

Conflicting Impulses

In the wake of last fall's financial chaos, we have found it useful to follow broad-based indicators of financial conditions to try to anticipate economic and market responses to two types of shocks: (1) those generated by financial markets in response to Lehman Brothers' bankruptcy and, (2) those generated by policymakers as they tried to counter the enormous deflationary shock created by the market turmoil.

In particular, we have focused on the Bloomberg Financial Conditions Index, which is a weighted average of 10 indicators of the state of money, bond, and equity markets. As shown in Chart 1, this index went into a free fall in the four weeks following the fateful decision to let Lehman fail, falling from an already deeply stressed level of -2.2 on the first trading day ahead of the Lehman event (September 12, 2008) to an extraordinarily depressed level of -11.5 four weeks later (October 10, 2008). That's been followed by a remarkable V-shaped recovery.

It's worth noting that the Bloomberg Index tries to gauge overall financial conditions by measuring a variety of closely watched money and credit market spreads relative to their average readings from 1991 to mid-2008. Following a conventional practice of statisticians, the Bloomberg Index is expressed as "standard deviations from the mean."

It's useful to understand the extreme nature of the index's post-Lehman gyrations in an effort to assess how the U.S. economy may respond to the powerful monetary measures that have been put into place since the fall panic.

It is well known that financial data rarely conform to simple statistical models based on so-called "normal distributions," such as the types we use to measure people's heights, weights,

or IQs. The major move down in the Bloomberg Index illustrates this well: A naive statistician using conventional probability tables would rate the odds of an 11.5 standard deviation event at roughly one in ten octillion. An octillion, you may recall, is an implausibly large number represented by a one followed by 27 zeroes.

Since the Bloomberg Index had recovered from -11.5 standard deviations to around -0.5 by the end of the third quarter of 2009, the improvement in financial conditions must now be rated as an even larger shock – albeit a positive one – than was the sharp deterioration in financial conditions that followed Lehman's demise. Working out how such implausibly large shocks are propagated through the complex global economic system over time is a daunting job for any analyst, akin to working out the wave pattern in a body of water after throwing two gigantic boulders into the water in close proximity. So a fair amount of sympathy is in order for the economists and analysts who have had to provide guesstimates of future growth in GDP and corporate

V-shaped recovery in financial conditions:

Bloomberg Financial Conditions Index from 1991 Q1 to 2009 Q3

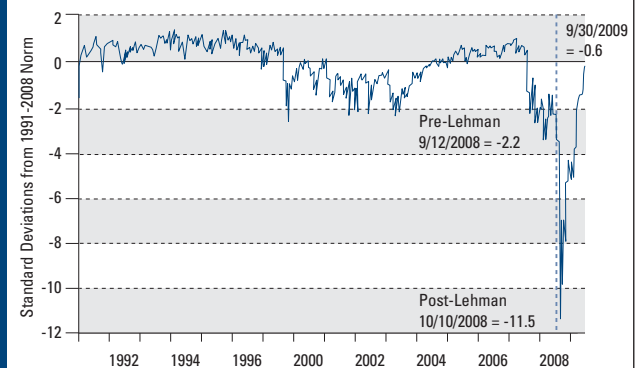


Chart 1: According to the Bloomberg Index, the positive shock to financial conditions created by quantitative easing now exceeds the negative shock associated with Lehman's failure.

profits in the wake of the massive financial shocks – both negative and positive – that followed the Lehman news.

Estimating the inestimable

We are fairly certain that there is no one on the planet who can make such estimates with a high degree of confidence. However, that hasn't stopped us from giving it a good old college try. We are being quite literal since an academic friend from Tokyo recently asked us to contribute a paper on macroeconomics to a Festschrift collection of papers in his honour. In response, we decided to do some extra credit – and fairly wonkish – work aimed at gauging the size of the Lehman shock and the potential effectiveness of the countermeasures that have since been adopted. The paper also argues against the views of some prominent “Lehman deniers,” such as Stanford economist John Taylor, who have argued that the decision to let Lehman fail was not the trigger for last fall's panic.

In previous World Reports, we have discussed the simplest approach to linking financial conditions and GDP growth. That approach establishes both graphically and statistically that there has been a relationship in the past between movements in the Bloomberg Index and subsequent year-on-year growth in U.S. real GDP. The Bloomberg Index typically leads the economy by two quarters. Within weeks of the Lehman shock, that approach suggested that consensus GDP forecasts would need to be revised down drastically and that real GDP in the first half of 2009 would decline by about 3% (the decline turned out to be 3.9% in the second quarter).

Several months into 2009, the sizable improvement in the Bloomberg Index implied a second half recovery that would substantially exceed consensus estimates. As recently as three months ago, consensus forecasts looked for near-zero growth in the third quarter followed by anemic growth in the range of 1% in the fourth quarter. The consensus for the third quarter has now moved up to 3% annualized growth, with some prominent analysts suggesting that inventory dynamics could push the number up into the range of 4% to 5%. So, even though we would not bet the farm on its forecasts, our

very simple model of the impact of financial conditions on economic growth has been helpful in anticipating the direction of changes to consensus forecasts during recent turbulent times.

