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ECONOMIC OUTLOOK

(Just Like) Starting Over

THE CARLYLE GROUP

GLOBAL ALTERNATIVE ASSET MANAGEMENT

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(Just Like) Starting Over

By Kewsong Lee and Jason M. Thomas

The Bank of Japan's (BOJ) September 2016 policy statement marks a watershed. Prior to last month, the BOJ and several of its peers embraced a "Mae West" approach to central banking: if some monetary accommodation is good, and more is better, then too much is just right. No longer. The BOJ formally acknowledged that easing can go too far when it generates an "excessive decline and flattening of the yield curve" that erodes confidence in the "sustainability of financial functioning."[1]

The declining effectiveness of monetary policy has become more obvious as time since the global financial crisis has elapsed. And many market participants have complained vocally of a "bond bubble" that creates risks of future dislocation. But the BOJ has gone further, suggesting that excessively high bond prices (low yields) are not just a problem in and of themselves, but could actually undermine economic activity. The BOJ statement suggests that a full accounting for the era of "too much" monetary accommodation may reveal more costs than benefits, on net, not only in Japan, but also in Europe and the United States.

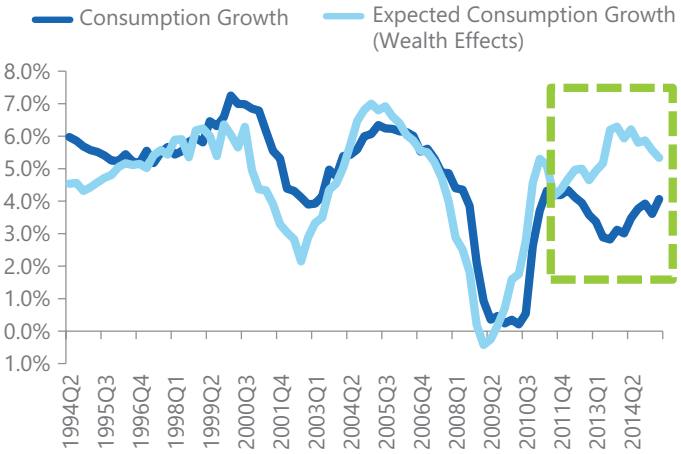
Has Unconventional Policy Failed or Not Been Tried?

In the eight years since the global financial crisis, each of the G4 central banks[2] have pursued some combination of "quantitative easing" (QE), forward guidance, or negative nominal interest rates in an effort to revive spending and inflation in their respective economies. The effects of these unconventional policies are expected to be transmitted to the real economy through financial market conditions in much the same manner as cuts to short-term interest rates.[3] Yet, spending has not proven to be as responsive to the higher asset prices generated by unconventional policy as standard models would anticipate (Figure 1)

Perhaps the linkage between wealth and consumption is misunderstood. Spending may rise with asset prices because both tend to increase with confidence in future economic outcomes. If economic growth were expected to accelerate—as during the positive productivity shock of the late-1990s—asset prices, household consumption, and business spending would be expected to rise in tandem. Conversely, if the increase in asset prices were instead engineered by central bank policy—with no change in growth expectations—there would be less reason to anticipate a pick-up in spending.[4] In the latter case, the expected productivity of the business capital is the same; a decline in interest rates simply increases the price investors are willing to pay for it.

FIGURE 1

Surge in Household Wealth Has Not Spurred Growth in Consumption to the Extent Implied by Standard Macro Models[5]



Rather than contemplate whether the relationship between wealth and consumption has been mis-specified in their models, most central bankers have urged more aggressive action. In a February 2016 speech, ECB President Mario Draghi drew parallels with the experience of the 1970s to argue that monetary policy has not succeeded because it had not been pursued forcefully enough.[6] Monetary policy didn't contain excessive inflation in the 1970s until policy rates were taken to levels (22% for the fed funds rate in December 1980) well in excess of prior experience or expectations. The same may prove true today, Draghi intimated, with respect to the scale of policy easing required to generate faster nominal income growth (Figure 2).

