In these extraordinarily turbulent times, it is not surprising that important disagreements have emerged among policymakers and economists on the issue of economic activism. Almost all agree that activist government was necessary in the immediate aftermath of the Lehman bankruptcy. The U.S. Treasury’s equity support of banks through the Troubled Asset Relief Program, and the Federal Reserve’s support of the commercial paper market and money market mutual funds, for example, were critical in assuaging the freefall. But the utility of government activism, as represented by the 2009 US$814 billion program of fiscal stimulus, housing, and motor vehicle subsidies and innumerable regulatory interventions, continues to be the subject of wide debate.

Regrettably, the evidence is such that policymakers and economists can harbor different, seemingly credible paradigms of the forces that govern modern economies. Those of us who see competitive markets, with rare exceptions, as largely self-correcting are most leery of government intervening on an ongoing basis. The churning of markets, a key characteristic of “creative destruction,” is evidence not of chaos, but of the allocation of a nation’s savings to investment in the most productively efficient assets—a necessary condition of rising productivity and standards of living. But human

Alan Greenspan served as Chairman of the Board of Governors of the Federal Reserve System from 1987 to 2006. This article is an excerpt from a longer article that appeared in the journal International Finance (Vol. 14, No. 1, Spring 2011, pp. 165–182).
nature being what it is, markets often also reflect these fears and exuberances that are not anchored to reality. A large number, perhaps a majority, of economists and policymakers see the shortfalls of faulty, human-nature-driven markets as requiring significant direction and correction by government.

The problem for policymakers is that there are flaws in both paradigms. For example, a basic premise of competitive markets, especially in finance, is that company management can effectively manage almost any set of complex risks. The recent crisis has cast doubt on this premise. But the presumption that intervention can substitute for market flaws, engendered by the foibles of human nature, is itself highly doubtful. Much intervention turns out to hobble markets rather than enhance them.

**LIMITS TO FISCAL STIMULUS**

The recent pervasive macro-stimulus programs exhibit the practical shortfalls of massive intervention. They assume that the impact on the U.S. economy of a set of tax cuts and spending programs can be accurately evaluated and calibrated by conventional macro-models. Yet these models failed to anticipate the crisis, and given their structure, probably cannot be so evaluated and calibrated.2

How can the internal structure of models that have such poor forecasting records be informative on the size and sign of coefficients and impact multipliers? Moreover, most stimulus programs seek those appropriations and tax cuts most likely to be quickly spent. But if they were all completely spent—presumably the ideal—then of necessity saving would be zero. Yet in that case, no production would have been diverted to foster innovations that increase output per hour and standards of living.

The argument that higher federal spending would raise nominal GDP and create new saving is accurate up to a point. But if aversion to illiquidity risk remains high, capital investment and GDP will presumably remain stunted. This raises the broader question of government economic activism as an important economic variable contributing to such heightened risk aversion.

**THE BOUNDARIES OF ACTIVISM**

I define zero activism or intervention as pure *laissez faire*, where the government has no economic role other than enforcing property rights and the law of contracts. This paradigm, in its pure form, has never existed. The United States and much of the developed world came close in the first half of the nineteenth century. But in the United States, slavery and state-financed infrastructure, such as the Erie Canal, were departures from the paradigm.

This paradigm eroded during the second half of the nineteenth century, and was abandoned for a heavily regulated economy in the aftermath of the Great Depression. For the second half of the twentieth century, Americans, belatedly dismayed with the restraints of regulation, dismantled most controls on economic activity. Much of the rest of the world followed suit.

Few deny the extraordinary economic growth engendered by competitive markets in the nineteenth and twentieth centuries—a tenfold increase in global real per capita GDP (Maddison 2005). But the distribution of a competitive market’s rewards, and its periodic crises, led to the emergence in some countries of virtually full state (activist) control of economic affairs. The
Soviet Union, China (during its Cultural Revolution), and India (with its embrace of Fabian socialism following independence in 1947) were the most prominent. Yet these models have been abandoned as ineffective creators of material well-being.

The economic policy world is currently split between the advocacy of a state of minimum activism—allowing markets largely free rein—and the advocacy of a more heavily regulated interventionist model. Both embrace the welfare state and capitalism.\(^3\) They differ only in degree.

**THE “UNTHINKABLE”**

Before the bailout of Bear Stearns, and later General Motors and Chrysler, the notion that large iconic American corporations would not be allowed to fail was embodied in nobody’s risk management template. Few envisioned a major corporation (aside from Fannie Mae and Freddie Mac) being “too big to fail.” Virtually all risk managers perceived the future as largely determined by competitive markets operating under a rule of law. The American government, in response to the Lehman crisis, did what to most had been previously unthinkable.

