

# TRACKING GLOBAL MACRO CONDITIONS WITH MARKIT® PMI™

Bloomberg has entered into a distribution agreement to integrate Markit's Purchasing Managers' Index™ (PMI™) data into the Bloomberg Professional service. The benefits of this collaboration are hinted at by the analyses conducted by Bloomberg economists and presented in this document.

The PMI data suggest that while winter weather has adversely affected U.S. economic data, it probably doesn't fully account for recent weakness. This may cause economists to temper their expectations for a pickup in growth later this year. In the euro area, a moderate economic recovery is failing to stoke inflation and creating challenges for ECB policy makers. For China, successive data releases continue to add to evidence of a slowdown. The HSBC Markit China PMI, which has a good track record of marking turning points, slipped below breakeven in January.

For more details on how Bloomberg is integrating Markit's PMI data into the terminal or information on how to become enabled for the premium detailed data, please run **PMI <GO>** on your Bloomberg Terminal.

— *Michael McDonough, Bloomberg Chief Economist*

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# BLOOMBERG ECONOMICS FOR PMI

## MARKIT® PMI™ DATA EXPANSION

Bloomberg has added Markit Economics' complete set of PMI Data (3500+ tickers) to our extensive economic database covering:

Austria	Eurozone	Italy	South Africa
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This data is available on both the terminal and in Excel through Bloomberg API.

Most headline data with three years of history are available to all Bloomberg users and detailed data including sub-indices with full history are available through a Premium Subscription.

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### PMI ANALYTICS

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### Tracking Global Macro Conditions with Markit® PMI™ | March 2014

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## EUROZONE

DAVID POWELL, BLOOMBERG ECONOMIST

## Euro-Area Economy Recovers Too Slowly to Lift Inflation

The PMIs are signaling an economic recovery in the euro area, though it appears too weak to halt the deceleration of inflation.

The composite PMI for the monetary union rose to 53.3 in February from 52.9 in January. The latest release prompted European Central Bank President Mario Draghi to note, "The composite PMI data that have just come out are the strongest in two and a half years." Those figures compare with a cyclical low of 45.7 in October 2012.

The surveys have shown a strong relationship with economic activity. The correlation between the quarterly average of the euro-area composite PMI survey and quarter-over-quarter GDP growth from the third quarter of 2005 to the fourth quarter of 2012 stands at 0.9. The figure falls to 0.84 when year-over-year GDP growth is used.\*

The recovery appears to have been strongest in the manufacturing sector. Its PMI rose to 54.8 in February from 54 in January. The reading for the service sector increased to 52.6 from 51.6.

The ratio of new orders to stocks of finished goods points to further growth in manufacturing in the months ahead. That figure rose to its highest level since April 2011 in January and declined only marginally in February.

A figure greater than one should be positive for future growth. If orders are high relative to inventories, output will probably have to be increased, and vice versa.

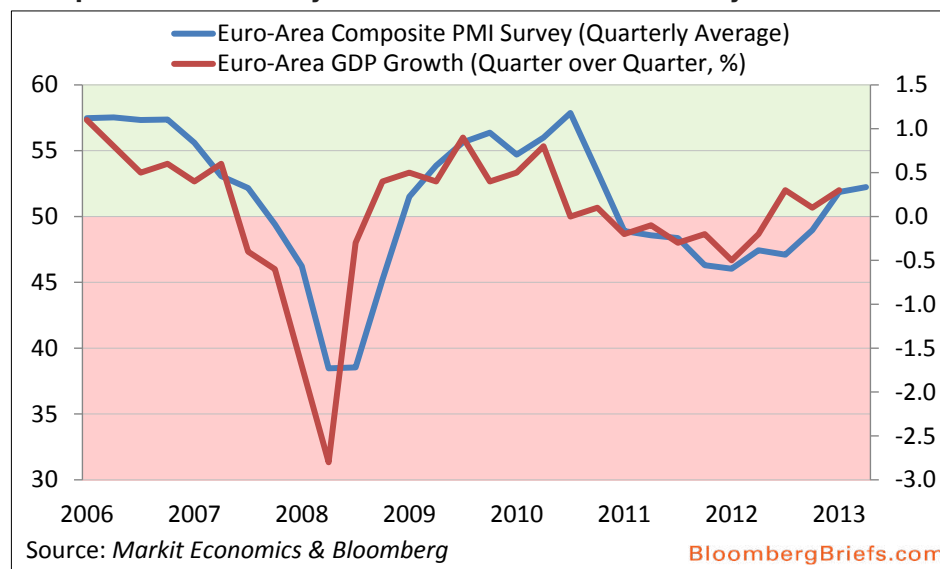
The service sector should also benefit from additional demand. The reading on the sub-index for incoming new business has been above 50 for seven months.

The recovery seems to have been too tepid to cause inflation to increase. The reading on output prices in the manufacturing sector is barely more than the breakeven level of 50. The prices charged component of the survey for services has been less than that figure for 27 months.

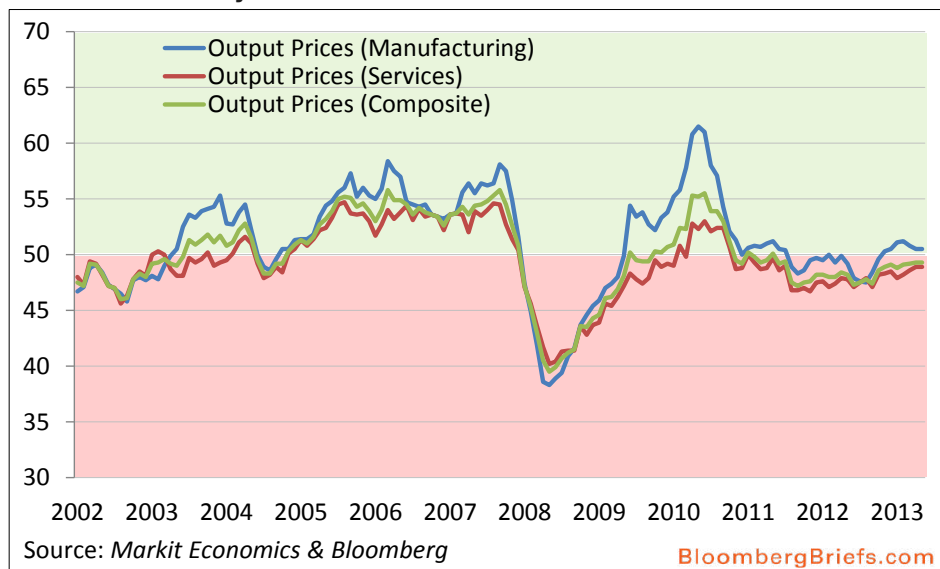
Input prices are putting little upward pressure on inflation in the manufacturing sector. The figure for the sub-index is below the breakeven level.

The inability to raise prices in the service sectors may be squeezing the profit margins of firms. The reading on input prices suggests those costs are still rising.

## Composite PMI Survey Points to Economic Recovery



## Weak Inflationary Pressures in the Euro Area



The sub-indexes for employment suggest inflationary pressures from the labor market are likely to remain subdued as well. The readings for both the manufacturing and service sectors are just above the breakeven level.

\* For details, see: Powell, David J. *The Trader's Guide to the Euro Area: Economic Indicators, the ECB and the Euro Crisis*. Chichester, U.K.: John Wiley & Sons Ltd, 2013, Pages 27-31.

# EUROZONE

DAVID POWELL, BLOOMBERG ECONOMIST

## Peripheral Nations Join Recovery as French Economy Teeters

The PMIs suggest the economic recovery in the euro area has spread to the peripheral nations, while the French economy is in the most precarious position. They also highlight that low inflation is a broad-based phenomenon.

The manufacturing surveys suggest the core countries of the monetary union are enjoying the greatest levels of growth. They were the highest for the Netherlands, Germany and Austria at 55.2, 54.8 and 53, respectively, in February.

The service figure for Germany was also high. It rose to 55.9 in February from 53.1 in January. Surveys of the service sector are not carried out in the other aforementioned countries.

Ireland has been the strongest performing country among the nations that received bailout packages. The manufacturing PMI stood at 52.9 in February. That compares with recent lows of 48 in April and 47.3 in September 2011. Its figure for the service sector was the highest in February for the countries of the monetary union at 57.5.

The Greek economy appears to be expanding as well. Its manufacturing index rose to 51.3 in February from a low of 37.7 in February 2012.

