

ECONOMIC OUTLOOK

The "Search for Yield" and Business Investment

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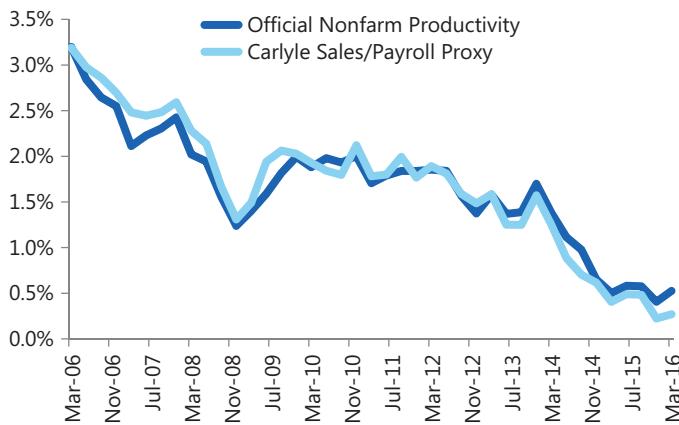
The “Search for Yield” and Business Investment

By Jason M. Thomas

For the past five years, payroll employment in the U.S. has grown at an average rate of 210,000 jobs per month. Curiously, marked improvement in the labor market has not been matched by acceleration in the overall pace of economic activity. Since 2010, Federal Reserve forecasts have consistently overestimated the rate of GDP growth, while simultaneously *underestimating* the rate of net job creation. Every 1 percentage point of GDP growth has generated about 2.5-times as many jobs as the Fed expected five years ago, as real GDP growth of 2% has somehow managed to generate 1.8% annualized growth in payrolls.

Payrolls have outperformed GDP because of an unforeseen collapse in productivity growth.¹ Indeed, any increase in payrolls not matched by an acceleration in GDP growth necessarily involves a productivity slowdown. On an economy-wide basis, “productivity” can be estimated as the ratio of real business sales to payrolls. With total employment growing at nearly the same pace as sales over the past few years, this ratio has been roughly flat, which implies productivity growth has slowed to an annual rate of just 0.3% (Figure 1).

FIGURE 1
Five-Year Annualized Growth in Labor Productivity,
2006-2016²



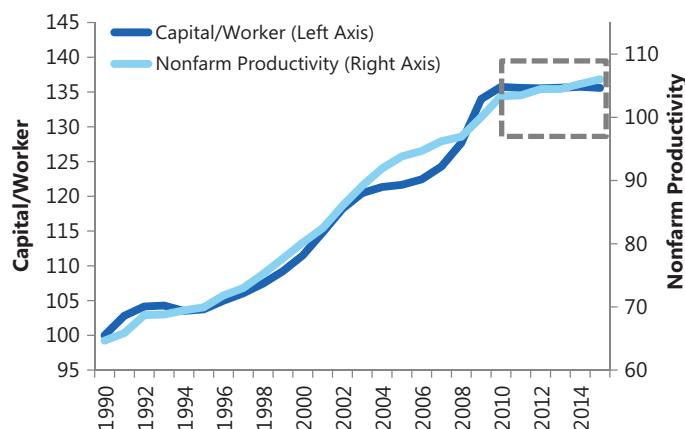
Origins of the Productivity Slowdown

In recent quarters, official measures of productivity have declined because of a shift in the composition of the labor force. The energy bust and sharp drop in related equipment spending led to a decline in employment in high wage, high productivity sectors like mining and manufacturing. In its place, the economy created more jobs in sectors with lower wages and productivity levels like retail, leisure and

accommodations, and health care.³ But these recent developments do not explain the much longer downtrend in productivity growth, which instead seems related to the decline in business investment rates.

In virtually every macroeconomic model, productivity depends on the amount of capital per worker. Fixed investment in new tools, machinery, software, and communications equipment allows more goods and services to be produced by a given amount of labor. The empirical evidence confirms the linkage between capital per worker and productivity (Figure 2). Since 2010, the business capital stock has grown at roughly the same rate as payrolls, resulting in a stagnating capital-to-worker ratio that has closely tracked—and likely explains—the productivity growth slowdown

FIGURE 2
Real Business Capital Stock/Worker and Productivity⁴



Why Aren’t Low Rates Stimulating Investment?