Henceforth, it will be exceedingly difficult to contain the range of possible activism. Promises of future government restraint will not be believed by markets. This must significantly further raise negative tail risk. This became evident, post-crisis, in the failure of elevated risk spreads on liquid long-term debt to fully fall back to pre-2007 levels.

**FINANCIAL REGULATION**

Among the growing number of variables that future business management must now evaluate are the uncertainties related to future sources of funding of private investment. The major planned restructurings of our financial system must be broadening the range of currently expected outcomes and perceived risk. But while the impact of the restructuring appears significant, its size is too amorphous to measure. It is impossible to judge the full consequences of the many hundreds of mandated rulemakings required of financial regulators in the years ahead by the Dodd-Frank Act.

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**Much intervention turns out to hobble markets rather than enhance them.**

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The critical question is how much of a contraction in deficits and a decrease in the frenetic pace of new financial regulations is required to assuage the sense of a frightening future.

The degree of complexity and interconnectedness of the global twenty-first century financial system, even in its current partially disabled form, is doubtless far greater than the implied model of financial cause and effect suggested by the current wave of reregulation. There will, as a consequence, be many unforeseen market disruptions engendered by the new rules.

Most important will be the reaction of the private non-financial sectors of the U.S. economy to financial reregulation, which is bound to reduce the scope and value of financial intermediation. Finance and insurance in the United States as a share of gross domestic income (value added) rose continuously from 2.4 percent in 1947 to 8.3 percent in 2009, a record high.\(^4\) Early estimates of the percentage for 2010 appear little changed from 2009.\(^5\) It will presumably become clear in the coming years whether the ever-higher level of financial services was required to maintain economic growth (no such trend existed pre-war). The answer to this question is of no small consequence for the next decade and beyond.

**NEW DEAL ACTIVISM**

While the degree of activism brought on by the New Deal was far more intense than any of the interventions of the last two years, there are distinct parallels in initiatives to jumpstart the private economy. The Great Depression’s National Industrial Recovery Act viewed excessive competition as the cause of falling prices and, as Harold Cole and Lee Ohanian point out (2004), it attempted to cartelize firms comprising four-fifths of private nonagricultural employment. The NIRA led to huge economic distortions until it was declared unconstitutional by the Supreme Court in May 1935. But the level of economic rigidity remained until wartime sub-
The American government, in response to the Lehman crisis, did what to most had been previously unthinkable.

jected virtually the whole U.S. economy to government controls. From 1932 to 1940, the unemployment rate averaged 19 percent and never fell below 11 percent. Non-financial business fixed investment as a percent of cash flows fell to 63 percent in 1934 and 69 percent in 1938, but rallied in 1937 and 1941. (For comparison, the percentage was 83 percent for the first half of 2010.)

The business cycle had ups and downs in the 1930s, but the level of activity for the decade, on average, was suppressed—a status consistent with a persistently high degree of risk aversion to illiquid asset investment.

THE METRICS OF GOVERNMENT ACTIVISM

I try to measure the impact of government activism by assuming first that the capex ratio embraces the full range of sources of illiquid risk aversion. I presume this range covers, in addition to activist intervention, (1) the “crowding out” of capital investment by cyclically adjusted fiscal deficits, a form of activism; (2) the level of conventional demand for capital goods unrelated to the degree of activism or crowding out, as proxied by the nonfarm business operating rate;6 and (3) an indeterminate degree of fading residual crisis shock. Only the first two are directly measurable. The last can have only a limited impact, given that it covers only 5 percent of the observations determining the coefficients.

Over the past four decades, regressing the capital expenditure ratio against (a) the operating rate and (b) the cyclically adjusted federal deficit as a percent of GDP yields an $R^2$ of 0.45, with both independent variables highly significant after adjustment for serial correlation (Exhibit 1). The results are similar for the first two decades (Exhibit 2) and the last two decades (Exhibit 3) separately. The correlation between the two independent variables is effectively zero (no collinearity) and hence the sum of the $R^2$s of the capex ratio regressed separately against the operating rate (0.26) (Exhibit 4) and the cyclically adjusted deficit ratio (0.18) (Exhibit 5) approximates the $R^2$ of the multiple regression.