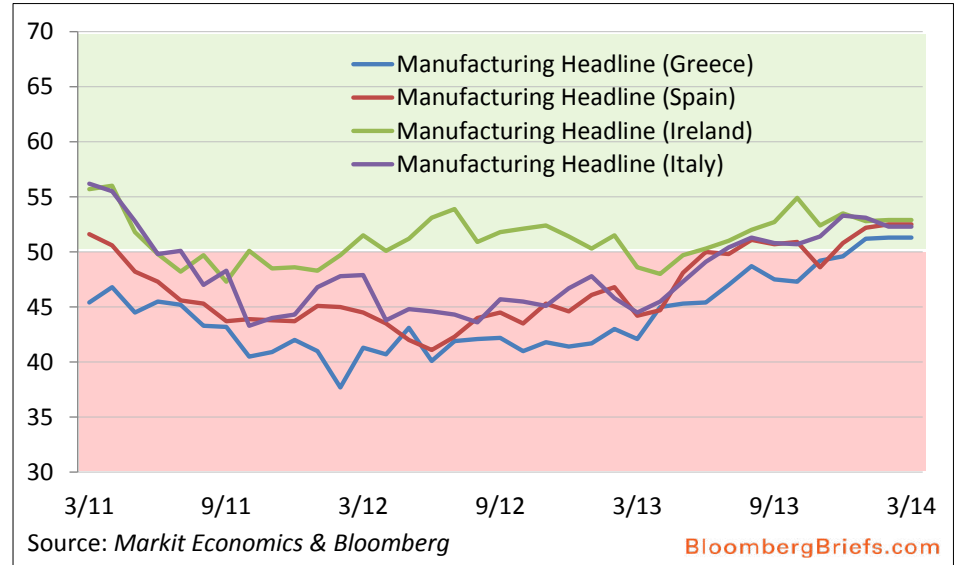
The other peripheral nations are also rebounding. The manufacturing indexes for Italy and Spain came in at 52.3 and 52.5, respectively, in February. The figures for the service sector were 52.9 and 53.7, respectively.

France has the lowest readings. Its manufacturing survey measured 49.7 in February and that for the service sector came in at 47.2.

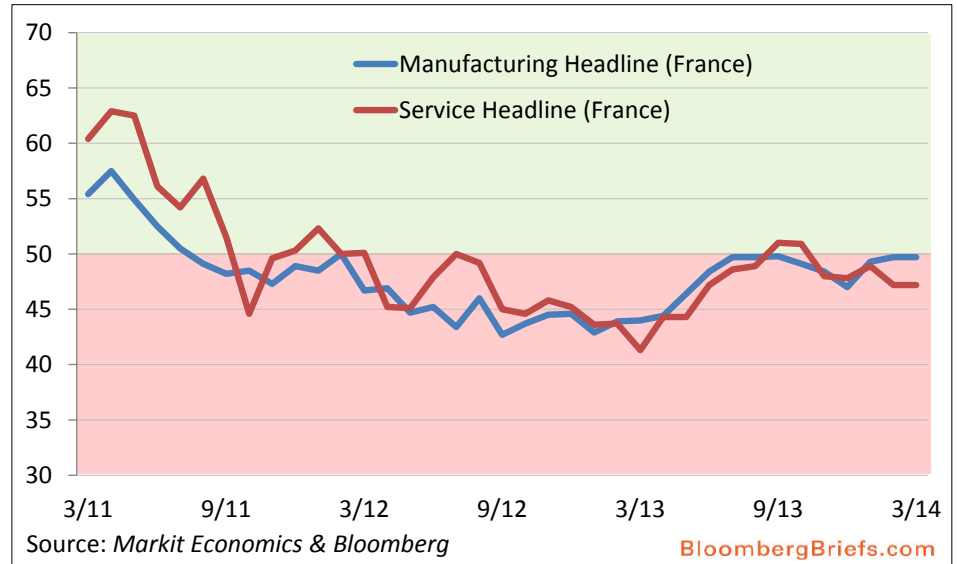
The sub-indexes on employment confirm that the recovery is stabilizing the labor markets in most countries. That component of the manufacturing surveys was above 50 for all countries apart from Greece and France. Those figures for the service sector are also all above 50 apart from France.

The manufacturing surveys signal inflationary pressures are weak across the monetary union. The sub-indexes on output prices for the Netherlands, Germany, Austria, Ireland, Greece, Italy, Spain and France ranged from 44.7 to

### Peripheral Nations Experience Economic Rebound



### French Economy Remains in Contractionary Territory



51.6. Half of those countries had readings less than 50.

The figures on input prices suggest the margins of companies in the manufacturing sector are under pressure. The readings on output prices were less than those

on input prices for all countries apart from Germany and France.

Firms in the service sector have had more pricing power. The sub-indexes on input prices, produced for Germany, Ireland, Italy, Spain and France ranged from 52.4 to 57.5.

## EUROPEAN BANKS

JONATHAN TYCE, SENIOR BANK ANALYST, BLOOMBERG INDUSTRIES

### European Bank PMIs Stable for Now as New Business Outlook Dims

Sentiment and profitability within the European bank sector has recovered well from the depths of the 2008 banking and 2011-12 sovereign crises. While more than 330,000 job losses were announced by the banks and diversified financial services businesses since 2009, the European bank employment PMI now suggests hiring has stabilized.

Banks that had been accustomed to returns-on-equity of between 15 percent to 18 percent were forced to increase capital and dispose of businesses. Capital and reserves held by euro-zone banks grew more than 40 percent to 2.4 trillion euros from the end of 2007 as total system assets flatlined. This depressed profitability and forced many groups to exit capital intensive businesses.

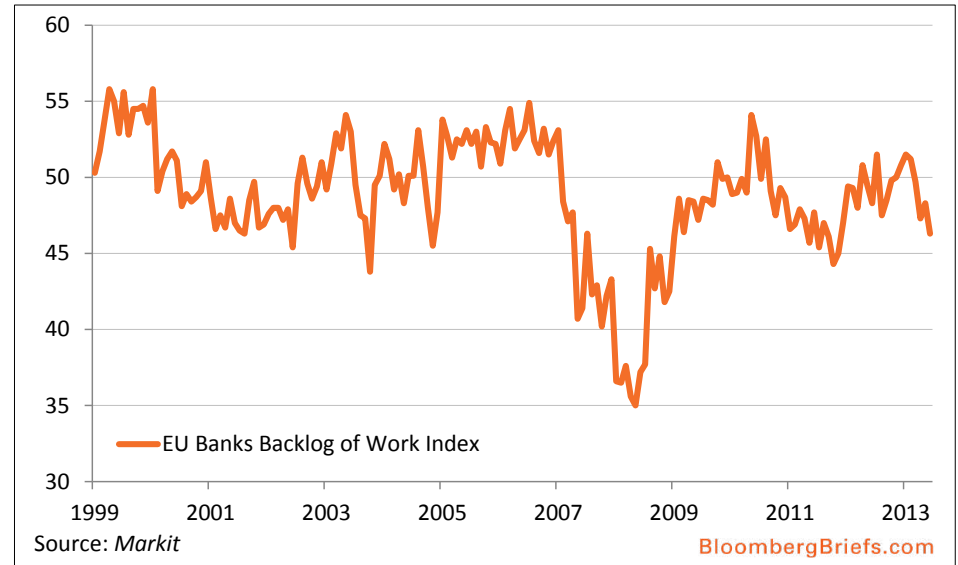
Sector returns are forecast to average 9.6 percent in 2015, led by Nordic banks where capitalization levels now run at twice pre-crisis levels. Investment banks, smarting from job losses and regulatory change, may do well to reach 10 percent return on equity as trading is restricted and they shuffle the focus of their business and undertake more cuts.

The European bank employment PMI shows that conditions in 2009 deteriorated much more than in 2003, and that the subsequent recovery and level reached has trailed the recovery in 2004 to 2006. The index currently registers 50.6, in line with the 15-year long-term average of 51. This is understandable given the taxpayer intervention required globally to save banks and accompanying public outcry.