Low interest rates are supposed to spur investment spending by reducing businesses’ cost of capital, which increases the volume of prospective investment projects businesses can pursue profitably. Since the crisis, accommodative monetary policy has succeeded in reducing interest rates and risk premia, but this has not translated into increased business investment. Despite record low external finance costs, business investment has been weaker this expansion than any other in the past 50 years (Figure 3). The unresponsiveness of business investment to the substantial increase in business net worth has been a puzzle of the post-crisis period.⁵

It may be that low rates do not spur business investment

1 For a discussion of the difficulty of measuring the productivity derived from digital services, social media, and rapidly declining high-tech goods prices, please see: “Can U.S. Productivity Measures Keep Pace with Innovation,” available at: https://www.carlyle.com/sites/default/files/market-commentary/economic_outlook_gdp_growth_understated_aug2015_final_2.pdf

2 Carlyle Analysis; Bureau of Labor Statistics, Productivity and Costs, May 2016.

3 C.f. Zandweghe, W. (2016), “The Drag of Energy and Manufacturing on Productivity Growth,” The Macro Bulletin, Federal Reserve Bank of Kansas City.

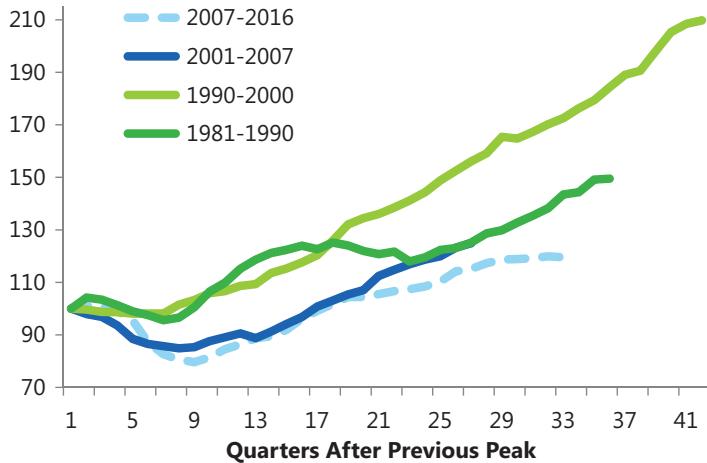
4 Carlyle Analysis; Bureau of Economic Analysis, Fixed Assets; Bureau of Labor Statistics, Productivity and Costs, May 2016.

5 Sharpe, S. and Suarez, G. (2014), “The Insensitivity of Investment to Interest Rates: Evidence from a Survey of CEOs,” Federal Reserve 2014-02.

because of their impact on *investor preferences*. Capital markets are two-sided. If accommodative monetary policy causes portfolio income from “safe” government bonds to fall below certain thresholds, investors are likely to respond by diversifying into “yield products,” or securities that pay out a large share of returns through cash distributions. And by increasing the market value of distributions relative to long-lived capital, these types of portfolio shifts may create financial incentives for businesses to distribute incremental cash flow rather than reinvest it in their business.