Given the size of central banks' balance sheets, the introduction of negative nominal interest rates, and forward guidance, it is hard to believe monetary policy has failed because it hasn't really been tried. The key difference between the 1970s and today is an asymmetry in the transmission of monetary policy. Tightening should "always and everywhere" (in the words of Milton Friedman) succeed in choking off credit growth and inflation. Easing, by contrast, depends on the willingness of businesses, households, and intermediaries to make incremental purchases or incur additional liabilities. Central banks can lead the horse to water but cannot make him drink.

1 https://www.boj.or.jp/en/announcements/release_2016/k160921a.pdf

2 The "G4" refers to the Bank of England (BOE), the Bank of Japan (BOJ), the Federal Reserve (Fed), and the European Central Bank (ECB).

3 Dudley, W. (2016), Remarks by President Dudley at the 40th Annual Central Banking Seminar, Federal Reserve Bank of New York, New York City.

4 Indeed, research that controls for changes in discount rates finds a highly attenuated relationship between stock valuations and business spending, c.f. Xing, Y. (2008), "Interpreting the Value Effect Through Q-Theory: An Empirical Investigation," *Review of Financial Studies*.

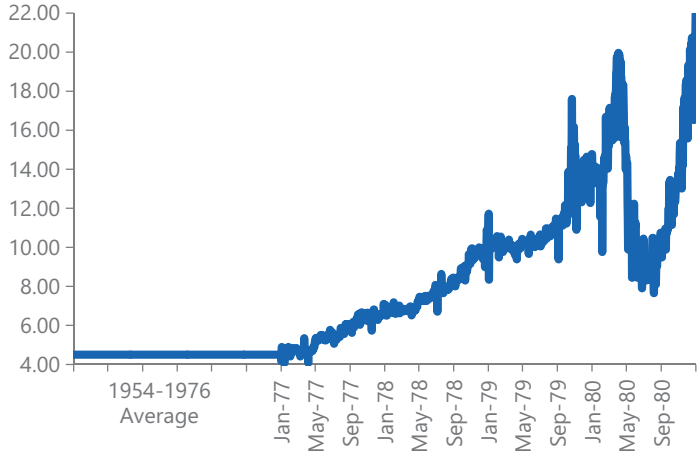
5 Carlyle; Federal Reserve, Z.1.

6 Draghi, M. (2016), "How Central Banks Meet the Challenge of Low Inflation," SUERF-Deutsche Bundesbank-IMFS Conference, February 2016: http://www.bis.org/review/r160205b.htm

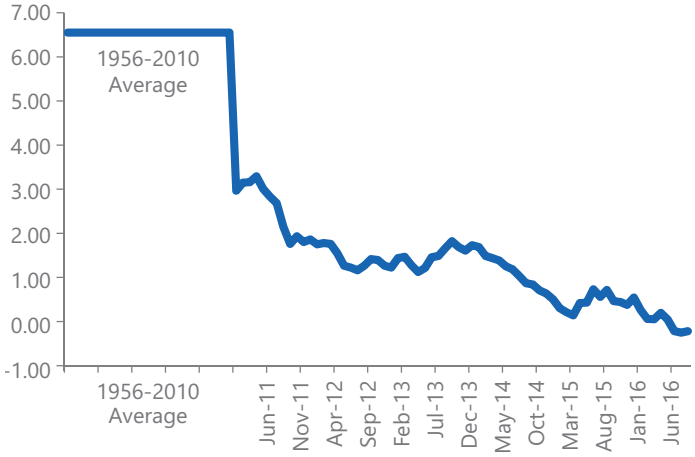
FIGURE 2

Desperate Times Call for Unprecedented Interest Rates?