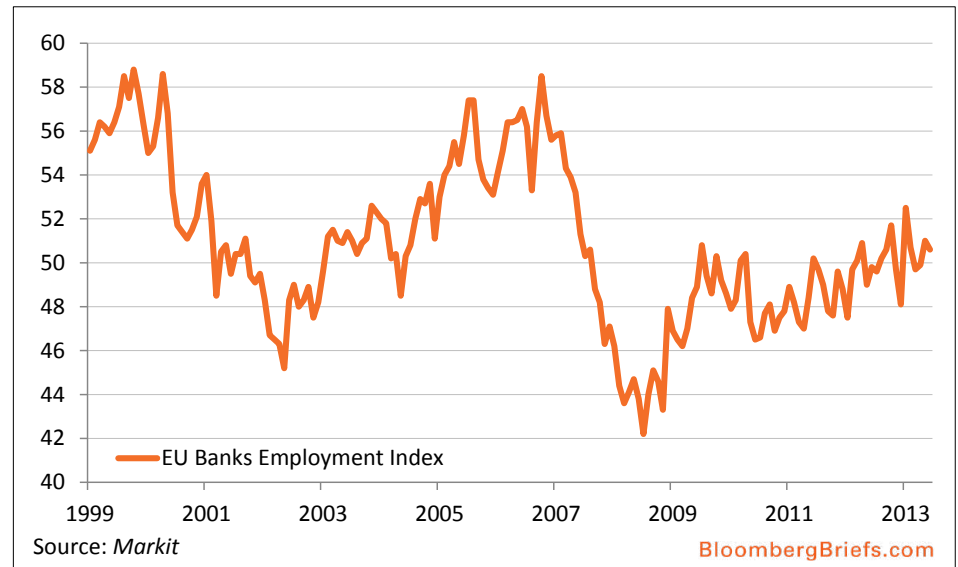
A key determinant of banking job prospects is the pipeline of deals and new business. While markets flirt with all-time highs, concerns about tapering and emerging currency risks paint a mixed picture. EU banks' business pipeline PMI, which plummeted to new lows in 2009, recovered in late 2013 to the long-term mean.

Since then, prospects have turned gloomier. Citigroup finance chief John Gerspach said March 3 his firm expects trading revenue to drop by a "high mid-teens" percentage, reported Bloomberg News. Gerspach's comments came less than a week after JPMorgan Chief Executive Officer Jamie

#### EU Bank Business Pipeline Dips to Less Than Long-Term Average



#### EU Bank Hiring Prospects Improve, Lag Past Recovery



Dimon said revenue from equities and fixed income was down about 15 percent.

The EU banks' business pipeline PMI has fallen as caution grows, and it's now approaching lows not held since mid-2012.

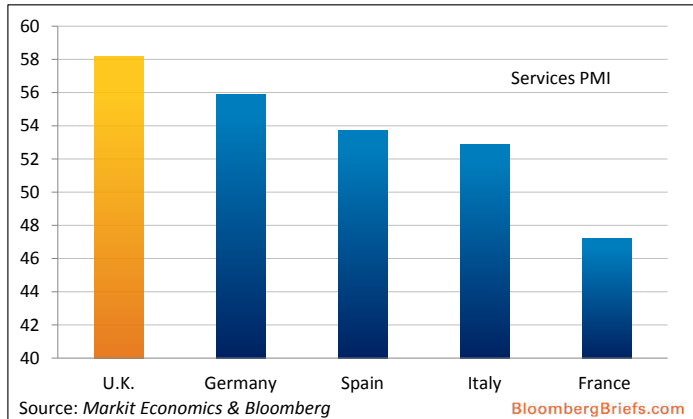
If U.S. tapering is badly handled or emerging liquidity conditions continue

to deteriorate, a diminishing pipeline will drag employment prospects lower. Should this happen, bank management's focus may have to return to cost discipline and employee prospects will again diminish.

**U.K.** NIRAJ SHAH, BLOOMBERG ECONOMIST

## PMIs Suggest U.K. Expanding More Rapidly Than Any Other European Economy

### U.K. Fastest Growing Economy in Europe



The U.K. is the best-performing major economy in Europe, according to the Markit PMI surveys. While that may suggest the Bank of England will be one of the first European central banks to tighten monetary policy, it is likely to hold out until 2015 to ensure the recovery is sustained.

The all-sector U.K. PMI was at 58.6 in February, above the 10-year average of 54.4. The composite figure for the euro area stood at 53.3. The survey points to a broad-based recovery in the U.K. with all three PMI sectors above their 10-year averages.

Comparing the PMI figures with GDP growth during the past five years suggests the U.K. economy will expand by about 0.7 percent in the first quarter. That would make it the fourth successive quarter of expansion above the trend rate of growth. The BOE revised up its GDP forecast in February to 3.4 percent for 2014, the fastest pace since 2007, from 2.8 percent in November and 2.5 percent in August.

The construction sector was the best performing of the three in February with the index at 62.6, even after the first two months of the year were the wettest on record. That suggests the industry may be far along in making up for lost output. While the service sector is 1.3 percent above its level of output in 2008, construction and industrial production remain about 11 percent below their peaks.

After the recessions of the 1970s, 1980s and 1990s, it took between 10 and 13 quarters for the whole economy to recover the lost output. That compares with U.K. output remaining 1.3 percent below the 2008 level 18 quarters after the recession ended.

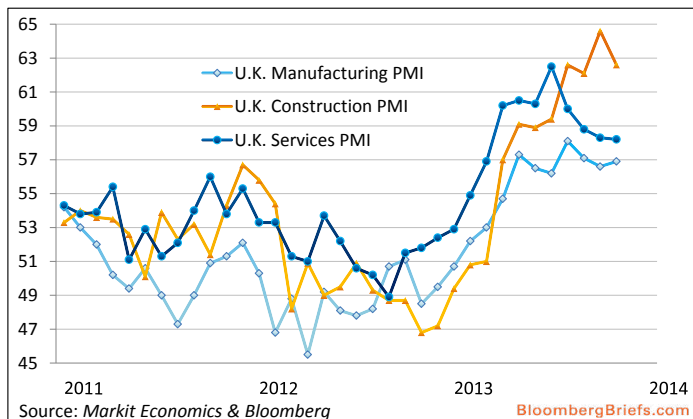
The lost output is prompting the BOE to hint that it will maintain interest rates at record lows until the second quarter of 2015, even as the PMI index points to tightening. The third chart demonstrates how the PMI has been a predictor of rate movements in the past.

Price pressures appear contained, with the all-sector index for input prices falling to 55 in February from 57.3. Inflation slowed to below the 2 percent target this year at 1.9 percent in January. That is 0.1 percentage point below the BOE's inflation forecast for January, suggesting the central bank's projection of a slowdown to 1.7 percent by March may be an underestimate.

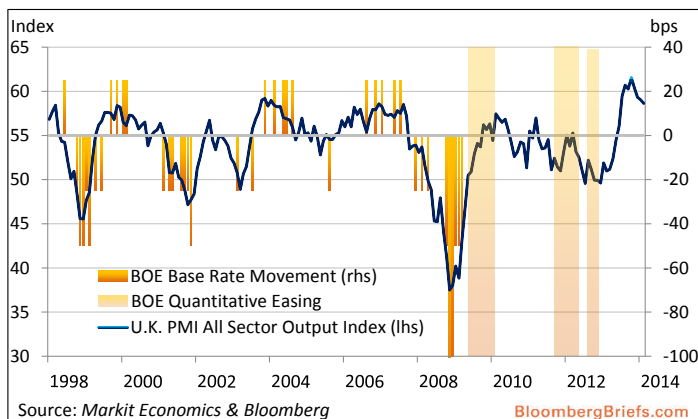
A record high in the all-sector employment index at 56 is also unlikely to signal faster inflation. The index points to about 150,000 jobs being created in the private sector in the first quarter, according to Markit. While a drop in unemployment typically leads to accelerating inflation as demand grows for higher pay, that pick up may be limited as a result of the number of part-time workers that want to work more hours. The BOE predicts there is spare capacity amounting to 1 to 1.5 percent of GDP.

The output gap probably leaves the BOE comfortable with maintaining record low rates this year and allowing the U.K. to grow at the fastest pace of any major European economy.

### Survey Suggests Broad-Based Recovery



### PMI Versus BOE Policy Decisions



## CHINA

TOM ORLIK, BLOOMBERG ECONOMIST

## China's PMIs Diverge on Severity of Slowdown

The HSBC Markit China PMI's record of marking turning points has helped it become one of the most influential guides on the state of the world's second largest economy.

In the second quarter of 2008, a downturn in the index heralded the coming crisis for China's exporters. In the beginning of 2014, a fall beneath the 50 mark that separates improving from deteriorating conditions anticipated a slide in industrial output and a wave of downgrades by investment bank economists.

The Markit PMI also gains influence by appearing early. A flash reading that is published a week before the end of the month provides the first substantive signal on the state of the Chinese economy. That flash is based on responses from 85 percent to 90 percent of Markit's 420-company sample. It typically deviates only slightly from the full reading published a week later.

