        |
| Health Care                | 21,619                   | 12.3%                   | 77,564                   | 7.2%                                                  | 10.8%        |
| Materials                  | 21,935                   | 7.2%                    | 22,257                   | 7.0%                                                  | 3.1%         |
| Utilities                  | 14,161                   | 8.7%                    | 26,460                   | 8.0%                                                  | 3.7%         |
| <b>Subtotal</b>            |                          |                         |                          |                                                       | <b>34.0%</b> |
| <b>S&amp;P 500</b>         | <b>257,872</b>           | <b>6.1%</b>             | <b>718,341</b>           | <b>8.2%</b>                                           |              |

Sources: Standard & Poor's and Standard & Poor's Compustat.

## Exhibit 12 Top 20 S&P 500 Constituents

### As of December 31, 1995

| <u>Company</u>           | <u>Weight in S&amp;P 500</u> | <u>Net Margin</u> |
|--------------------------|------------------------------|-------------------|
| General Electric Co.     | 2.6%                         | 9.4%              |
| AT&T Inc.                | 2.2%                         | 13.6%             |
| Exxon Mobil Corp.        | 2.2%                         | 6.0%              |
| Coca-Cola Co.            | 2.0%                         | 1.4%              |
| Merck & Co. Inc.         | 1.8%                         | 20.0%             |
| Altria Group Inc.        | 1.7%                         | 10.3%             |
| Royal Dutch Petroleum    | 1.6%                         | 6.3%              |
| Procter & Gamble Co.     | 1.2%                         | 8.1%              |
| Johnson & Johnson        | 1.2%                         | 2.4%              |
| IBM                      | 1.1%                         | 5.8%              |
| Microsoft Corp.          | 1.1%                         | 24.8%             |
| Wal-Mart Stores Inc.     | 1.1%                         | 3.1%              |
| Intel Corp.              | 1.0%                         | 22.0%             |
| Mobil Corp.              | 1.0%                         | 3.2%              |
| PepsiCo Inc.             | 1.0%                         | 8.4%              |
| AIG                      | 1.0%                         | 9.8%              |
| Bristol-Myers Squibb Co. | 0.9%                         | 13.2%             |
| BellSouth Corporation    | 0.9%                         | 9.1%              |
| Hewlett-Packard Co.      | 0.9%                         | 7.7%              |
| GTE                      | 0.9%                         | 13.9%             |
| Average                  |                              | 9.9%              |

| <u>Sector</u> | <u># of Companies</u> |
|---------------|-----------------------|
| Energy        | 3                     |
| Industrial    | 1                     |
| Financial     | 1                     |
| Technology    | 4                     |
| Consumer      | 5                     |

### As of December 31, 2010

| <u>Company</u>          | <u>Weight in S&amp;P 500</u> | <u>Net Margin</u> |
|-------------------------|------------------------------|-------------------|
| Exxon Mobil Corp.       | 3.2%                         | 8.9%              |
| Apple Inc.              | 2.6%                         | 21.8%             |
| Microsoft Corp.         | 1.8%                         | 30.8%             |
| General Electric Co.    | 1.7%                         | 7.8%              |
| Chevron Corp.           | 1.6%                         | 10.0%             |
| IBM                     | 1.6%                         | 14.9%             |
| Procter & Gamble Co.    | 1.6%                         | 14.1%             |
| AT&T Inc.               | 1.5%                         | 16.0%             |
| Johnson & Johnson       | 1.5%                         | 4.3%              |
| JPMorgan Chase & Co.    | 1.5%                         | 20.2%             |
| Wells Fargo & Co.       | 1.4%                         | 17.8%             |
| Coca-Cola Co.           | 1.3%                         | 2.3%              |
| Google Inc.             | 1.3%                         | 29.0%             |
| Pfizer Inc.             | 1.2%                         | 12.2%             |
| Berkshire Hathaway Inc. | 1.2%                         | 9.5%              |
| Citigroup Inc.          | 1.2%                         | 17.3%             |
| Bank of America Corp.   | 1.2%                         | -2.7%             |
| Oracle Corp.            | 1.1%                         | 21.2%             |
| Intel Corp.             | 1.0%                         | 26.3%             |
| Schlumberger Ltd.       | 1.0%                         | 15.5%             |
| Average                 |                              | 14.9%             |

| <u>Sector</u> | <u># of Companies</u> |
|---------------|-----------------------|
| Energy        | 3                     |
| Industrial    | 1                     |
| Financial     | 5                     |
| Technology    | 6                     |
| Consumer      | 2                     |

Source: Capital IQ.

Notes: The 1995 margins for AT&T, BellSouth, and GTE are operating margins due to restructuring and merger-related expenses that make net income margins not meaningful in those years. The consumer sector is composed of both consumer discretionary and consumer staples.