FIGURE 3

Cumulative Growth in Business Investment Relative to Previous Peak⁶



How Low Rates Shape Investors' Portfolio Decisions

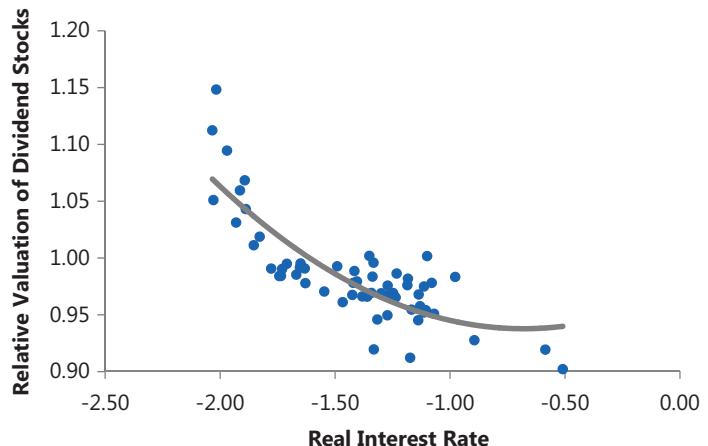
It is well known that some investors prefer assets whose returns come primarily from current income (coupons, dividends, rents) instead of capital gains.⁷ Retirees, family offices, endowments, insurers, banks, and pension funds often require a certain amount of portfolio income to fund consumption and benefits, cover expenses and claims, or meet legal or investment policy distribution requirements. These investors could sell a portion of their portfolios to fund these outlays, but precisely calibrating portfolio withdrawals to do so can be quite challenging in the presence of longevity, market, and liquidity risks. When income from high-grade corporate and sovereign securities falls below required levels, these investors are likely to rethink overall portfolio allocation strategies in the search for additional yield.

Dividend-paying stocks are often the first place investors turn to augment portfolio income. All stocks have benefitted from low interest rates, but the biggest gains have accrued to stocks with the highest dividend yields (after controlling for other factors). As real interest rates decline, investors bid up the prices of dividend-paying stocks and

their valuations rise nonlinearly relative to the valuation of the market as a whole (Figure 4). The observed shift in *relative* valuations suggests that increased demand for dividends comes at the expense of businesses that chose to reinvest a larger share of cash flow into new projects.

FIGURE 4

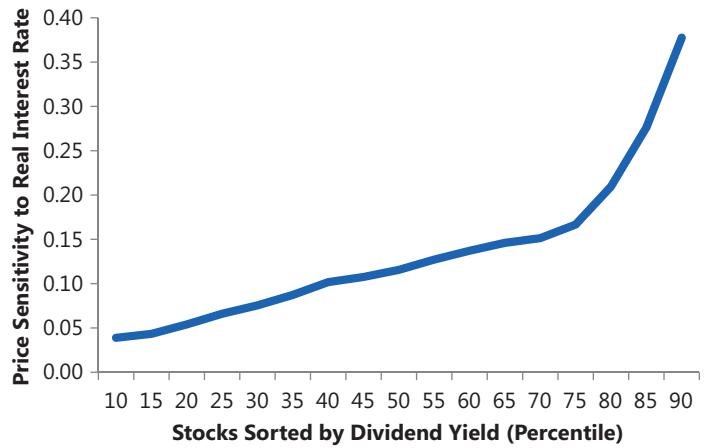
Sensitivity of Stock Prices to Real Interest Rates, 2010-2016⁸



This is not a new phenomenon; since 1976, the net demand for high-yield stocks has closely tracked variation in real interest rates. As shown in Figure 5, the prices of stocks in the top 10% in terms of dividend yield have been about ten-times as sensitive to the variation in real interest rates as the prices of the lowest-yielding 10% of stocks. Investors respond predictably to falling interest rates by bidding up the prices of high-yield stocks; likewise, rising rates cause investors to sell these stocks. The lower rates go, the larger the premium paid for yield. Not surprisingly, as real five-year rates declined by 0.5% between February and May 2016, the main beneficiaries were high-yield stocks, as the S&P Dividend Aristocrats Index increased by 5.8% relative to the S&P 500 (Figure 6).

FIGURE 5

Sensitivity of Stock Prices to Real Interest Rates⁹



6 Bureau of Economic Analysis, Fixed Assets.

7 Hanson, S. and J.C. Stein, (2015). “Monetary Policy and Long-Term Real Rates,” Journal of Financial Economics 115, 3, pp. 429–448.