Our academic paper experiments with a number of other models, including a more sophisticated VAR model, where VAR stands for vector autoregression. Such models have been designed to try to assess how large economic shocks are propagated over time and how different economic factors might interact in complicated ways. Specifically, we know of no other technique better suited to address the question of how a series of huge financial shocks – first negative, then positive – are likely to play out over time in terms of the effects on other economic variables like bank lending conditions, GDP growth, business confidence, and employment growth.

As shown in Table 1, our VAR model suggests that the recovery in GDP could be far more robust than most consensus forecasts project, with GDP growth in the six

VAR model simulations for key macroeconomic variables: simulation period: 2009 Q3 to 2010 Q4

		FEDS	GDPA	PAYROLL	ISM	BFCIUS
Actual	2008 Q1	32.2	-0.7	-14	49.5	-2.75
	2008 Q2	55.4	1.4	-109	49.1	-2.29
	2008 Q3	57.6	-2.7	-126	47.4	-6.91
	2008 Q4	83.6	-5.5	-319	36.1	-5.56
	2009 Q1	64.2	-6.6	-516	35.9	-4.92
	2009 Q2	39.6	-1.0	-384	42.6	-1.70
Simulation	2009 Q3	5.0	4.4	-436	50.9	-2.87
	2009 Q4	-13.5	7.9	-107	64.9	-0.32
	2010 Q1	-41.1	2.1	34	75.5	-1.93
	2010 Q2	-39.0	6.3	202	76.0	-0.42
	2010 Q3	-50.1	6.7	228	75.6	-2.88
	2010 Q4	-21.4	2.7	242	66.5	-1.35

Variable Definitions:

FEDS = Federal Reserve Bank Senior Loan Officer Survey, Percent Tightening
 GDPA = U.S. Real GDP, Seasonally Adjusted Annual Rate, Percent
 PAYROLL = U.S. Average Monthly Change in Nonfarm Payroll
 ISM = ISM Purchasing Managers Survey, Composite for Manufacturing
 BFCIUS = Bloomberg Financial Conditions Index for U.S., End of Period

Table 1: A simulation of the impact of the large negative and positive financial shocks of recent quarters points to above-consensus growth for the U.S., as well as a “jobless recovery”.

quarters beginning in the third quarter of 2009 averaging about 5% at an annual rate. That's roughly double the pace of consensus forecasts, which according to Bloomberg average 2.5% from mid-2008 to mid-2009. It also suggests that business confidence and the recovery in manufacturing output have much further to run, with the ISM composite manufacturing survey moving well into the "boom" range of above 70 in early 2010. The model also documents that the Bloomberg Index has been a particularly strong leading indicator of bank lending conditions as measured by the Federal Reserve's Senior Loan Officer Survey, which is also projected to improve significantly over the course of the next year.

Somewhat disturbingly, our model suggests that the recovery in employment growth will be painfully slow, with job losses persisting through the fourth quarter of this year. It also suggests that meaningful payroll increases of 200,000 jobs per month will not begin until the second quarter of next year. That pattern of a "jobless recovery" implies that productivity and corporate profits could become surprisingly high as the economy experiences a major recovery in output with only a modest move up in labour expenses. It also implies that the Fed will be under pressure to maintain a pro-growth monetary policy for an extended period as it pursues its dual mandate of price stability and full employment.

We obviously need to take these results with a large grain of salt. But there are few other obvious tools for calibrating the impact of the outsized financial shocks that have occurred over the last year. Accordingly, we believe that such models at least may be useful for assessing the direction of risk to consensus forecasts. To be sure, we have as much respect as the next fellow for "the wisdom of crowds" that tends to be embodied in consensus forecasts. However, the truth is that the "crowds" – i.e., the professional forecasters who contribute to consensus forecasts – have relatively little experience assessing the impact of shocks as large as what we have seen. And since this cycle has been driven by large financial shocks, simple statistical models driven by financial conditions indicators may well be a better guide to economic dynamics than more conventional approaches.