U.S. Fed Funds Rate Rises to 20% in 1980[7]



10 Year German Bund Yield Falls Below Zero in 2016[10]



The Level of Longer Term Interest Rates is the Wrong Policy Target

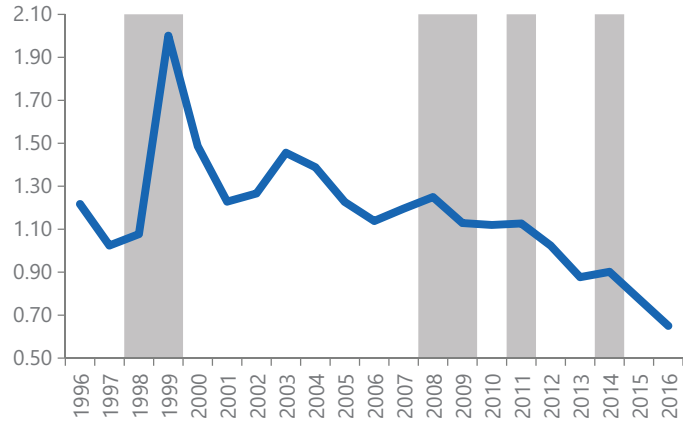
In fact—as the BOJ recognized—policies that unduly flatten the yield curve have the potential to slow the pace of credit growth and undermine financial intermediation. Banks, broker-dealers, investment banks, and other intermediaries tend to fund themselves with short-term debt (deposits, repurchase agreements, commercial paper, and other forms of interbank borrowing) to lend at longer maturities. Monetary policy stimulates demand by pushing these short-term rates below the longer-term yields on which intermediaries' lending rates are based. Credit growth is not a function of the absolute *level* of interest rates, but rather the *spread* between the rates at which intermediaries borrow and lend.[8] (For this reason, an inverted yield curve does not *predict* recessions so much as it *causes* them by reducing intermediaries' ability and willingness to extend credit.)

By targeting the absolute *level* of interest rates, monetary policy since the crisis has contributed to a flattening of the yield curve by pushing longer-term rates towards zero. The result has been lower net interest margins (Figure 3) and adverse effects on bank profitability and capital.[11] Research has found that the impact is nonlinear, with a flatter term structure doing significantly more damage to bank profits and capital when interest rates are low.[12] Much of the evidence comes from the pre-crisis period, which fails to account for the incremental impact of new regulations, or the complex interactions between these regulations and unconventional policy.

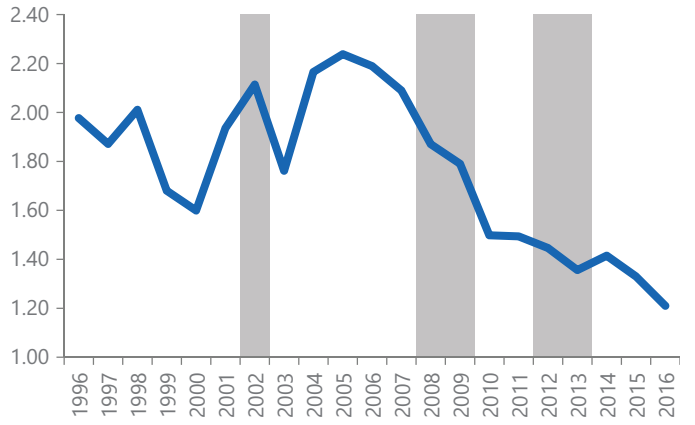
FIGURE 3

Negative Term Premiums Flatten Yield Curves and Depress Bank Capital[9]

Japanese Banks' Average Net Interest Margin



Euro Area Banks' Average Net Interest Margin



7 Federal Reserve Bank of St. Louis

8 C.f. Adrian, T. and H.S. Shin (2008), "Financial Intermediaries, Financial Stability, and Monetary Policy," Federal Reserve Bank of Kansas City 2008 Jackson Hole Economic Symposium Proceedings.