This implies that nearly one-fifth of the change in the capex ratio over the past four decades reflects a “crowding out” by the U.S. Treasury’s preemption of savings that would otherwise have been available to fund private investment.7 The U.S. Treasury will pay whatever interest rate the market requires to fund the difference between Federal outlays and receipts. No other borrowing entity exhibits the Treasury’s degree of price inelasticity of demand. Credit-restrained (crowded-out) borrowers (for example, issuing bonds rated CCC or lower) are those who cannot achieve a rate of return on investment that enables them to afford the interest rate markets require that they pay. Thus, crowding out of the least financially capable borrowers occurs.8

What is indeterminate are the causes of the unexplained half (0.55) of the variation in the capex ratio. The issue is what motives would induce corporate man-

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**Exhibit 1** Effects of various factors on fixed investment behavior for U.S. and U.K. non-financial corporations

<table>
<thead>
<tr>
<th>Dependent Variable (Time Period: 1970Q1 - 2010Q3, 163 obs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In[ U.S. Nonfin Corp Business: Fixed Investment / (Internal Funds + IVA) ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent Variables(s)</th>
<th>Coefficient</th>
<th>t-Statistic*</th>
</tr>
</thead>
<tbody>
<tr>
<td>In[ 1 + (Cyc Adj U.S. Federal Deficit / GDP) ] (t-1)</td>
<td>-3.274</td>
<td>-5.981</td>
</tr>
<tr>
<td>Nonfarm Business Operating Rate, % (t-2)</td>
<td>0.029</td>
<td>5.136</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adjusted R-sq</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.449</td>
<td>0.284</td>
</tr>
</tbody>
</table>

* t-statistic calculated using Newey-West HAC standard errors and covariance.
Exhibit 2 Effects of various factors on fixed investment behavior for U.S. and U.K. non-financial corporations

Dependent Variable (Time Period: 1970Q1 - 1989Q4, 80 obs.)

\[ \ln \left( \frac{\text{U.S. Nonfinc Corp Business: Fixed Investment}}{\text{Internal Funds + IVA}} \right) \]

<table>
<thead>
<tr>
<th>Independent Variables(s)</th>
<th>Coefficient</th>
<th>t-Statistic*</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ 1 + \left( \text{Cyc Adj U.S. Federal Deficit \slash GDP} \right) \text{ (t-1)} ]</td>
<td>-6.094</td>
<td>-4.511</td>
</tr>
<tr>
<td>Nonfarm Business Operating Rate, % (t-2)</td>
<td>0.034</td>
<td>6.489</td>
</tr>
</tbody>
</table>

Adjusted R-sq | Durbin-Watson
---|---
0.460 | 0.436

* t-statistic calculated using Newey-West HAC standard errors and covariance.

Exhibit 3 Effects of various factors on fixed investment behavior for U.S. and U.K. non-financial corporations

Dependent Variable (Time Period: 1990Q1 - 2010Q3, 83 obs.)

\[ \ln \left( \frac{\text{U.S. Nonfinc Corp Business: Fixed Investment}}{\text{Internal Funds + IVA}} \right) \]

<table>
<thead>
<tr>
<th>Independent Variables(s)</th>
<th>Coefficient</th>
<th>t-Statistic*</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ 1 + \left( \text{Cyc Adj U.S. Federal Deficit \slash GDP} \right) \text{ (t-1)} ]</td>
<td>-2.980</td>
<td>-4.527</td>
</tr>
<tr>
<td>Nonfarm Business Operating Rate, % (t-2)</td>
<td>0.023</td>
<td>4.073</td>
</tr>
</tbody>
</table>

Adjusted R-sq | Durbin-Watson
---|---
0.534 | 0.385

* t-statistic calculated using Newey-West HAC standard errors and covariance.

Exhibit 4 Effects of various factors on fixed investment behavior for U.S. and U.K. non-financial corporations

Dependent Variable (Time Period: 1970Q1 - 2010Q3, 163 obs.)

\[ \ln \left( \frac{\text{U.S. Nonfinc Corp Business: Fixed Investment}}{\text{Internal Funds + IVA}} \right) \]

<table>
<thead>
<tr>
<th>Independent Variables(s)</th>
<th>Coefficient</th>
<th>t-Statistic*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonfarm Business Operating Rate, % (t-2)</td>
<td>0.028</td>
<td>4.954</td>
</tr>
</tbody>
</table>

Adjusted R-sq | Durbin-Watson
---|---
0.260 | 0.216

* t-statistic calculated using Newey-West HAC standard errors and covariance.
agement to choose to convert liquid cash flow into illiquid capital investments? Explanations have to cover the full four-decade period of our regression analysis. It has thus proved difficult to find additional significant exogenous, uncorrelated, variables to add to the multiple regression. Importantly, however, the two independent variables derived from the four-decade period do appear to capture, reasonably well, both the sharp decline in the capex ratio following the crisis and the recent small upturn, and as a consequence can credibly represent recent years’ behavior.