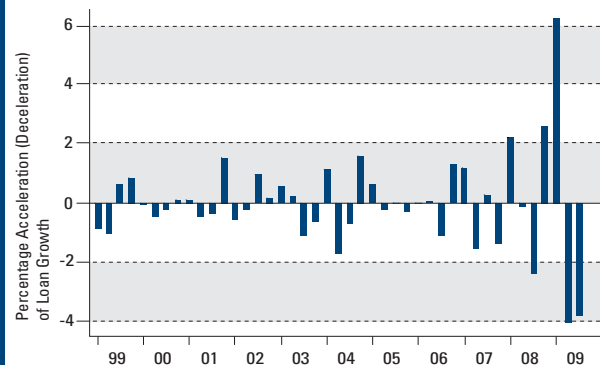
We also suspect that the Federal Reserve may be doing work along these lines, as reflected in a recent op-ed piece by Fed Board Governor Kevin Warsh arguing that "policy likely will need to begin normalization before it is obvious that it is necessary, possibly with greater force than is customary." That op-ed piece seemed to conflict with the Fed's September 23 statement, which expressed renewed commitment to "exceptionally low levels of the federal funds rate for an extended period." But it may well reflect a growing sense by some Fed board members that growth could surprise to the upside in response to the massive stimulus that has now been put into play. Warsh's op-ed piece also hints at a dilemma the Fed may face that is clear from our analysis: Output growth may surprise to the upside long before the labour market shows obvious signs of improvement.

Will China's credit binge lead to a negative surprise?

As we try to understand the impact of large alternating monetary shocks on the U.S. economy, we need to keep in mind that there have been other large policy shocks around the world in response to the global financial crisis. Not surprisingly, the nature of overseas financial shocks may have evolved very differently from what has been seen in the U.S. This is particularly true in China, whose economy is now the

China's credit impulse turns negative:

Rate of change of Yuan loans to private sector: 1999 – 2009



Source: Bloomberg and Trilogy Global Advisors

Chart 2: After an unprecedented surge early this year, loan growth in China has decelerated massively in the past two quarters, creating a sharply negative "credit impulse".

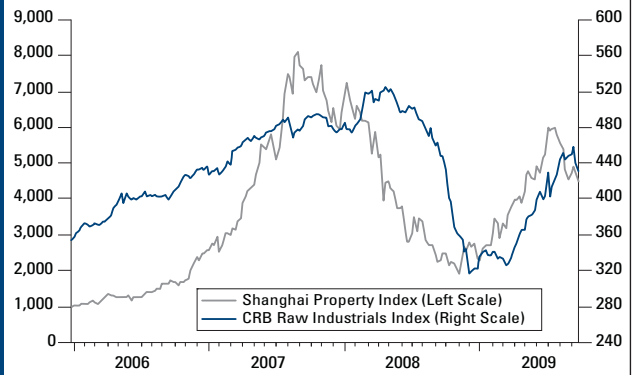
second largest in the world in purchasing power parity (PPP) terms (US\$7.9 trillion for China vs. US\$14.4 trillion for the U.S. in 2009). And because it is so large in real terms, China's economy has become one of the most important swing factors for many commodity markets, where it frequently accounts for anywhere from 50% to 80% of incremental demand.

China surprised the world this year with its speedy recovery from the global slowdown based on a massive four trillion yuan (US\$586 billion) fiscal stimulus program and a huge surge in domestic credit growth, with yuan lending to the private sector growing at a 44% annual rate in the first quarter, or nearly three times the typical pace of 16%. Economists believe that it is the "credit impulse" – i.e. the rate of change of the rate of change of lending – that is most closely correlated with future economic activity. It is therefore noteworthy that the authorities have slowed the rate of credit growth back toward the normal 16% annual pace in the three months ending in August. This implies an unprecedented slowdown in the rate of credit growth – from a 44% rate to a 16% rate – which can be viewed as a hugely negative credit impulse.

As shown in Chart 2, the deceleration of loan growth in the last two quarters in China has far exceeded anything seen over the past decade. If we consider the loan growth data as a type of financial conditions index for China, its quarterly gyrations have been nearly as extreme as what has been seen for the U.S. with the Bloomberg Index – albeit with the reverse pattern of a large positive shock followed by two large negative shocks. Specifically, the first quarter loan surge was a seven standard deviation event relative to the 1999-2007 history, while the sharp deceleration of loan growth seen in the second and third quarter of this year represent two consecutive 4.5 standard deviation events.

In short, there are some rather large and conflicting financial impulses currently at play in the world's two largest economies. The positive shock in the U.S. should dominate due to the larger size of its economy. But to the extent that China's economy has a major impact on commodity price

Do Chinese liquidity conditions now lead the global trend in industrial commodity prices?



Source: Bloomberg and Trilogy Advisors

Chart 3: China has become such a dominant force in commodity markets in recent years that its domestic liquidity conditions are a good leading indicator of global commodity prices.

trends, it would not be surprising to see both a significant deceleration in Chinese industrial production and an associated downdraft in commodity prices over the next several quarters – even if U.S. growth continues to improve. One indication of the negative impact of the deceleration of loan growth in China is a decline in the Shanghai property stock index of nearly 30% since its peak in July. As shown in Chart 3, that index has been a good leading indicator of industrial commodity prices in recent years.

Our bottom line: Expect global recovery to continue, but between a continued weak job market in the U.S. and a potential slowdown in China, the near-term risk remains tilted toward intensifying deflationary pressures rather than toward higher inflation.

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