8 Carlyle Analysis; S&P Capital IQ Database.

9 Carlyle Analysis; CRSP Database.

Over the past forty years, a 1% decline in real interest rates has been associated with a 0.76% increase in the monthly returns of the highest-yielding 10% of stocks, after accounting for company-specific factors like size, valuation, and systematic volatility. The monthly return of a long-short portfolio that buys the highest-yielding 10% of stocks and sells the lowest-yielding decile has increased by 1.4% for every 1% decline in two-year rates over this period. Interestingly, the longer rates are expected to remain low, the larger the portfolio rebalancing; a permanent 1% decline in real rates would be expected to generate a similar response to a temporary 5% fall in real rates (See Table 1).¹⁰

FIGURE 6

Relative Price of Dividend Stocks and 5-Year Real Interest Rates¹¹

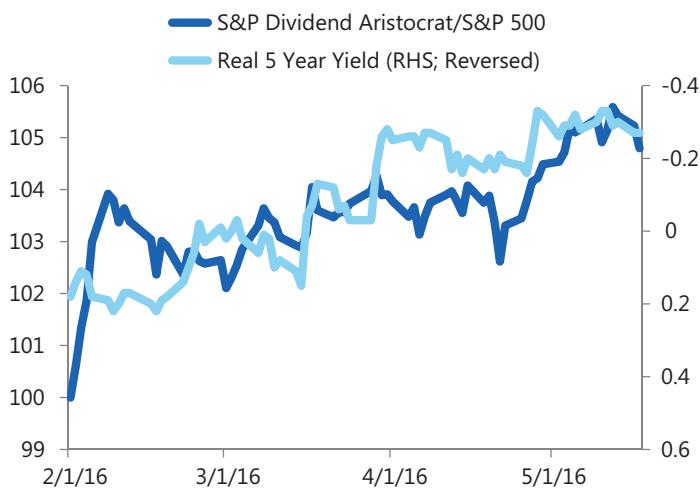


TABLE 1

Returns of Stock Portfolios Sorted by Dividend Yield¹²

| | Highest 10% of Stocks | Lowest 10% of Stocks | High 10%-Low 10% |
|--|-----------------------|----------------------|------------------|
| Coefficients (Beta) | | | |
| Systematic Risk (Market Return) | 0.70 | 1.20 | -0.50 |
| Characteristics | | | |
| Firm Size | Large | Small/Medium | |
| Valuation (Growth Option) | Low | High | |
| Elasticity of Monthly Portfolio Return | | | |
| -100bp 2yr Yield | 0.76% | -0.65% | 1.40% |
| -100bp Term Premium | 3.79% | -0.41% | 4.20% |

Yield-Starved Investors' Impact on Corporate Investment Policy

If interest rates influence the market value of cash distributions relative to illiquid business capital, management teams are likely to take notice. Investment theory is found-

¹⁰ I assume that a "permanent" decline in rates is captured by a fall in the term premium. Woodford (2012) argues that the term premium depends on investor expectations about the operative monetary policy feedback rule. If investors believe rates will remain lower for longer, the term premium naturally declines to reflect the diminished risk that incoming data will cause the central bank to tighten policy.

¹¹ Carlyle Analysis; S&P Capital IQ Database.

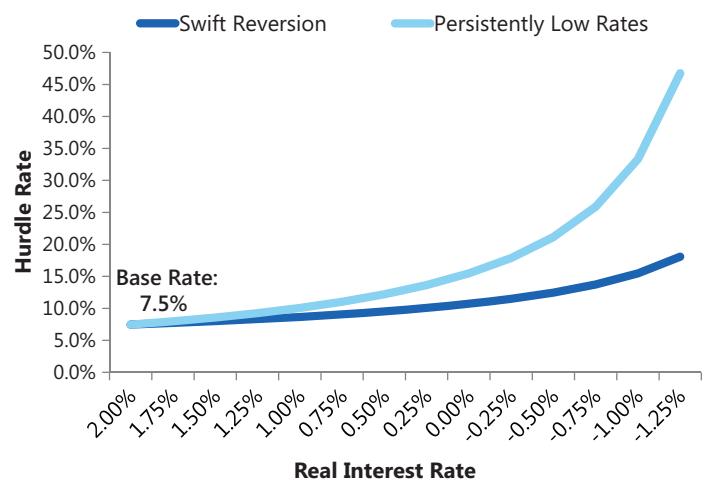
¹² Carlyle Analysis; CRSP Database.

