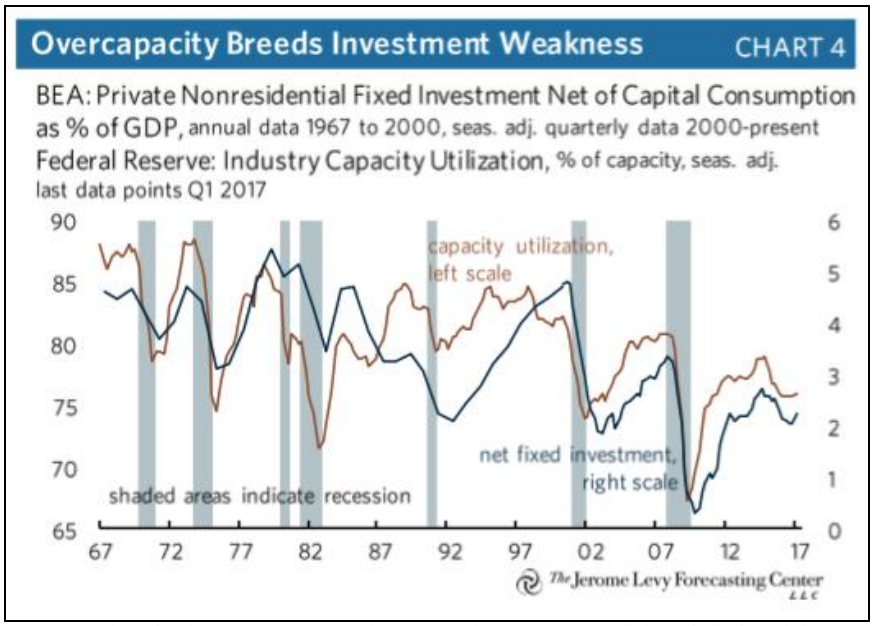
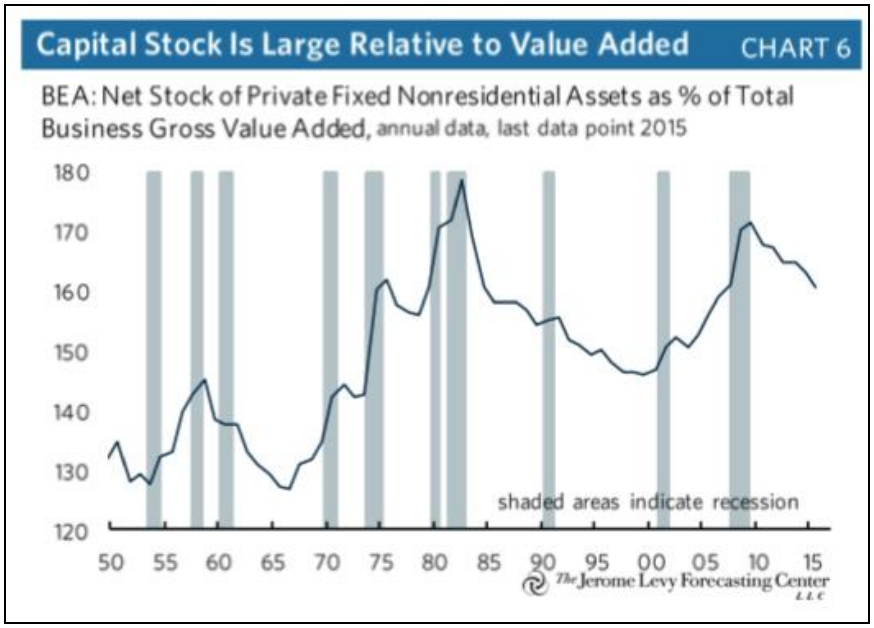
US capex, investment, and growth — re-re-upped