9 Federal Reserve Bank of St. Louis, Fitch, ECB, Carlyle

10 Federal Reserve Bank of St. Louis; S&P Capital IQ

11 "Low-for-long" interest rates and net interest margins of banks in Advanced Foreign Economies," Stijn Claessens (FRB), Nicholas Coleman (FRB), and Michael Donnelly (FRB), IFDP Notes, April 11, 2016.

12 Borio, C., et al. (2015), "The Influence of Monetary Policy on Bank Profitability," BIS Working Papers No. 514. October 2015. http://www.bis.org/publ/work514.pdf

By including the income from loans made in past periods when rates were higher, the net interest margin *understates* the decline in the marginal profitability of new lending. Forward-looking measures of European bank capital, like market-to-book ratios, have fallen back to levels last seen in the midst of the global financial crisis. In most cases, what worries investors is not the banks' near-term solvency or liquidity positions, but their chronic inability to generate earnings. Post-crisis restrictions on activities have reduced banks' non-interest income from trading, market-making, and derivatives by 33% to 40%.[13] Higher capital requirements have not only depressed banks' return on equity, but also increased the amount of retained earnings required to avoid dilutive equity issuance. In this environment, banks can ill-afford meagre returns on their core business of borrowing short to lend long.

Ironically, the strongest case for negative nominal interest rates is predicated on the need to create space to allow short-term rates to fall below long-term yields and steepen the term structure.[14] A steeper curve would allow banks to build larger capital buffers and offset embedded losses on their existing loan book, particularly in Europe. To the extent low yields can be attributed, in part, to QE and forward guidance, negative rates represent a monetary policy experiment aimed at reversing some of the ill effects of prior experiments.

Unfortunately, negative rates have failed to generate the hoped-for steepening in Japan or the other economies where they've been introduced. Negative rates have instead metastasized to the rest of the yield curve, further depressing banks' interest income and capital positions. In some cases, banks use zero-yielding deposits to fund positions in negative-yielding government bonds held to meet liquidity coverage ratios. Rather than finance productive investments, excess liquidity has been channeled to government bonds that offer less negative yields than central banks' deposit facilities.

Lower Rates Uncertain Effects on Investment Demand

While negative yields across the curve partly reflect the effects of liquidity regulations that require banks and insurers to hold large portfolios of high-grade government and corporate securities irrespective of their yields,[15] they also reveal the extent to which unconventional policy has failed to instill the confidence necessary to boost current spending and future inflation expectations. In fact, the economic distress signal sent by negative nominal interest rates may lead business managers to conclude that economic growth is likely to be weaker than previously anticipated. In such cases, investment may fall as the benefits of lower borrowing costs are more than offset by downward revisions to incremental sales forecasts.

Lower interest rates lower businesses' cost of capital, but they also reduce the time value of generating cash flows sooner rather than later. In periods of high uncertainty, lower rates can encourage firms to defer investment until more information becomes available. This timing effect is nonlinear, with the benefits of waiting rising as rates approach zero.[16] When rates are negative, firms are actually *paid* to defer investment decisions.

Similarly, lower rates may only boost investment to the extent that they're perceived to be temporary and provide firms with a time-limited opportunity to raise debt capital while it's cheap.[17] Expectations that rates will remain "lower for longer" relieve any sense of urgency. Business managers instead prefer to wait for demand to accelerate before undertaking costly, irreversible projects.[18]

The confidence and timing effects might be less consequential if management teams adjusted hurdle rates on new investment proportionally to the fall in long-term rates. But the evidence here is mixed, at best.[19] A 2012 survey of CFOs found that the average U.S. business would not undertake new investments expected to earn less than 13.5% per year.[20] Given that the average survey respondent's implied weighted cost of capital (WACC) was closer to 6% at the time, the academics behind the survey advised the Fed against "QE3," which they believed was unlikely to have any discernable impact. The data support their conclusion: real business investment decelerated from 9.4% annualized growth in the six quarters prior to QE3's announcement to 5.0% annualized growth in the six quarters thereafter (Table 1).