The 0.26 of capex variation attributed to the operating rate is clearly not a function of activism. But none of the remaining three-quarters can be so readily dismissed. Corporate executives, in large majorities, identify their current pronounced caution as driven by aversion to activism, a view consistent with their current behavior that has parallels with the 1930s. The Great Depression was far more devastating than the current crisis. Nonetheless, the parallels between the degree of business angst in those years and today’s capex ratio is supportive of the presumption that “activism” is a likely explanation of the 0.55 unexplained variation in shortfalls in capex, especially in the post-crisis years. Two observations do not often lead to generalizations. But the similarities between the nature of business angst and propensity to shun illiquid investment in both periods is compelling. Accordingly, such evidence must be given considerable weight in explaining why corporations have, of late, been unwilling to exchange more of their liquid cash flow for illiquid asset investment.

Continued on page 76

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### Exhibit 5 Effects of various factors on fixed investment behavior for U.S. and U.K. non-financial corporations

<table>
<thead>
<tr>
<th>Dependent Variable (Time Period: 1970Q1 - 2010Q3, 163 obs.)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>In[ U.S. Nonfinc Corp Business: Fixed Investment / (Internal Funds + IVA) ]</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent Variables(s)</th>
<th>Coefficient</th>
<th>t-Statistic*</th>
</tr>
</thead>
<tbody>
<tr>
<td>In[ 1 + (Cyc Adj U.S. Federal Deficit / GDP) ] (t-1)</td>
<td>-3.191</td>
<td>-4.323</td>
</tr>
</tbody>
</table>

Adjusted R-sq 0.177  Durbin-Watson 0.230

* t-statistic calculated using Newey-West HAC standard errors and covariance.

### Exhibit 6 Effects of various factors on fixed investment behavior for U.S. and U.K. non-financial corporations

<table>
<thead>
<tr>
<th>Dependent Variable (Time Period: 1988Q3 - 2010Q3, 89 obs.)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>In[ U.K. Nonfinc Corp Business: Gross Fixed Capital Formation / Cash Flow ]</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent Variables(s)</th>
<th>Coefficient</th>
<th>t-Statistic*</th>
</tr>
</thead>
<tbody>
<tr>
<td>In[ 1 + (U.K. Federal Deficit / GDP) ] (t-5)</td>
<td>-4.492</td>
<td>-12.408</td>
</tr>
<tr>
<td>Dummy (equals 1 for Q1.2000 and after)</td>
<td>-0.292</td>
<td>-10.798</td>
</tr>
</tbody>
</table>

Adjusted R-sq 0.766  Durbin-Watson 7.573

* t-statistic calculated using Newey-West HAC standard errors and covariance.
Continued from page 13

Given that the model’s regression coefficients fit to data going back to 1970, and given also the importance of the phenomenon of crowding out (itself a product of activism), I judge that a minimum of one-half the post-crisis shortfall in capital investment, and possibly as much as three-quarters, can be explained by the shock of vastly greater government-created uncertainties embedded in the competitive, regulatory, and financial environments faced by businesses since the collapse of Lehman Brothers.

SPECULATION

On a less macro level, the U.S. government’s activist intervention to support prices, for example of homes and home mortgages, delays the liquidation required to restore balance to market supply and demand. Speculators (a regrettable pejorative term) are essential to the process of stability and recovery. It was speculative buying in early March of 2009 in equities, the one market that the U.S. government has not supported, that set in motion the huge, almost two-year near-doubling of stock prices that has arguably been the most potent economic stimulus to date. Speculators, to be effective, have to believe they are able to judge oversold markets. But unpredictable discretionary government intervention scrambles the prospective underlying supply-demand balance. Speculators, who might add support to a market when it is weakest and hence when their buying is most risky, lose their perspective and withdraw to the sidelines. The mere uncertainty of when, and to what extent, government might intervene raises risk enough to thwart much desirable speculative support for markets.