Cardiff Garcia, *Financial Times*, June 6, 2017

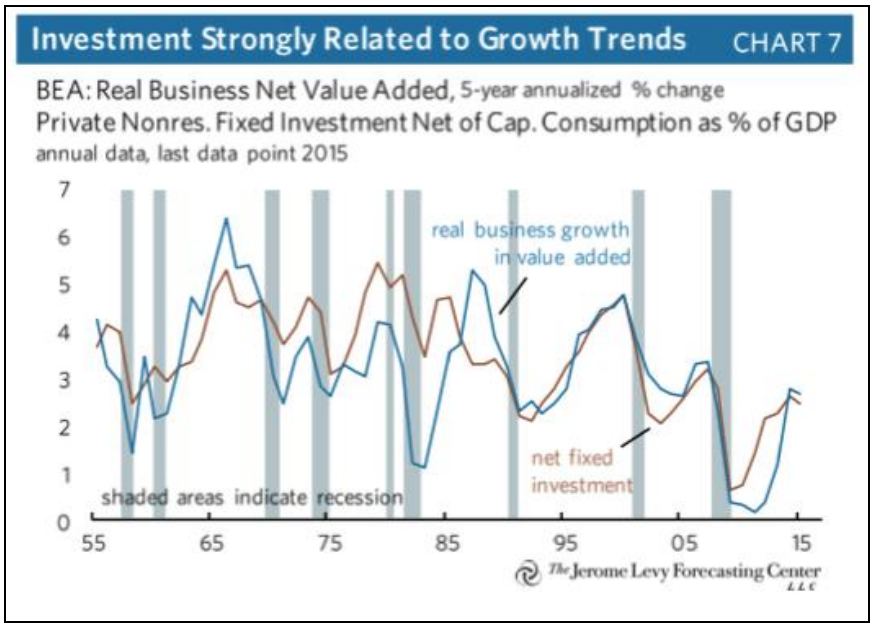
Srinivas Thiruvadanthai of the Jerome Levy Forecasting Center has passed along his interesting new note (*see below*) about capex, which addresses some of the issues I raised in my recent post. About the long-term factors that affect capital spending, Thiruvadanthai writes: "Many observers have been puzzled by the capital spending weakness in this cycle in the face of an aging capital stock, relatively high profitability, and strong cashflow. Cashflow and aging capital stock are important influences on capital spending but are overshadowed by capacity and growth expectations."



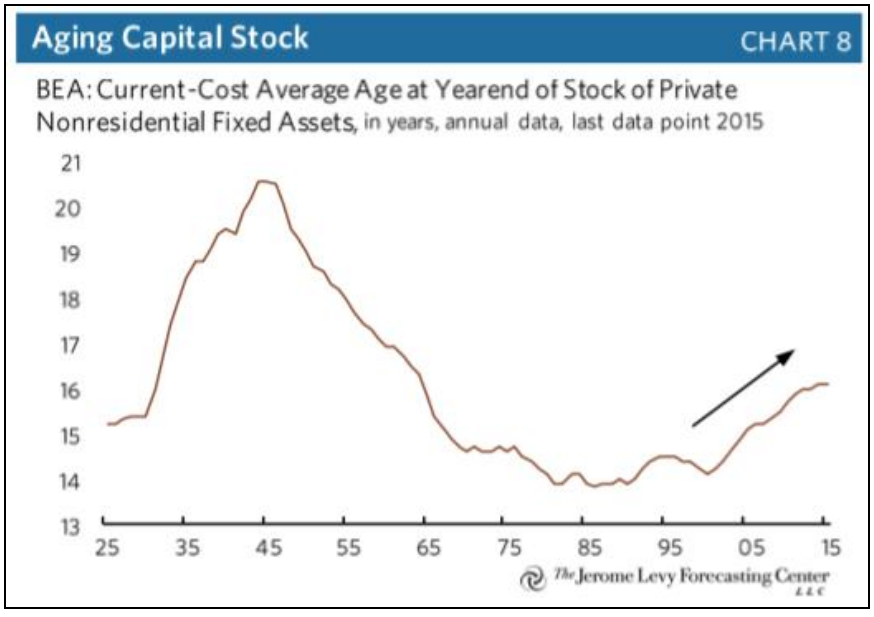
One major influence on weak net private nonresidential fixed investment over the past 15 years has been the growing and pervasive overcapacity. The peaks in industry capacity utilization have trended lower over that time, implying a growing stockpile of idle capacity. While there is no equivalent capacity utilization data for the services sector, other data such as office vacancies and the ratio of capital stock to value added also corroborate the presence of broad-based, economy-wide overcapacity. Moreover, industry capacity utilization actually tracks remarkably well with nonresidential net fixed investment throughout history. The current level of capacity utilization suggests that the level of investment is not inexplicably low.



The other major influence on investment is growth and expectations of growth. Robust growth can sometimes help mitigate overcapacity, especially if some sectors with relatively low capital bases are growing rapidly — as was the case with the IT sector in the Dotcom boom. However, growth has been tepid throughout this recovery and expectations of growth, gleaned from executive surveys and earning calls, have been subdued. Unsurprisingly, net fixed investment is strongly related to growth.