The Markit PMI covers similar territory to the National Bureau of Statistics PMI. Both provide an overall read on the state of the economy based on changes in new orders, output, employment, delivery times and stock of materials. Both pointed to a steep fall in growth in 2008, and both register tepid conditions at the start of 2014.

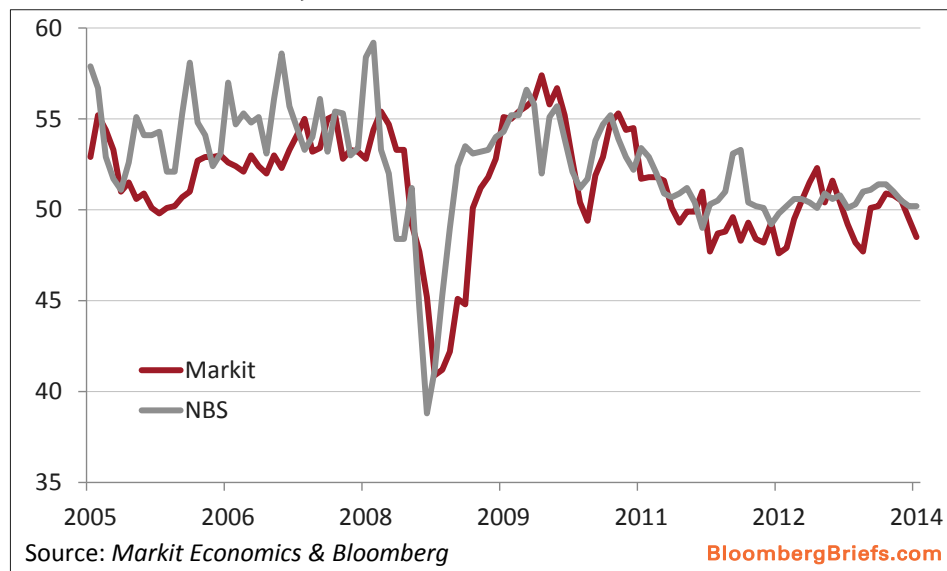
Even so, the official and Markit PMIs do not always tell exactly the same story. In early 2009, for example, the NBS PMI rebounded earlier than the Markit PMI. At the start of 2014, the Markit PMI points to deteriorating conditions, where the NBS PMI suggests continued, albeit extremely modest, improvement.

When differences appear, especially if the NBS PMI paints a more optimistic picture, it's tempting to raise the boogie-man of China's unreliable official data. Fears about political interference in China's numbers add to the appeal of the Markit PMI as an independent alternative.

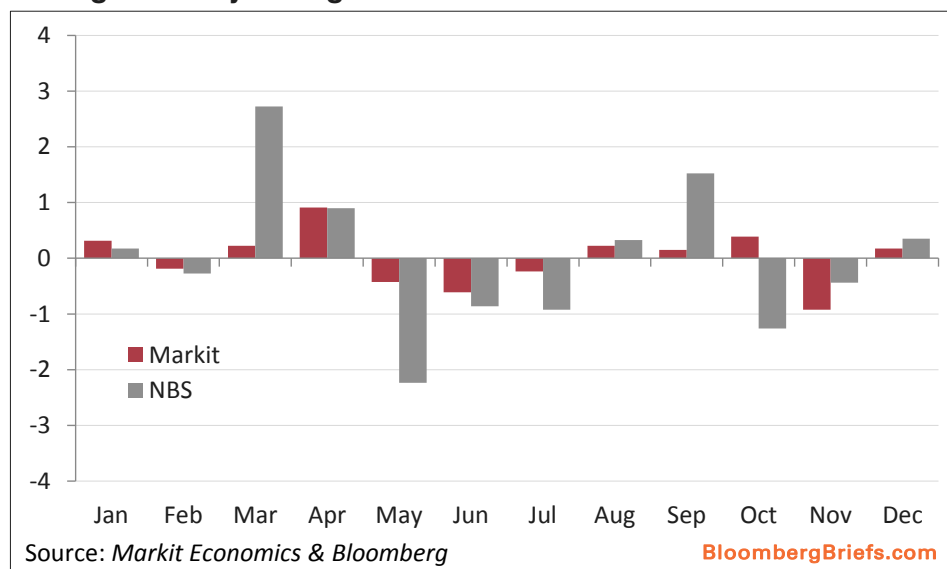
In fact, the reason for different readings is probably more mundane.

The NBS PMI has a larger sample, expanded at the beginning of 2013 to 3,000 firms from 820. The Markit survey may provide a better guide to what's going on with small private firms. The NBS survey has better coverage of big state-owned firms.

## China's HSBC Markit, NBS PMIs — Close But Not the Same



## Average Monthly Change in China's PMIs 2006-2013



The Markit survey also appears to have a better approach to seasonal adjustment. China's economy grinds to a halt for the Lunar New Year holiday in January or February and a national holiday in Octo-

ber. The NBS survey typically registers deteriorating conditions in the holiday months, and higher activity before or after. That might reflect holiday effects rather than changes in actual conditions.

# JAPAN

TOM ORLIK, BLOOMBERG ECONOMIST

## Japan's Improving PMI Provides Hope for Abenomics

### Japan's PMI Tracks Widely Watched Tankan Survey



As investor gloom about the outlook for Abenomics grows, the Markit/JMMA manufacturing PMI shows domestic demand may be picking up.

The monthly index, which is based on a survey of more than 400 industrial companies, stayed close to an eight-year high at 55.5 in February. That was a 12th successive month of expansion and only a shade lower than January's 55.6.

The Markit PMI comes out earlier than widely-watched monthly data such as the All Industrial Activity series, and more regularly than the influential Tankan survey, which is published quarterly. That means it can provide advance insights on the state of the crucial manufacturing sector.

The success or failure of Abenomics will be determined by whether 2013's stimulus succeeds in stoking private demand. That means higher corporate profits will need to pass through to stronger capital spending, and tight labor markets to higher wages and consumption. The Markit PMI provides encouraging signs on both fronts.

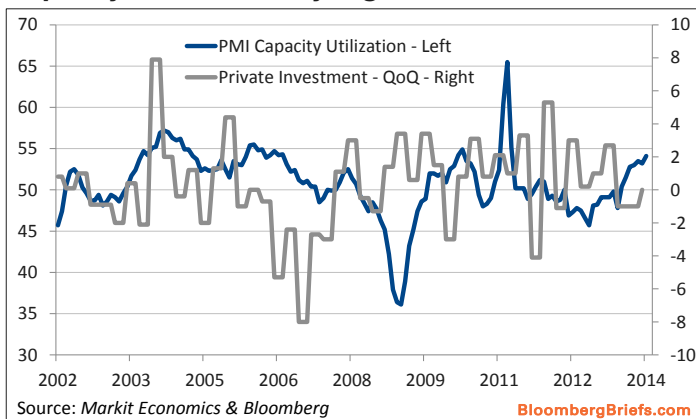
On capital spending, the PMI shows capacity utilization is rising. Looking at the last decade of PMI data, higher capacity utilization typically anticipates stronger private non-residential investment in Japan's GDP data. The index of employment has risen to its highest level since 2007. Strong demand for workers should help edge wages higher, stoking consumption.

The signs on foreign sales are less positive. The export orders index fell for a third month in February. That may reflect a more stable yen, which does little to improve the competitiveness of Japan's manufacturers.

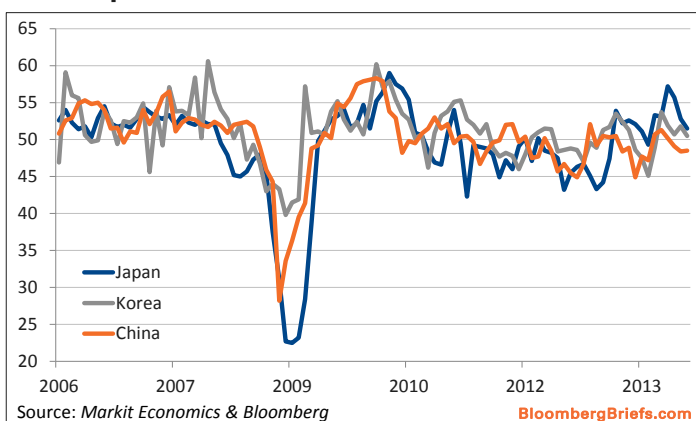
Still, with signs of weakness across the Asian export complex, the real problem might be elsewhere. In China, the new export orders index came in below the 50 mark that separates growth from contraction for a third month in February. South Korea's new export orders index is barely registering expansion.

The depressing conclusion for Japan's policy makers may be that even as domestic demand shows signs of coming back to life, foreign demand may be fading away.