ed on the assumption that businesses pursue policies to maximize the value of the firm.¹³ If investors assign more value to cash distributions than to the expected returns from new investment, corporate managers would be expected to respond rationally by ramping up dividends and buybacks at the expense of capex. For this reason, low rates may actually create incentives for corporate managers to distribute incremental cash flow to shareholders instead of investing it in the business.¹⁴

Not every business would be able, or inclined, to boost distributions in response to an observed shift in investor preferences. Young businesses tend to be characterized by funding gaps where desired spending greatly exceeds internally generated cash flow. Large, tech-oriented businesses often have sufficient internal cash, but tend to be valued for their growth and would derive little benefit from increasing distributions. Instead, the likely response to investor preferences is limited to larger businesses, with more assets-in-place, higher depreciation expenses, and greater operating cash flows. Yet, the quantitative impact is likely to be significant given that these firms account for a disproportionate share of aggregate business investment.¹⁵

FIGURE 7

Effective Hurdle Rate on New Investment (Relative to Distributions)¹⁶



Yield-Starved Investors' Impact on Corporate Investment Policy

When businesses are rewarded for distributions through higher valuations, the effective "hurdle rate" applied to prospective investments rises. The expected return on a new project must not only compensate for its inherent

¹³ C.f. Jorgensen, D. (1963), "Capital Theory and Investment Behavior," American Economic Review and references therein to Irving Fisher, among others.

¹⁴ By channeling increased distributions into share buybacks (which raise dividend yields by reducing shares outstanding), the firm retains greater flexibility to reduce shareholder distributions in the future when current income is less valued.

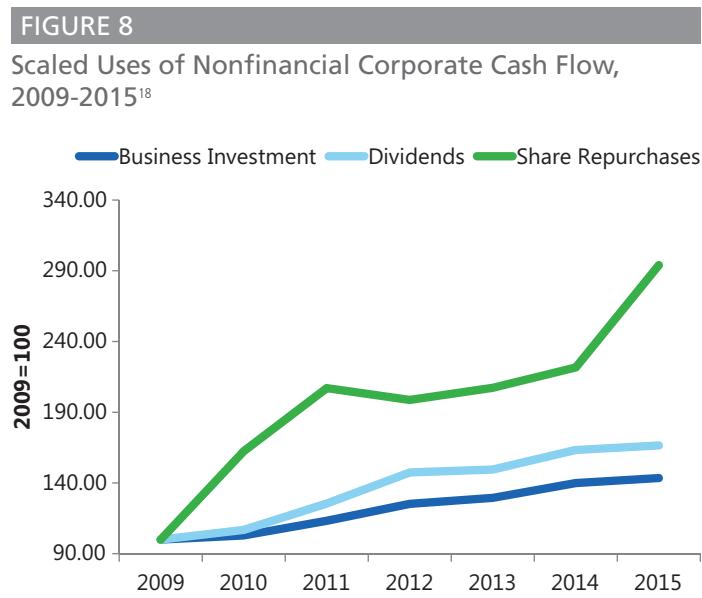
¹⁵ The top 5% of firms generally account for about 60% of capital outlays. Zwick, E. and Mahon, J. (2016), "Tax Policy and Heterogeneous Investment Behavior," NBER Working Paper No. 21876.

¹⁶ Carlyle Analysis; See: https://www.carlyle.com/sites/default/files/market-commentary/john_bull_march_2016_cg.pdf

economic risks, but also make up for the foregone gains from increasing distributions. As shown in Figure 7, the size of the deterrent to new investment depends on the magnitude and duration of the decline in interest rates.¹⁷ In this example, if real rates fall by 1% and are expected to revert swiftly to prior levels, there is no material impact on corporate investment policy. Conversely, if real rates fall by 2% and the decline is expected to persist indefinitely, an investment project would have to return 15.5%—twice the base hurdle rate—to increase the net worth of the business (relative to increasing distributions).