The aging capital stock is a reflection of the combination of pervasive excess capacity and weak growth. Due to weak net fixed investment, the capital stock has aged over the past 15 years, although it has been older in the past. Granted, an aging capital stock creates pressures for business to replace and upgrade equipment and facilities. However, keep in mind that in a weak growth environment, the average age should be higher because new investment will be weak.



Cashflow has historically been a significant determinant of capital spending, but research shows that the effect has diminished in recent decades. Growth in the high-yield market, expansion of nonbank lending, and increased competition for lending as the financial sector balance sheet has grown in relation to the economy have probably contributed to the weakening link between cashflow and investment.

A few additional thoughts and questions of my own:

First, the close relationship between growth and investment found in Thiruvadanthai's accelerator models is unsurprisingly similar to the results found in the Obama CEA's modeling (which I previously looked at) each suggesting that the relationship between investment and growth is causal in both directions.

Second, this relationship is further evidence that corporate short-termism — defined here as weak investment growth coinciding with robust buyback activity and dividend hikes — is more a consequence than a cause of weak overall economic growth.

Third, if it proves true that sustainable long-term real GDP growth of more than 2 per cent is no longer realistic for the US and other advanced economies, for demographic or other reasons, then the finding that the investment shortfall correlates strongly with weaker growth expectations is especially worrying. These expectations risk becoming a self-fulling prophecy if expectations of slower growth lead to weak investment, which leads to a continued productivity stagnation, which contributes to still weaker overall growth, and so forth.

(This thinking strikes me as too pessimistic, by the way. I prefer a radical agnosticism. For instance I find it entirely plausible, and perhaps even likely, that a bubbling pool of innovation already exists but simply hasn't yet matured to the stage where it will be transformative and commercialised. Even if not, economists lack a settled theory of what causes total factor productivity growth. It might well just be down to time and luck.)

Fourth, is there necessarily a "right" age for the capital stock? As shown in the chart above, the stock is older than it has been in decades, but it was even older throughout much of the 20th century. Furthermore, it started its most recent aging trend in the late 1990s, even as investments in IT were soaring. That investment during this time wasn't used to upgrade (make younger) the extant stock is curious.

Finally, that the capital stock has continued to age throughout the past two decades even as capacity utilization has been in secular decline seems odd. You'd think that as the capital stock ages, capacity would become tighter. Instead a large capacity overhang developed that has only gradually diminished since the recession. The answer might have to do with longer replacement cycles. Or perhaps there is "structural excess capacity in subindustries that lost share during globalization", as Goldman Sachs economists recently said.

Whatever the case, other mysteries about weak investment and productivity growth also remain, some or most of which probably relate to the economy becoming more digitized and services-based. Just one example is the question of whether the "growing stockpile of idle capacity" referenced in the note won't ever be un-idled. Perhaps it is simply no longer needed, as the products that would be made by its re-activation are no longer wanted.

Still, it's great that economists and others have scrutinised the relationship between investment and growth so carefully in recent years. We won't find answers if we're not asking questions that challenge earlier assumptions about the economic dynamics that matter.

The Jerome Levy Forecasting Center

Client Bulletin

CONFIDENTIAL

May 19, 2017
Srinivas Thiruvadanthai
Director of Research

A Modest Bounce in Capex is Underway, But Don't Expect a Sustained Acceleration

The present pickup in capital spending is being driven by the recovery in profits that began early last year. We expect capital spending to post another quarter or two of gains but to lose momentum thereafter as the profits recovery begins to stall.

Yet capital spending has remained historically low relative to profits throughout this business cycle. Prolonged weakness in capital spending—particularly capital spending net of depreciation costs, which is what matters for aggregate profits—has meant an aging capital stock. Many analysts are saying that the weakness in capital spending and an older capital stock argue for a sustained acceleration in business investment going forward. These arguments are not new but, compelling as they may appear to be, they leave out the biggest drivers of capital spending—capacity utilization and expectations for growth. With chronic and pervasive overcapacity and anemic sales growth, the case for committing to increased capital spending is simply not there. Corporate balance sheets are impeding capital spending as well. Corporate leverage is near record levels and elevated equity valuations paradoxically force businesses to be more conservative.

Capital Spending Recovering

After declining for four quarters, business spending on equipment stabilized in the fourth quarter of last year and picked up smartly in the first quarter (chart 1). Overall nonresidential capital spending—including software, other intellectual property, and structures—also rose solidly.