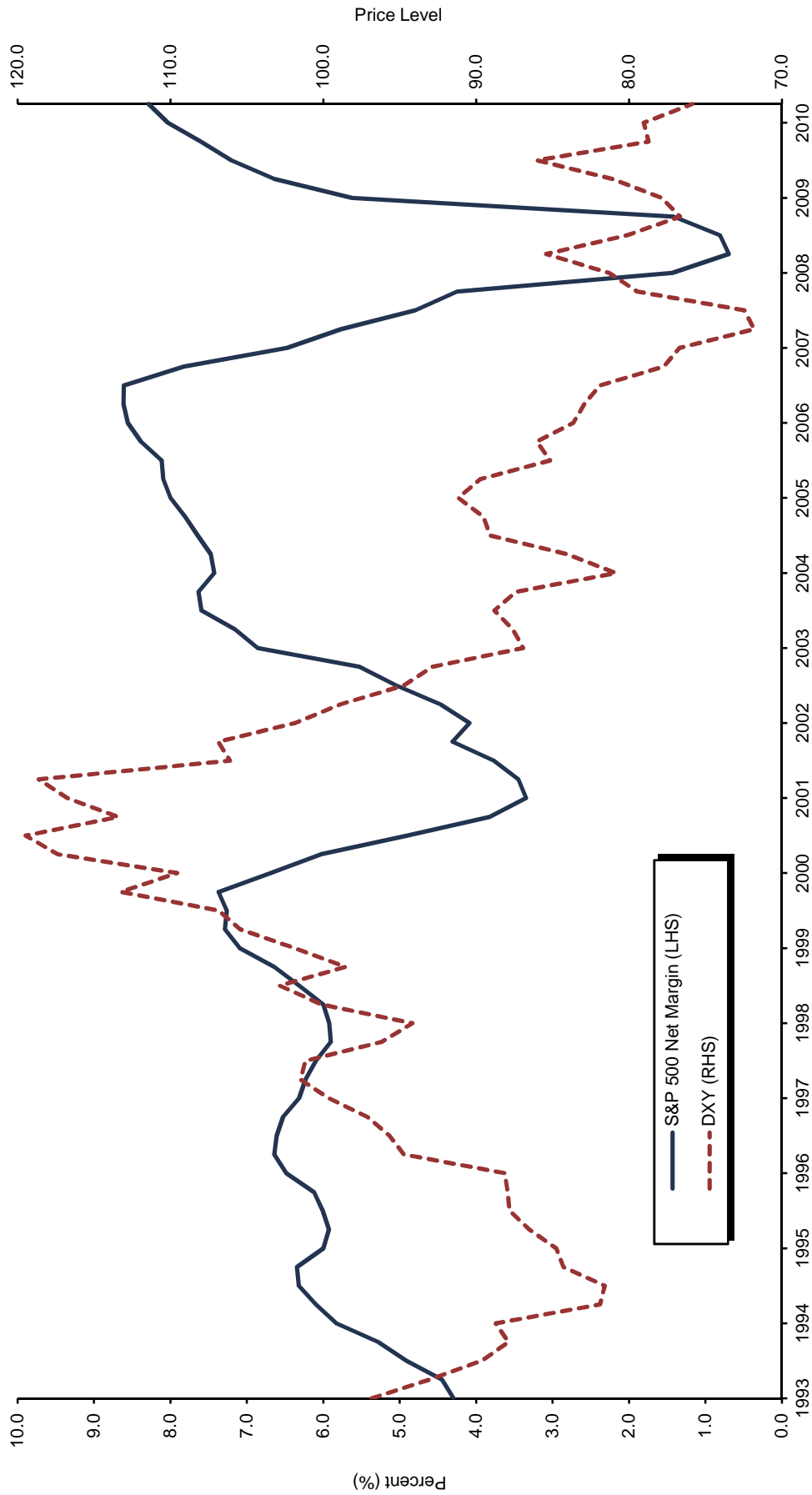
**Exhibit 13**  
**S&P 500 EPS Implied by Different Combinations of Sales Growth and Net Margin**

Highlighted area represents the sales and net profit margin combinations that would be required in order for the S&P 500 to meet 2011 earnings per share consensus forecasts of \$99.18 per share.

|                             |       | 2011 Net Profit Margin |      |      |       |       |
|-----------------------------|-------|------------------------|------|------|-------|-------|
|                             |       | 8.4%                   | 8.9% | 9.1% | 9.3%  | 9.8%  |
| 2011 Sales Per Share Growth | 14.0% | 92.2                   | 97.7 | 99.9 | 102.1 | 107.6 |
|                             | 12.0% | 90.6                   | 96.0 | 98.1 | 100.3 | 105.7 |
|                             | 10.0% | 89.0                   | 94.2 | 96.4 | 98.5  | 103.8 |
|                             | 8.0%  | 87.3                   | 92.5 | 94.6 | 96.7  | 101.9 |
|                             | 6.0%  | 85.7                   | 90.8 | 92.9 | 94.9  | 100.0 |