### Capacity Utilization May Signal Rise in Investment



### New Export Orders Point to Weak Global Demand



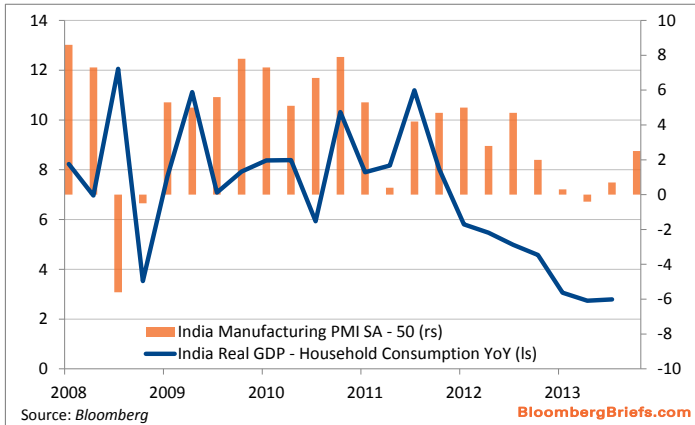


# INDIA & INDONESIA

TAMARA HENDERSON, BLOOMBERG ECONOMIST

## India Manufacturing, Services PMI Diverge; Indonesia PMI Suggests Stronger Exports

### India Manufacturing PMI Shows Better Momentum

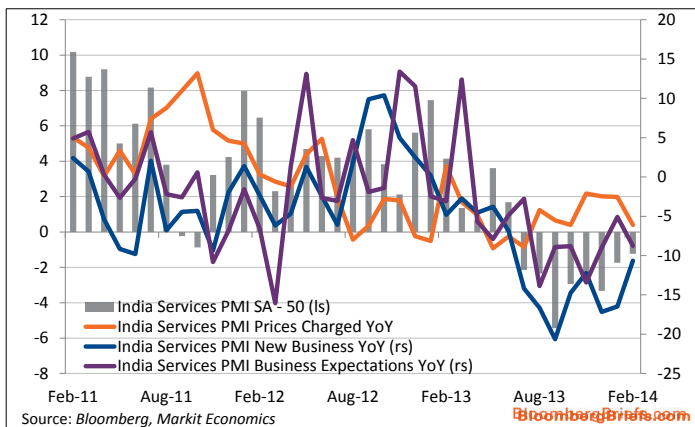


Markit's manufacturing PMI tracks well with growth in the household spending component of India's quarterly real GDP. Households account for 73 percent of national output, while manufacturing accounts for 14 percent of GDP on an industry basis.

February's PMI rose to 52.5 from 51.4 in January and 50.7 in December, suggesting stronger economic momentum in the first quarter. The output and new orders components each rose by 2.5 points in February, pushing further above the neutral 50 threshold and signaling expansion.

Headline inflation has slowed, though this may prove temporary. Purchasing managers' input prices are rising, while output prices are falling. This means smaller profit margins for Indian manufacturers, a situation which is unlikely to be sustained if growth accelerates.

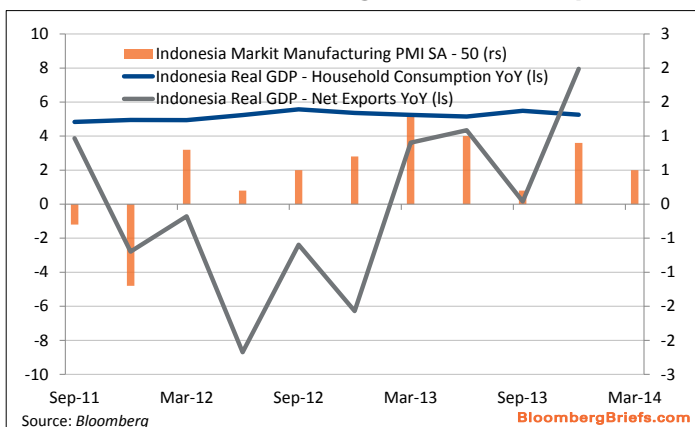
### India Services PMI Still Shows Retrenchment



India's services PMI, which has improved since September, continues to signal retrenchment, unlike the manufacturing sector. Another divergence is that trends in input and output prices suggest less pressure on profit margins for service providers than for counterparts in manufacturing. Services account for 58 percent of India's real GDP on an industry basis.

February's PMI rose to 48.8 from 48.3 in January and 46.7 in December, indicating less of a drag on growth in the first quarter. Still, this is well short of a year ago, when the index signaled a robust expansion at 54.2. The new business component rose by close to one point in February, while business expectations, employment and outstanding business components fell.

### Indonesia's Manufacturing PMI Tracks Exports



Indonesia's manufacturing PMI index, begun in April 2011, is a relatively new series. So far, the seasonally adjusted headline index has tracked best with monthly nominal (gross) export growth and growth in the net export component of Indonesia's quarterly real GDP. Net exports account for 12 percent of Indonesia's GDP, while gross exports constitute 50 percent. By industry, manufacturing accounts for 26 percent of GDP.

February's PMI fell to 50.5 from 51 in January, still signaling expansion though at a slightly slower pace. The new orders component for February also slowed, while the new export orders component rose for the fourth consecutive month; both of the orders sub-indexes remain higher than the neutral 50 threshold. Altogether this suggests stronger export growth for Indonesia in the first quarter of 2014, which, if confirmed, could further reduce the country's current account deficit and boost investor sentiment.

**U.S.** JOSEPH BRUSUELAS, BLOOMBERG ECONOMIST

## PMI May Show That Recent Slowdown in Growth Is Due to More Than Just Weather

The slowdown in first quarter economic activity reflects an inventory adjustment and severe winter weather, which will continue to curtail manufacturing activity, consumer spending and residential investment through the first three months of the year. The economy will probably see a slight rebound in the second quarter, with inventory overhang in the auto industry, the reduction in hours worked and slower employment growth in goods-producing industries all acting as restraints. Even with a slight rebound it will be difficult for the economy to match the current Bloomberg consensus forecast of second quarter 2.8 percent growth.

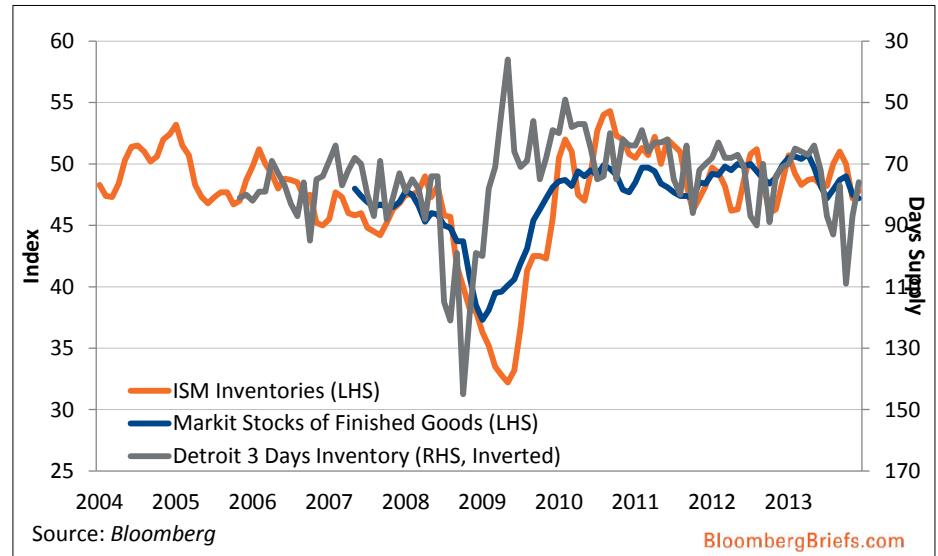
February readings in U.S. industrial production and the Markit and ISM purchasing managers indexes all increased. The Markit manufacturing PMI rose to 57.1 in February from 53.7 a month earlier, and the national ISM manufacturing survey increased to 53.2 from 51.3. The increase was attributable to a one-time bump of 7.4 percent in auto assemblies after a weather-related 8.5 percent drop in January and robust orders for civilian aircraft.

Stronger industrial production driven by auto assemblies is unlikely to be sustainable given bloated car inventories in dealer showrooms. U.S. auto retailers have 3.76 million units in their showrooms, about 87 days of inventory for the big three versus the 65 days considered manageable. The inventory-to-sales ratio in the broader auto industry jumped to 0.25 in February 2014 from 0.20 at the beginning of 2013. Dealers may have to cut prices to clear excess inventory in the second quarter.