However, our profits outlook suggests that the capex recovery is likely to lose momentum by midyear. Looking back, the capex decline in 2015-16 and the subsequent rebound lagged the profits decline and recovery (chart 2). With inventory restocking peaking and little hope of a fiscal stimulus in 2017, the U.S. corporate profits recovery is likely to stall by midyear (see the May issue of *The Levy Forecast*®), and capital spending will follow with a lag. Indeed, the regional Fed surveys show that capex intentions are starting to ebb (chart 3).

Longer-Term Forces Weigh on Capital Spending

Many observers have been puzzled by the capital spending weakness in this cycle in the face of an aging capital stock, relatively high profitability, and strong cashflow. Cashflow and

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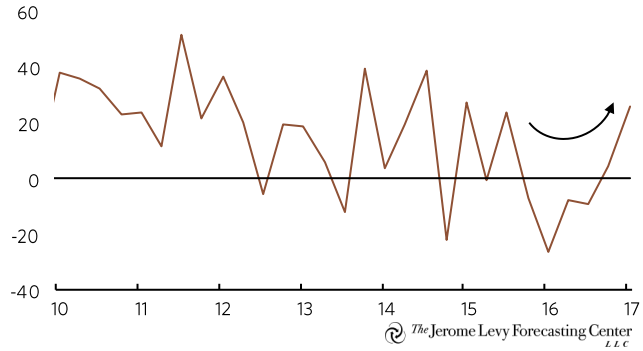
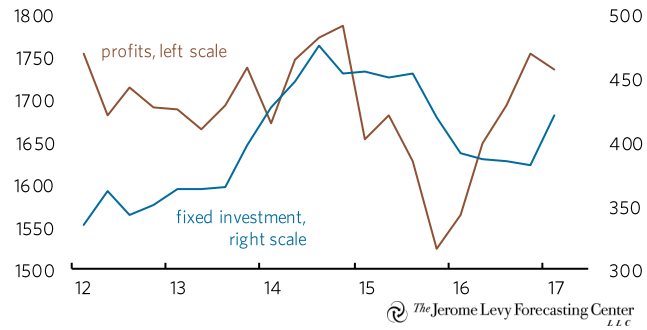
Equipment Spending Bounces Back CHART 1

BEA: Private Nonresidential Equipment Investment
$ billions, quarter-over-quarter change, seas. adj., ann. rate, last data point Q1 2017



Capex Following Profits CHART 2

BEA: Private Nonresidential Fixed Investment Net of Capital Consumption Corporate Profits adjusted for tax law distortions to depreciation
$ billions, seas. adj., annual rate, Q4 2015 profits ex. BP fine, Q1 2017 profits est.



aging capital stock are important influences on capital spending but are overshadowed by capacity and growth expectations.

One major influence on weak net private nonresidential fixed investment over the past 15 years has been the growing and pervasive overcapacity. The peaks in industry capacity utilization have trended lower over that time (chart 4), implying a growing stockpile of idle capacity. While there is no equivalent capacity utilization data for the services sector, other data such as office vacancies (chart 5) and the ratio of capital stock to value added (chart 6) also corroborate the presence of broad-based, economy-wide overcapacity. Moreover, industry capacity utilization actually tracks remarkably well with nonresidential net fixed investment throughout history (see chart 4). The current level of capacity utilization suggests that the level of investment is not inexplicably low.

The other major influence on investment is growth and expectations of growth. Robust growth can sometimes help mitigate overcapacity, especially if some sectors with relatively low capital bases are growing rapidly—as was the case with the IT sector in the Dotcom boom. However, growth has been tepid throughout this recovery and expectations of growth, gleaned from executive surveys and earning calls, have been subdued. Unsurprisingly, net fixed investment is strongly related to growth (chart 7).