Investment Implications

While massive increases in corporate distributions over the past five years have been criticized by some as short-sighted (Figure 8), such behavior is precisely what one would anticipate from a rational actor seeking to maximize the net worth of the business. If investor demand for yield remains high, corporate managers are likely to continue to emphasize dividend growth and buybacks at the expense of capital accumulation. As a result, investors with longer-term horizons may need to increase exposure to private companies that face no pressure to satiate the demands of yield-starved investors.



As we have argued previously,¹⁹ shifting public investor preferences have transformed the role of private equity investors. Rather than focus on reducing wasteful expenditures, private value creation strategies today often begin with increasing business investment to boost future revenue. In the current environment, management teams are also more likely to seek partners with whom to go private

before pursuing an aggressive capital spending plan. This is especially true given the emergence of “activist investors” that target public companies perceived to be overspending.²⁰

Policy Implications

Fed policymakers have repeatedly expressed concern that low rates provide incentives for investors, banks, and intermediaries to “reach for yield” and assume greater risk to hit return targets.²¹ While it seems reasonable to suspect such portfolio shifts do occur, “yield” and “return” are not the same thing. In fixed income markets, higher yield loans and bonds are more risky, but the opposite is true in stock markets, where high-yield stocks actually tend to be lower risk, as measured by market betas (Table 1). Excessive focus on risk-taking incentives may obscure the way low rates lead to portfolio shifts that effectively penalize fixed investment.

In economies where societal aging has increased the share of investors dependent upon current income to fund consumption in retirement, investment demand could be expected to fall in response to cuts to real interest rates. Below certain thresholds, an increase in the relative value of distributions would likely offset any decline in business’ cost of capital. Monetary policy may be unable to deliver incremental accommodation in such economies without more explicit coordination with fiscal authorities. Money-financed stimulus, once unthinkable, may become a potential policy option in these situations.²²

Conclusion

Business sales have not accelerated to match the impressive growth in employment recorded over the past five years. The result has been a sharp decline in measured productivity, which appears to be the result of low rates of corporate investment. The puzzle of weak corporate investment despite record low interest rates may be explained, in part, by increased investor demand for high-yield stocks. Such demand creates financial incentives for businesses to distribute, rather than reinvest, incremental cash flow. While this phenomenon serves, at best, as a partial explanation for the slow growth in investment demand, it does suggest that the real economy’s vulnerability to rising interest rates may not be as acute as short-term market reactions may suggest. If the benefits of low real rates are not as great as commonly supposed, gradual rate increases should not prove as damaging to spending decisions as many fear.

17 The full model can be accessed at: https://www.carlyle.com/sites/default/files/market-commentary/john_bull_march_2016_cg.pdf

18 Federal Reserve, Flow of Funds, Z.1; SIFMA, Equity Issuance.

19 Clare, P. and Thomas. J. (2014), “The Opportunities from Underinvestment,” Economic Outlook, The Carlyle Group.

20 “As Activism Rises, U.S. Firms Spend More on Buybacks Than Factories,” Wall Street Journal, May 26, 2015.

21 Yellen, J. (2015), At the “Finance and Society,” a conference sponsored by Institute for New Economic Thinking, Washington, D.C., May 6, 2015.

22 Gali, J. (2014), “The Effects of a Money-Financed Fiscal Stimulus,” Working Paper.

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Jason M. Thomas is a Managing Director and Director of Research at The Carlyle Group, focusing on economic and statistical analysis of the Carlyle portfolio, asset prices, and broader trends in the global economy. Mr. Thomas is based in Washington, D.C.

Mr. Thomas' research helps to identify new investment opportunities, advance strategic initiatives and corporate development, and support Carlyle investors.

Mr. Thomas received a B.A. from Claremont McKenna College and an M.S. and Ph.D. in finance from George Washington University where he was a Bank of America Foundation, Leo and Lillian Goodwin, and School of Business Fellow.

Mr. Thomas has earned the Chartered Financial Analyst (CFA) designation and is a financial risk manager (FRM) certified by the Global Association of Risk Professionals.

Contact Information

Jason Thomas
Director of Research
jason.thomas@carlyle.com
(202) 729-5420

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