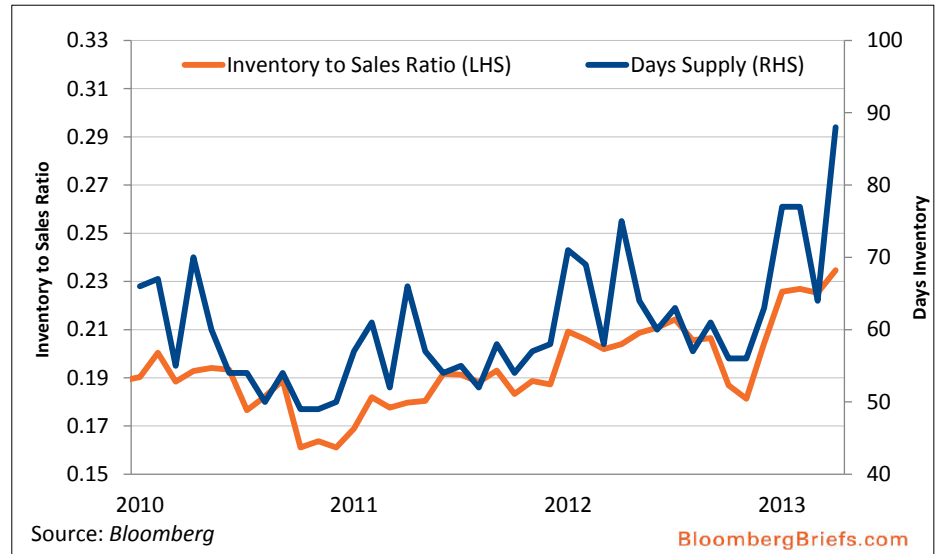
Since the Great Recession, there has been lower volatility in the three-month moving average of the Markit stocks of finished goods sub-index relative to the ISM inventory index. The Markit sub-index tracks the trend in U.S. auto inventories more closely than the ISM sub-index, providing a forward look at how much net drag on overall growth in the current quarter is related to slower new orders and production among U.S. automakers.

Inventory accumulation boosted growth by 1.6 percentage points in the third quarter of 2013 and 0.2 percentage points

### Markit Stocks of Finished Goods Vs. ISM Inventories



### Inventory Buildup in Autos May Hurt Industrial Production



in the fourth quarter. This resulted in deterioration in the inventory-to-sales ratio in durables excluding transportation as well as in the auto sector.

Given sluggish gains in real disposable income and the slowdown in residential investment, which is strongly linked with

light truck purchases, it may take several months to bring sales into alignment with inventories. The result may be slowing durable goods orders, which would reinforce the perception that the weaker pace of growth in the current quarter may not be solely attributable to bad weather.

# MEXICO & CANADA

RICHARD YAMARONE, BLOOMBERG ECONOMIST

## Forward-Looking Canada Markit PMIs Show Pressure on Growth

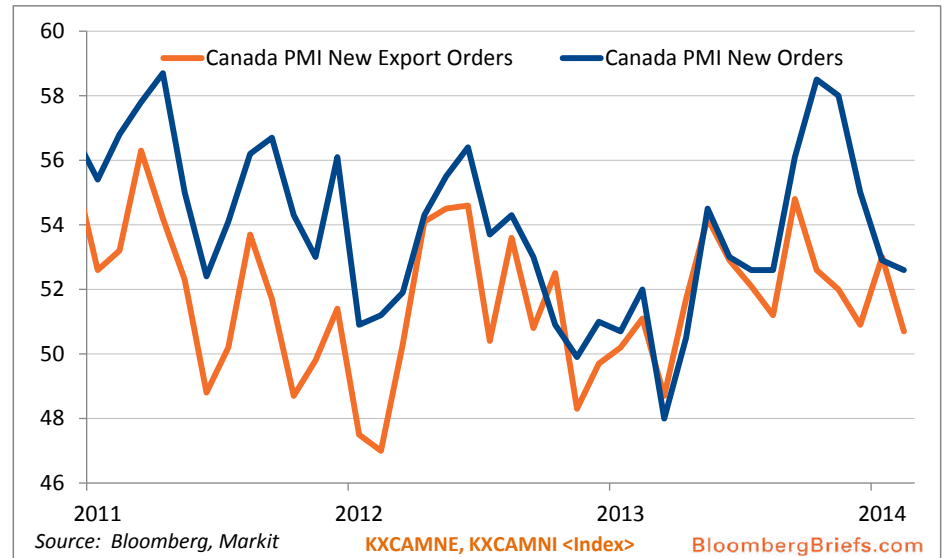
The expansionary territory that most Canadian Markit PMIs have been in for much of the last year may offer a rear-view perspective. Forward-looking indicators — New Orders and New Export Orders PMIs — have been sinking since October 2013 and are near the neutral 50 level.

A plunging currency, subdued macro-economic forecasts, price pressures and a cautious central bank chief all suggest some downwards pressure on the Canada Markit PMI measures in coming months.

Economic output in Canada has been advancing at a reasonably solid pace, posting a quarterly 2.9 percent increase during the final quarter of 2013. This is above the 2 percent average in the quarterly rate registered since early 2011. Economists predict 2014 real GDP growth of 2.25 percent, according to a Bloomberg survey, so moderation may be in store.

Recently, Bank of Canada Governor Stephen Poloz said growth is expected to approach 2.5 percent over the next couple of years. He added that an interest rate cut couldn't be ruled out if the economy continued its weak recovery, and that it is unlikely that weather is responsible for

### Some PMI Measures Are Near Contractionary Territory



all of the recent weakness. These factors were a driving factor behind a slump in the Canadian dollar.

Looking ahead, subdued investment and a potential housing bubble may weigh on the domestic economy, and a continued

slowdown in China will hurt Canada's crucial export sector as it pressures commodity prices, which have gotten a boost recently from weather and geopolitical tension and are important to Canada's economic health.

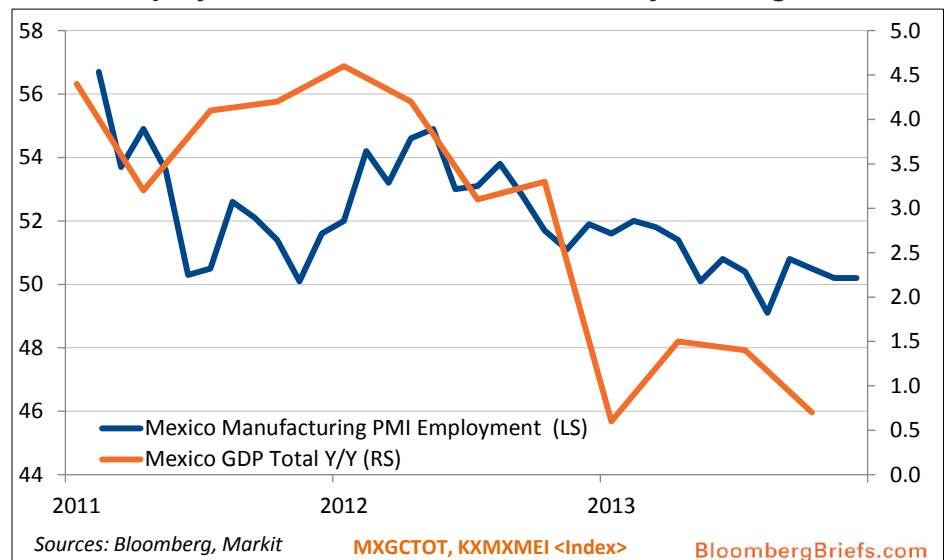
## HSBC Mexico Manufacturing PMI Slips as Emerging Markets Slowdown Hits

Mexico faces the same headwinds to growth as many emerging markets. A slowdown in economic activity at the end of 2013 has deflated hopes of a quick recovery in the first half of 2014.

While the HSBC Mexico Manufacturing PMI reached 54 in January, up from last year's low of 49.7, it has since slipped back to 52. The pace of growth will likely be throttled by conditions in the U.S., which are also demonstrating some weakness. Mexico's new export orders sub-component dropped to 49.2 in February, showing external sector weakness.

GDP has decelerated markedly from a near 7 percent pace in 2010 to 0.7 percent in the final quarter of 2013. Several related manufacturing indicators have reached cyclical lows. The Markit Manufacturing PMI fell from a better than 57 reading in late 2012 to 52 in February 2014, and industrial production cooled from a 5.9 percent pace in early 2012 to 0.7 percent.