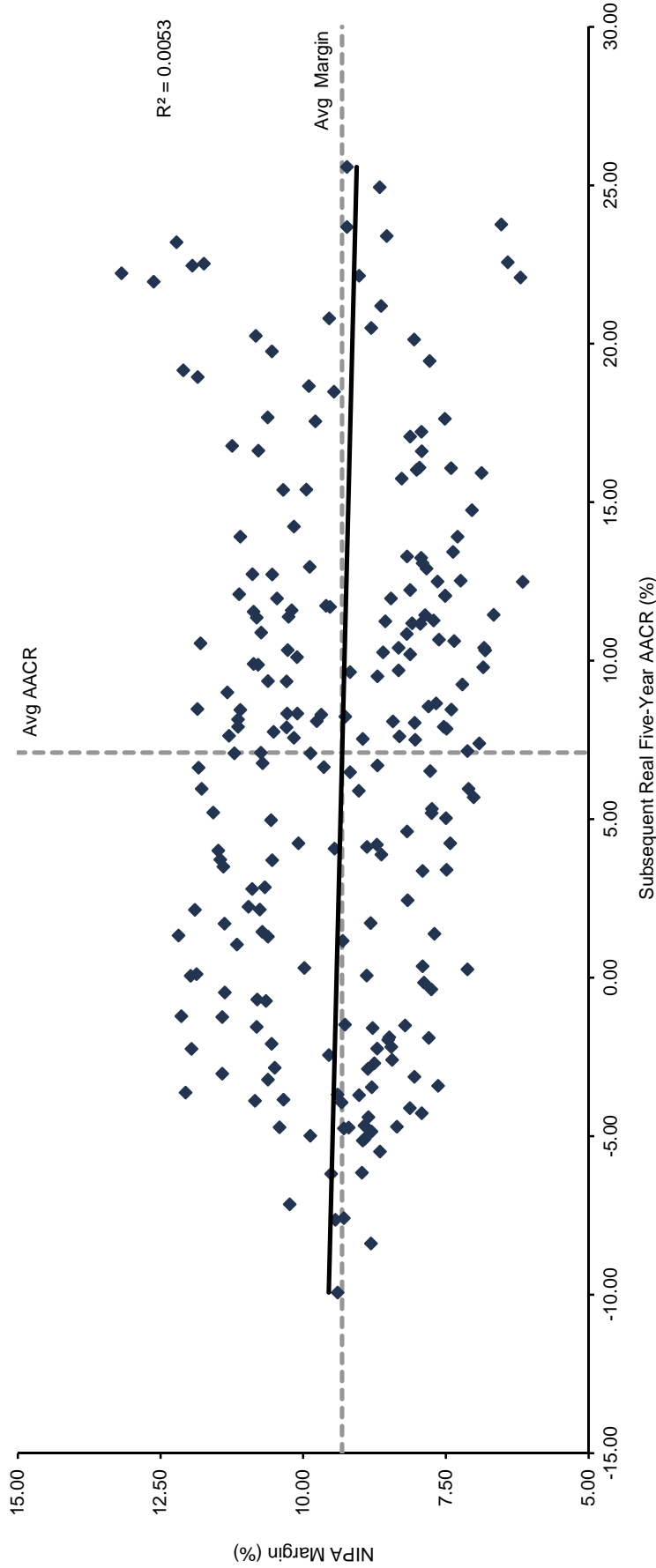
Source: Bloomberg L.P.  
 Note: Consensus estimates are as of August 16.

**Exhibit 14**  
**S&P 500 Net Margin Versus DXY Index**  
 December 31, 1993 – March 31, 2011



Sources: Bloomberg L.P., FactSet Research Systems, Standard & Poor's, and Standard & Poor's Compustat.  
 Notes: All data are quarterly. S&P 500 net margin is calculated using trailing four-quarter data.

**Exhibit 15**  
**Relationship Between NIPA Profit Margins and Subsequent S&P 500 Real Five-Year AACR**  
 March 31, 1950 – December 31, 2010