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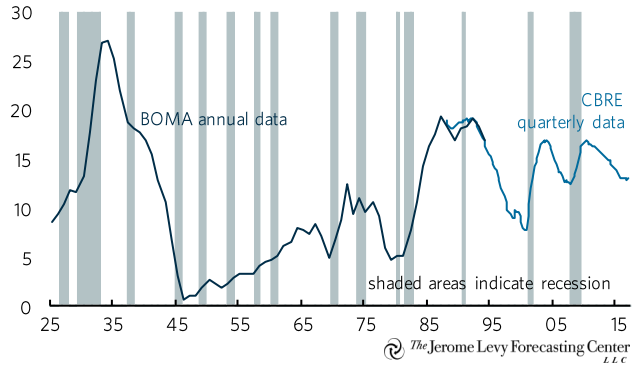
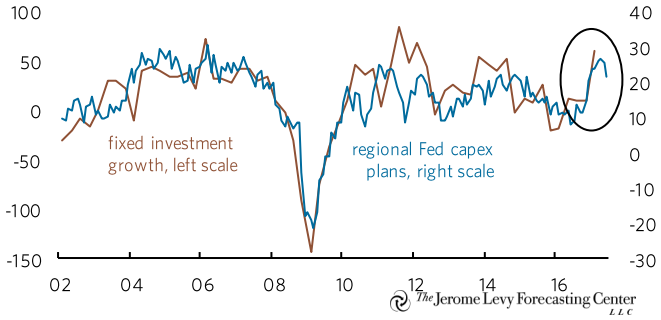
Office Vacancy Rate Historically Elevated — CHART 5

Building Owners and Managers Association (BOMA), CBRE: National Office Vacancy Rate, %, BOMA data 1925-1994, CBRE data Q1 1988-Q1 2017



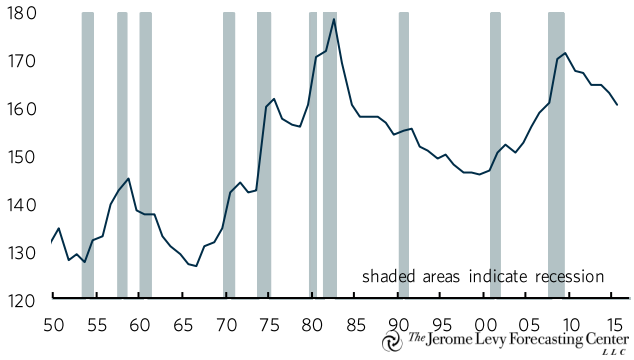
Regional Surveys Suggest Softening Capex — CHART 3

5-Region Average of Future Capex Plans from Fed Manufacturing Surveys
index, >0 = expanding, last data point May 2017 (estimated)
BEA: Private Nonresidential Fixed Investment
$ billions, quarter-over-quarter change, seas. adj., annual rate, last point Q1 2017



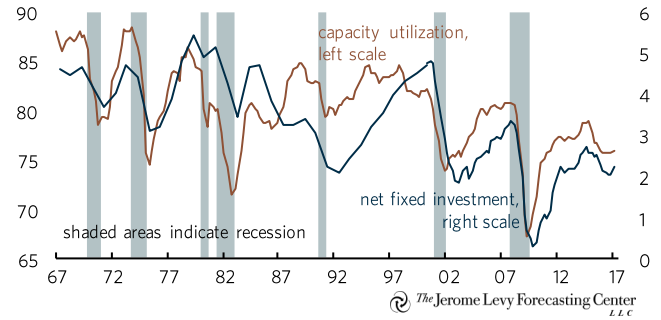
Capital Stock Is Large Relative to Value Added — CHART 6

BEA: Net Stock of Private Fixed Nonresidential Assets as % of Total Business Gross Value Added, annual data, last data point 2015



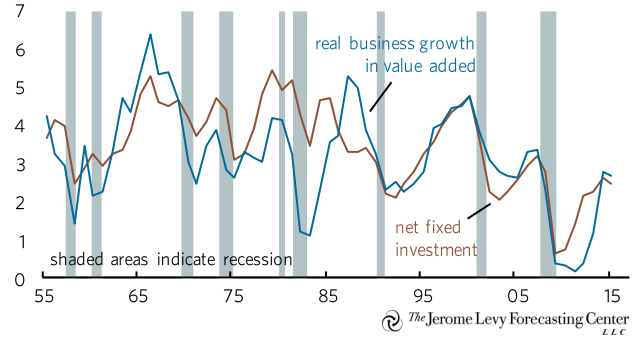
Overcapacity Breeds Investment Weakness — CHART 4

BEA: Private Nonresidential Fixed Investment Net of Capital Consumption as % of GDP, annual data 1967 to 2000, seas. adj. quarterly data 2000-present
Federal Reserve: Industry Capacity Utilization, % of capacity, seas. adj.
last data points Q1 2017



Investment Strongly Related to Growth Trends — CHART 7

BEA: Real Business Net Value Added, 5-year annualized % change
Private Nonres. Fixed Investment Net of Cap. Consumption as % of GDP
annual data, last data point 2015



The aging capital stock is a reflection of the combination of pervasive excess capacity and weak growth. Due to weak net fixed investment, the capital stock has aged over the past 15 years, although it has been older in the past (chart 8). Granted, an aging capital stock creates pressures for business to replace and upgrade equipment and facilities. However, keep in mind that in a weak growth environment, the average age should be higher because new investment will be weak.