### Markit Employment PMI Is Near Contractionary Reading



## BRAZIL

MICHAEL MCDONOUGH AND JOSH WRIGHT, BLOOMBERG ECONOMISTS

### Watch Brazilian PMI for Signs of Economic Slowdown as Fed Tapers

Brazil will likely face several years of subdued growth due to its heavy reliance on foreign capital to fuel growth. The country's PMI may be one of the first indicators to show the extent of the slowdown.

While Brazil's manufacturing PMI remains marginally above the break-even point of 50, the median consensus 2014 growth forecast for the country has steadily fallen. It is at 1.9 percent presently, down from about 4 percent a year ago, according to the median of a Bloomberg survey.

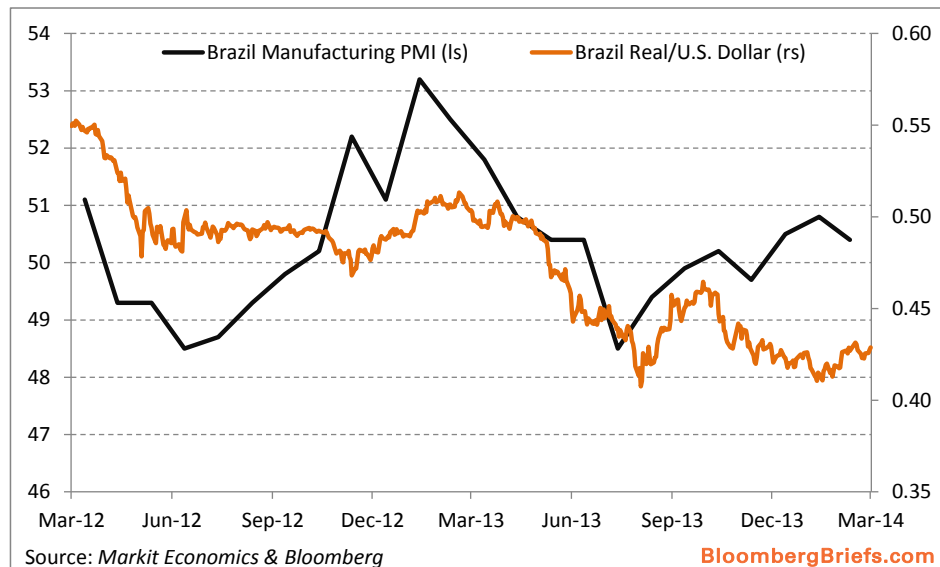
A larger threat than inflation for Brazil is the dependence of its economy on foreign capital.

Unprecedented monetary and quantitative easing by many of the developed world's central banks led to an abundance of inexpensive foreign capital that Brazil used to fund its economy as investors took advantage of large interest rate differentials. Brazil's current account deficit, which has swelled to 3.6 percent from about 1.5 percent at the start of the global financial crisis, shows this increasing reliance.

As the Federal Reserve tapers and eventually resumes raising the Fed fund target rate, the global cost of money will rise substantially. This means capital inflows into Brazil are likely to dwindle or even reverse.

Economists are currently projecting the U.S. 10 year yield to rise about 50 basis points over the coming year.

#### Brazil Manufacturing PMI May Weaken



As foreign capital becomes more expensive, headwinds to growth in Brazil will rise. The country's currency has already come under some stress, one factor that led the central bank to implement several interest rate increases.

Brazil will need to further adjust to these new global dynamics, relying less on foreign capital and more on domestic resources to support growth. Further measures from policy makers

are possible, including rate increases or possible capital controls, to support the value of the currency. Such moves could weigh negatively on growth and harm investor sentiment.

This will likely be reflected by continued weakness in Brazil's PMI, as well as growth of below three percent over at least the next couple of years and continued volatility in the country's asset and currency markets.

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# PMI HEATMAP

COMPILED BY MICHAEL MCDONOUGH, BLOOMBERG ECONOMIST

## Markit PMI Data Best to Worst Performing Headline Releases: February 2014

INDEX	FEB 14	NOV 13	AUG 13	JULY 13	JUNE 13	MAY 13	APR 13	MAR 13	FEB 13	JAN 13	DEC 12	NOV 12																									
U.K. Construction	63	65	62	63	59	59	59	57	51	51	49	47	47	49	49	49	51	50	49	51	48	54	56	57	54	51	53	52	54	50	53	54	54	54	53		
Saudi Arabia Whole Economy	59	60	59	57	57	59	58	57	57	57	58	59	59	58	59	57	60	60	60	60	59	60	60	59	60	60	58	58	57	56	59	61	63	63	63		
U.K. Composite	58	59	59	60	62	60	61	60	57	55	53	52	51	52	50	50	50	51	53	49	51	52	53	55	54	55	53	51	51	53	51	55	54	53	55		
U.K. Services	58	58	59	60	63	60	61	60	57	55	53	52	52	52	49	50	51	52	54	51	51	53	53	55	54	56	54	52	51	53	51	55	54	54	54		
Ireland Services	58	62	62	57	60	57	62	58	55	53	55	52	54	57	56	56	54	52	49	50	49	52	52	53	48	48	53	52	51	51	52	54	51	50	51	50	
UAE Whole Economy	57	57	57	58	56	57	55	55	54	55	54	54	55	55	56	54	54	53	53	53	54	54	52	52	52	52	52	52	53	52	52	53	55	56	58	58	
U.S. Manufacturing	57	54	55	55	52	53	53	54	52	52	55	54	56	54	53	51	51	52	51	53	54	56	56	54	54	54	53	54	54	54	54	53	53	53	55	56	
U.K. Manufacturing	57	57	57	58	56	57	57	55	53	52	51	50	49	51	51	48	48	48	49	46	49	46	49	47	50	52	51	51	49	47	49	51	49	50	52	53	54
Czech Republic Manufacturing	57	56	55	55	55	53	54	52	51	50	49	50	48	46	48	47	48	49	50	49	48	49	48	50	52	51	49	49	49	52	53	53	53	55	56	59	
Germany Composite (M+S)	56	56	55	55	53	53	54	52	50	50	49	51	53	54	50	49	48	49	47	48	48	49	51	52	53	54	51	49	50	51	51	53	56	57	59	59	
Ireland Construction	56	56	58	59	59	56	50	48	43	42	42	43	45	46	43	43	42	41	42	43	46	45	47	46	46	50	48	45	40	44	42	41	41	41	41	41	
Germany Services	56	53	54	56	53	54	53	51	50	50	51	55	56	52	50	48	50	48	50	50	52	52	52	53	54	52	50	51	50	51	50	51	53	57	56	57	
Poland Manufacturing	56	55	53	54	53	53	53	51	49	48	47	48	49	49	48	47	48	50	48	49	49	50	52	49	50	52	49	50	52	50	52	53	51	53	54	54	
Japan Manufacturing	56	57	55	55	54	53	52	51	52	52	51	50	49	48	45	47	47	48	48	50	51	51	51	51	51	51	51	50	49	51	49	52	51	51	46	46	46
Netherlands Manufacturing	55	55	57	57	54	56	54	51	49	49	48	48	49	50	50	48	49	51	50	49	49	48	49	50	50	49	46	46	48	49	51	51	52	55	59	59	
Ireland Composite	55	58	59	55	59	56	58	56	53	52	52	51	53	55	54	55	56	53	51	51	51	51	51	51	51	51	50	51	52	51	52	51	51	51	51	51	53
Germany Manufacturing	55	57	54	53	52	51	52	51	49	49	48	49	50	50	46	47	46	47	45	43	45	45	46	48	50	51	48	48	49	50	51	52	55	58	62	62	62
Taiwan Manufacturing	55	56	55	53	53	52	50	49	50	47	51	51	50	52	51	47	48	46	46	48	49	51	51	54	53	49	47	44	44	45	45	46	50	55	58	58	
EU Composite	55	54	54	54	54	54	53	52	50	49	48	48	49	49	48	47	47	47	48	47	47	47	48	47	47	48	50	51	49	48	48	50	51	52	53	55	57
U.S. Composite	54	56	56	56	50	57	56	57	56	55	54	54	55	54	53	54	53	51	52	51	53	57	57	58	57	58	56	55	56	55	54	53	55	56	56	56	56
EU Services	54	53	53	53	54	54	53	52	50	49	48	49	49	48	48	47	48	49	49	48	48	48	48	48	51	50	52	50	49	48	50	51	52	54	55	56	56
Spain Comp (M+S)	54	55	54	51	50	50	51	49	48	47	44	45	45	47	44	43	42	41	43	43	42	41	42	46	43	46	42	38	42	44	45	46	49	50	51	51	
EU Manufacturing	54	54	53	52	52	52	51	49	49	47	47	48	48	47	47	46	47	46	45	46	46	47	47	49	49	49	47	47	48	49	49	51	52	53	55	57	
Spain Services	54	55	54	52	50	49	50	49	48	47	44	45	45	47	44	42	41	40	44	44	43	42	42	46	42	46	42	37	42	45	45	47	50	51	50	51	
Germany Const	54	53	54	52	53	52	55	52	55	51	49	42	44	48	43	48	45	49	48	45	46	45	50	56	35	53	49	50	47	51	50	51	51	54	56	56	
Italy Composite	53	51	50	49	51	53	50	50	47	47	45	44	45	46	44	46	45	44	43	43	44	43	44	43	46	45	46	44	45	43	48	48	49	48	51	55	55
Eurozone Composite	53	53	52	52	52	52	51	49	48	47	47	48	49	47	47	46	46	46	47	46	46	47	49	49	50	48	47	47	49	51	51	51	53	56	58	58	
Global Manufacturing	53	53	53	52	52	52	51	50	50	51	51	51	51	50	50	49	49	49	49	50	50	51	51	51	51	51	50	49	51	50	51	51	52	53	54	54	
Hong Kong Whole Economy	53	53	51	52	50	50	50	50	50	51	51	51	51	51	52	52	51	50	51	50	49	50	52	53	52	50	49	49	46	48	51	50	52	53	53	53	
United States Services	53	57	56	56	49	58	57	57	56	55	54	53	54	53	53	54	53	51	52	51	53	57	57	59	57	58	57	55	56	55	54	54	55	57	56	56	
Eurozone Manufacturing	53	54	53	52	51	51	50	49	48	47	47	48	48	46	46	45	46	45	44	43	43	44	43	46	45	46	44	45	46	44	46	48	49	50	52	55	58
Austria Manufacturing	53	54	54	54	53	51	52	49	48	48	48	48	49	48	49	49	45	45	47	47	50	50	51	52	52	52	49	48	48	49	50	51	53	56	57	57	57
Global Composite	53	54	54	54	52	54	53	53	52	52	51	52	52	52	51	51	50	50	50	50	51	52	52	54	54	54	53	51	52	52	52	52	53	54	53	53	
Canada Manufacturing	53	52	54	55	56	54	52	52	53	50	49	52	51	50	50	51	52	53	53	55	55	53	52	52	51	54	53	54	56	55	54	53	55	54	53	55	57
Italy Services	53	49	48	47	51	53	49	49	46	47	47	46	44	44	46	45	46	45	44	43	43	42	44	44	45	46	44	45	46	44	46	48	49	50	52	52	
Ireland Manufacturing	53	53	54	52	55	53	52	51	50	50	48	49	52	50	51	52	52	51	54	53	51	50	52	50	52	50	48	49	49	50	47	50	48	50	52	56	56
Eurozone Services	53	52	51	51	52	52	51	50	48	47	47	46	48	49	48	47	46	46	47	48	47	47	47	49	49	50	49	48	46	49	48	46	49	52	54	56	57
Spain Manufacturing	53	52	51	49	51	51	50	50	48	45	44	47	46	45	45	44	44	45	44	42	41	42	44	45	45	45	44	44	44	44	44	45	46	47	48	51	
Global Services	53	54	54	54	52	55	54	53	53	52	51	52	52	52	51	51	51	50	50	51	53	53	55	54	55	53	52	53	52	52	52	52	53	54	53	53	
India Manufacturing	53	51	51	51	50	50	49	50	50	52	52	54	53	55	54	53	53	53	53	55	55	55	55	57	58	54	51	52	50	53	54	55	58	58	58	58	
Italy Manufacturing	52	53	53	51	51	51	51	50	49	47	46	45	46	48	47	45	46	46	44	44	45	45	44	48	48	47	44	44	43	48	47	50	50	53	56	56	
Germany Retail	52	55	51	52	52	56	56	55	52	50	48	51	48	50	48	50	49	50	50	52	51	47	53	55	53	51	54	52	51	54	51	51	53	51	53	51	55
Mexico Manufacturing	52	54	53	52	50	50	51	50	51	52	52	52	53	55	57	56	56	54	55	55	56	56	54	54	52	53	54	55	53	52	55	55	55	55	55	55	55
Japan Composite	52	54	54	54	56	53	52	51	52	54	52	53	50	49	50	49	48	49	47	49	49	50	51	53	51	51	50	49	52	47	47	48	48	46	46	46	
Greece Manufacturing	51	51	50	49	47	48	49	47	45	45	45	42	43	42	41	42	41	42	42	40	43	41	41	38													