RISK-TAKING IS NECESSARY AND DESIRABLE

The solution to risky markets is not to shackle them to a point that risk is minimized. Everyday living requires the taking of risks. Without risk-taking, innovation would cease, productivity would stagnate, and growth in standards of living would stall. In financial markets, risk-taking is clearly visible as market participants seek out market inefficiencies created by inadequate investment. This, in turn, owes to a failure to recognize emerging economically productive opportunities—almost all the result of innovative practices or products yielding above-average profit rates. New financial investment in such markets (new supply) eliminates both the abnormal profit and the inefficiency that fostered it. Non-financial firms seek out potentially unmet consumer needs that manifest themselves in widening (abnormal) profit margins, and direct newer capital facilities to produce such goods, thereby suppressing the heightened profit margins.

Markets, both financial and non-financial, left to themselves are continuously churning as innovation adds productive assets with above-average output per hour that displace obsolescent lower output-per-hour facilities. This process results in ever-rising average output per hour. In the process of churning, a significant proportion of innovation fails. (Innovation is risky.) But because productivity levels continue to rise, much risk-taking clearly does not fail.

Monopolies undermine the efficiency-seeking engendered by market churning. The emergence in recent years of ever-larger American banks, presumed to be protected from bankruptcy by the U.S. government, has fostered market-supplied subsidized cost of capital—a form of activist intervention that has allowed them to expand far beyond where economic analysis has recognized economies of scale (Berger & Humphrey 1994). Fannie Mae and Freddie Mac, before their conservatorship, are egregious cases. There is, I do not doubt, less visible monopolist power in non-financial markets.

LOOKING AHEAD

From the perspective of those who see innovative private markets as the source of material well-being, the critical question is how much of a contraction in deficits and a decrease in the frenetic pace of new financial regulations is required to assuage the sense of a frightening future which would allow the natural forces of economic recovery to take hold.

The amount is surely large enough to raise a question of political feasibility. However, the political kickback on federal “bailouts” (and activism generally) may dissuade policymakers from a repetition of the large-sized interventions of the recent past. And if indeed the current crisis is a once-in-a-century event, the current “anything goes” regulatory ethos in a crisis could eventually fade and deficits may undergo contraction. Importantly, any withdrawal of action to allow the economy to heal could restore some, or much, of the dynamic of the pre-crisis decade, without its imbalances.

NOTES

1. Without support, economic activity could have fallen to the depths of the 1930s. But it is an issue of conjecture, not certainty. Hard evidence is elusive.

2. Most macro-models fit to the mean of historical series, and therefore in projection cannot importantly veer off that path. Recession forecasts thus require arbitrary adjustments to the parameters of the model. Moreover, forecasting can be successful for only a small minority because a financial crisis is defined as an unanticipated break in asset prices. If anticipated by most market participants, economic imbalances are usually arbitraged away.
3. North Korea and Cuba, of course, are the most prominent exceptions.

4. Increased financial shares are evident in the United Kingdom, the Netherlands, Japan, Korea, and Australia, among others. The world’s most rapidly expanding (and increasingly market-oriented) economy, China, reports a rise in financial intermediaries’ share of GDP from 1.6 percent in 1981 to 5.2 percent in 2009.

5. These data are for consolidated accounts that reflect demand from U.S. domestic nonfinance, and small net purchases of U.S. financial services (mainly insurance) from abroad. Excluding the value-added of the Federal Reserve System does not materially alter the trend.

6. This statistic measures the percentage of production capacity being utilized. The series is developed from the Federal Reserve Board’s manufacturing operating rates and the Institute of Supply Management’s nonmanufacturing operating rates. These are applied to gross nonfarm business product, split into manufacturing and nonmanufacturing series.

7. The so-called Ricardian effect—a pull-back in capital investment to increase liquid assets to fund prospective future tax increases—is difficult to separate statistically from the overall negative impact of deficits on private investment.

8. Crowding out is also evident in the United Kingdom (Exhibit 6), but the occurrence outside the United States and United Kingdom appears rare.

9. Contrary to expectations, the cost of capital, whether interest cost (BBB bond yields) or cost of equity (equity premiums), does not help to explain the variations in the capex ratio. If anything, capital investment leads interest rates, although such regressions are barely significant.

10. If only one-half of the 0.55 of the unexplained capex variation is imputed to activism, the total share attributed to activism would still be equal to 0.46, a significant share.

11. A wheat farmer’s forward sales of his crop (hedging) would not be possible without speculators buying the forward contracts, thereby taking the price risk the farmer chose to avoid.

12. In today’s financial markets that are partially disabled, inefficiencies abound and outsized profits often go unarbitraged.

REFERENCES