TABLE 1

Business Investment and QE3[21]

Period	Average Real Business Investment Growth
Prior 8 Quarters	9.2
Prior 6 Quarters	9.4
Prior 4 Quarters	12.2
September 2012 (Q3-12)	
Next 4 Quarters	3.4
Next 6 Quarters	5.0
Next 8 Quarters	5.6

13 IMF, 2016 Global Financial Stability Report, October 2016.

14 C.f. Goodfriend, M. (2016), "The Case of Unencumbering Interest Rate Policy at the Zero Lower Bound," Federal Reserve Bank of Kansas City 2016 Jackson Hole Economic Symposium Proceedings.

15 Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools, Bank for International Settlements, January 2013.

16 Chetty, R. (2007). "Interest Rates, Irreversibility, and Backward-Bending Investment," Review of Economic Studies.

17 Fisher, P. (2016), What's the matter with the Fed? Shadow Open Market Committee.

18 C.f. Caballero, R. (1999), "Aggregate Investment," Chapter 12, National Bureau of Economic Research Handbook of Macroeconomics. Pages 813–862.

19 Sharpe, S. and G. Suarez (2015), "Why isn't Investment More Sensitive to Interest Rates: Evidence from Surveys," Federal Reserve Board of Governors.

20 Harvey, C. (2012), "Why More Quantitative Easing from the Fed Won't Work," Duke University/CFO Magazine Global Business Outlook survey.

21 Real private fixed nonresidential investment, BEA, September 2016.

Some policymakers view static hurdle rates as a sign of myopia (or worse),[22] but a refusal to lower hurdle rates may be perfectly rational. The binary nature of the payoffs in information technology and pharmaceuticals makes investment in these industries less sensitive to interest rates.[23] Financing costs may fall but the risk of new investment remains unchanged. It would make little sense for companies to respond to a lower WACC by pursuing projects with implied internal rates of return too low to compensate for the risk.

Perhaps most significantly, low nominal interest rates may depress business investment by increasing the value of current income (coupons, dividends, rents) relative to capital gains. If yield-starved investors assign higher valuations to steady cash distributions than to new investment, corporate managers would be expected to respond rationally by ramping up dividends and buybacks at the expense of capex.[24] The effective hurdle rate rises as new projects must make up for the foregone valuation gains that would come from increasing distributions. As in other areas, the impact of the "search for yield" appear to be nonlinear: the lower rates go and the longer they are expected to remain there, the larger the premium investors are willing to pay for yield.

Implications for Investors

Asset prices, household consumption, and business investment often rise in tandem. This empirical relationship has led central banks to push asset prices higher in the hope that demand would rise proportionally. These efforts have largely failed because spending does not respond uniformly to increases in asset prices. Central banks can force asset prices higher mechanically through unconventional policies, but the "wealth" generated by such interventions differs qualitatively from that normally associated with higher levels of consumption and investment.

While few would dispute that QE1 played a critical role stabilizing financial markets during the crisis, subsequent rounds of unconventional policy have not proven effective. Worse, by sapping confidence, flattening yield curves, depressing bank capital levels, and increasing incentives to defer investment, unconventional policy may create costs that exceed its modest benefits.

By acknowledging that bond yields can fall to undesirably low levels, the BOJ has paved the way for a broader rethink of the conduct of monetary policy. Until now, the biggest risk to asset prices had been an acceleration in inflation, which would force policymakers to shift away from easy money. Instead, the adjustment could come from a shift in central banks' thinking that leads policymakers to accept higher long-term yields, more volatility in bond returns, and a corresponding decline in risk asset prices. While such a regime shift hardly looks imminent, the impact on asset prices once it arrives could be substantial. Investors should be prepared.

22 Poloz, S. (2016), "Living with Lower for Longer," Association des économistes Québécois.

23 Anjan Thakor, "Innovation and Growth: What Do We Know?" Apr 16, 2013 - Business & Economics

24 Thomas, J. (2013). "The Search for Yield and Business Investment," Economic Outlook. The Carlyle Group.

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