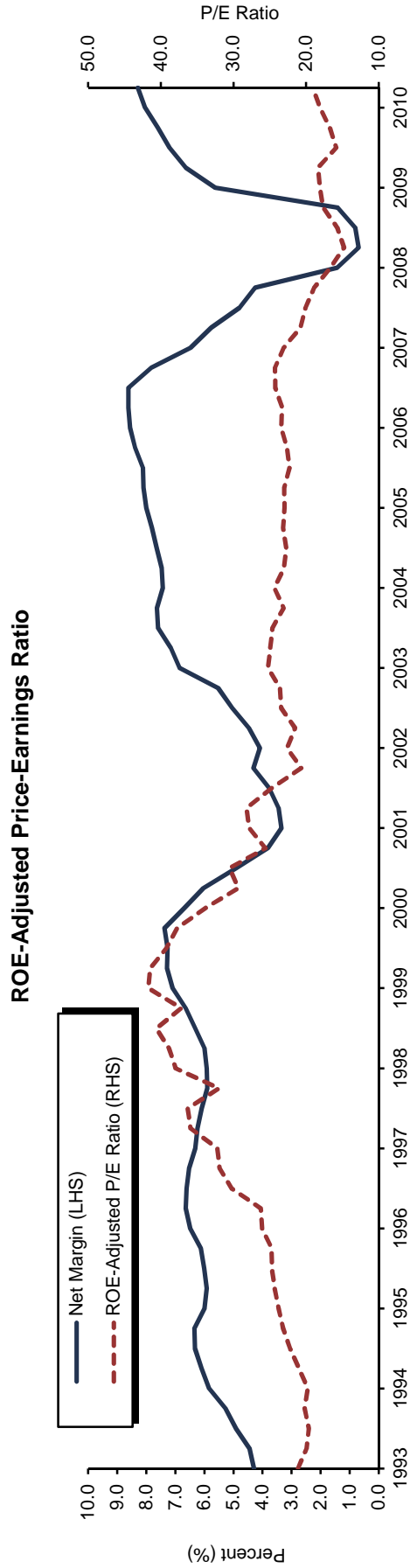
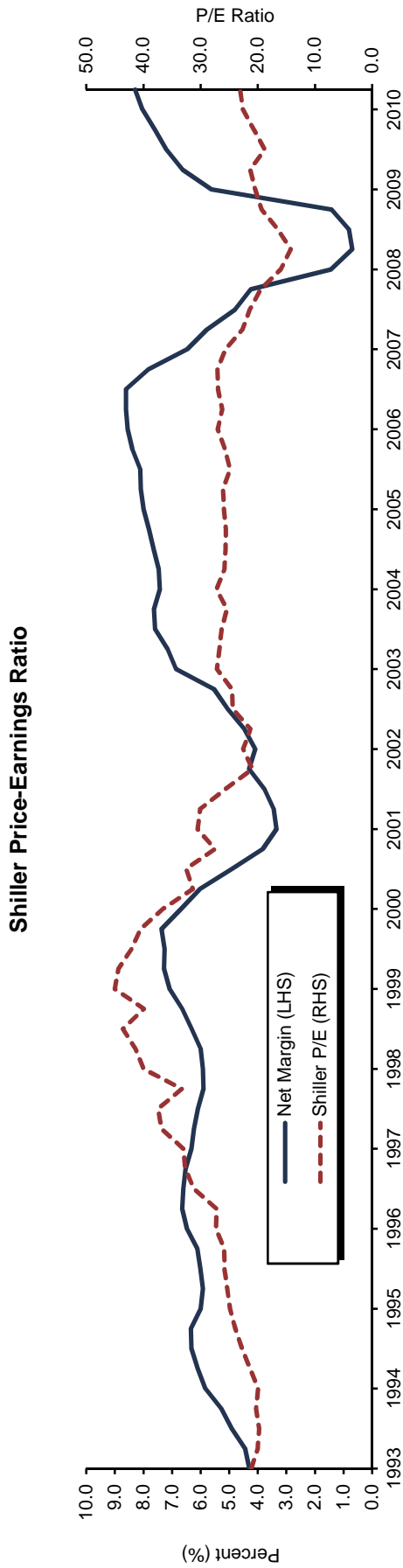
| Margin Quartiles | Beginning Period NIPA Margin (%) |       | Subsequent Real Five-Year AACR (%) |      | Std Dev |
|------------------|----------------------------------|-------|------------------------------------|------|---------|
|                  | Mean                             | High  | Low                                | Mean |         |
| First            | 7.43                             | 8.01  | 6.16                               | 9.74 | 6.41    |
| Second           | 8.56                             | 9.18  | 8.04                               | 5.04 | 8.81    |
| Third            | 9.92                             | 10.62 | 9.18                               | 6.06 | 8.85    |
| Fourth           | 11.36                            | 13.18 | 10.62                              | 7.56 | 7.76    |
| Total            | 9.32                             | 13.18 | 6.16                               | 7.10 | 8.16    |

Sources: Standard & Poor's and Thomson Datastream.

**Exhibit 16**

**S&P 500 Net Margin Versus Shiller and ROE-Adjusted Price-Earnings Ratios**

December 31, 1993 – March 31, 2011



Sources: FactSet Research Systems, Standard & Poor's, Standard & Poor's Compustat, and U.S. Department of Labor - Bureau of Labor Statistics.  
Notes: All data are quarterly. S&P 500 net margin is calculated using trailing four-quarter data.