Cashflow has historically been a significant determinant of capital spending, but research shows that the effect has diminished in recent decades. Growth in the high-yield market, expansion of nonbank lending, and increased competition for lending as the financial sector balance sheet has grown in relation to the economy have probably contributed to the weakening link between cashflow and investment.

High Debt and Equity Valuations Impede Investment

Bloated corporate balance sheets are also depressing fixed investment. First, nonfinancial corporate sector debt scaled to the sector's value added is at a historically high level and is weighing on capital spending. Since corporate sector debt started becoming a problem in the late 1980s, corporate sector gross fixed investment scaled to cashflow has been on a secular decline, albeit interrupted by the boom in infotech investment during the Dotcom bubble (chart 9).

Second, elevated corporate equity valuations are also hindering investment. The need to justify high equity valuations has warped business decisions to an unusual degree. For example, during the Internet mania, businesses often embarked on aggressive capital spending plans to keep up with investors' expectations of growth and thereby rationalize high valuations. However, in periods such as the present, when expectations of growth are depressed, investors view capital spending plans skeptically and favor dividends and buybacks. Because dividends and buybacks are consuming an increasing proportion of cashflows (chart 10), executives focus on free cashflow and are loath to expand aggressively. The result is the juxtaposition of strong profits/high profit margins and weak investment.

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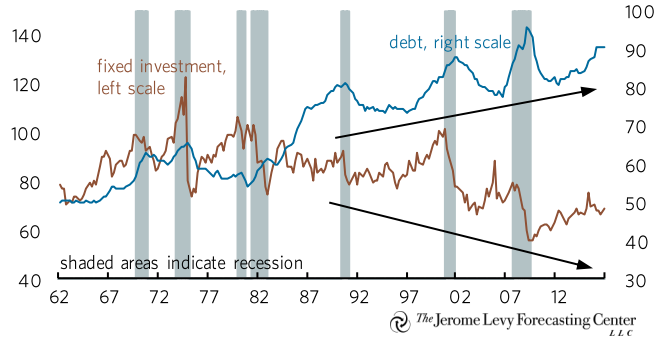
Aging Capital Stock CHART 8

BEA: Current-Cost Average Age at Yearend of Stock of Private Nonresidential Fixed Assets, in years, annual data, last data point 2015

Higher Debt Impeding Investment CHART 9

Federal Reserve, BEA: Nonfinancial Corporate Business: Gross Fixed Investment as % of Cashflow, Debt as % of Gross Value Added

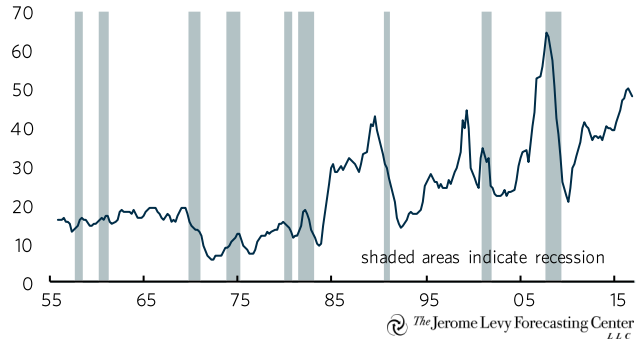
seasonally adjusted, last data points Q4 2016



Cash Flowing to Dividends and Buybacks CHART 10

Federal Reserve: Nonfinancial Corporate Business: Net Dividend Payouts less Net Equity Issuance as % of Cashflow

seasonally adjusted, 4-quarter moving average, last data point Q4 2016



Conclusion

Normally, business executive surveys are a good indicator of capital spending intentions. However, the current elevated level of optimism in many surveys may be misleading. The expectations of radical, business-friendly policies and large fiscal stimulus sparked a surge in optimism among business executives, most notably among small and independent businesses. With hopes of drastic policy changes fading rapidly and the prospects of a large 2017 fiscal stimulus dwindling, executive optimism is more likely to come down to earth than business spending is to pick up in earnest.

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