## Q&A

### Markit's Williamson on the Predictive Powers of PMI Indexes



Chris Williamson, the chief economist at Markit, spoke with Bloomberg economist David Powell about how the purchasing manager indexes are put together and what they are showing.

**Q: Give us an idea of how these are constructed.**

**A:** Lots of people use the PMI. But very few people really understand how we can power data, and that these are business surveys. But we actually use very sophisticated techniques, more so than many other surveys. So, very importantly, these are panel surveys. We get a relatively small number of companies, around 400 for each sector we're looking at, but we make sure we get the right 400. We look at official data on the structure of that part of the economy and make sure we replicate that in miniature. So, for example, if we need 10 percent of chemical companies, then we'll make sure 10 percent of our panel are chemical companies. And within that, we get the right mix of small, medium and large firms so that we replicate in miniature the part of the economy that we're trying to survey.

**Q: How has the survey evolved?**

**A:** The survey started off in manufacturing, which is where the term purchasing manager came from. But as we moved into the service sector, which we did in 1996, we found that the purchasing manager wasn't really the right person to be getting the information from. So it tends to be the finance director or even the CEOs of companies who are participating in these surveys. We're getting companies to respond every month. We get them to commit to participating in the surveys. We make sure that it's an accurately representative sample so we're getting a consistent time series through the business cycle.

**Q: If we're interested in tracking economic activity in a particular month, maybe it would be useful to tell us when exactly is the data collected?**

**A:** We try to get the information processed as quickly as possible. We collect the information at mid-month, and we're asking people to respond on the situation compared to the prior month. We're not asking them about their opinion or subjective answers. What we're looking for is what really happened in terms of your production, your order books, your employment this month compared to one month ago. So, it's hard data, as best as we can get. We compile the data very quickly from those up-down-same responses. For each of the variables we look at, we compile a single diffusion index. The flash release — which is published around seven days before the month with data relating to that month — is processed within hours of the last response coming in. We follow that flash response with some final data at the start of every month. Again, data relating to the month just past. So this is the fastest economic data that are out there. The really good advantages to PMI is the speed with which we can produce these numbers, and of course the breadth of the data, extending beyond manufacturing to the service sector. Crucially, we don't revise the data. We publish the numbers, and we keep them there. So everyone's got some confidence that that's what really happened.

**Q: Who uses these PMIs?**

**A:** It's a whole range of users. Perhaps the most important ones are the central banks. If you look at a chart, for example, comparing euro-zone manufacturing output with the euro-zone PMI data, we can see there's a very good track record. More recently, we've been signaling quite a nice upturn in the euro-zone. That's led many ECB watchers to start thinking, "Hm, perhaps the ECB won't be taking any more measures to stimulate the economy." When you map that euro-zone PMI against ECB decisions, you can see this wonderful correlation whereby the PMI clearly acts as a key barometer of where the ECB are taking their decisions.

**Q: What are some of the more interesting correlations?**

**A:** That's just the output numbers, but there's also a whole breadth of data

beyond that which policy makers are also looking at. If we look at charts comparing nonfarm payrolls in the U.S. with our U.S. manufacturing data, there's a great correlation. It's a really good indicator of what those payroll numbers are doing, and perhaps also where those payroll numbers might get revised. Another example we've got is France, where there's a great correlation with the employment numbers there. France, of course, struggling a bit at the moment. And then you can extend to things like exports. We've got a chart of Japanese exports mapped against the PMI index there, so we can look at trade flows. So there's a whole range of sub-indexes.

**Q: What about slack in the economy?**

**A:** We've got an index, the supplies delivery times index, which is a wonderful indicator of just how busy factories are, because the more busy factories are, the longer their delivery time becomes. This is an early warning indicator that capacity is running out, and we've got a graph that compares our delivery times index against inflation in China. Wonderful mapping. A couple months ago we were saying inflation's going to come down in China because of this, and sure enough, those inflationary pressures have eased.

Last year, the euro-zone PMI picking up, we saw many sell-side analysts start to say, "You should increase your exposure to European equities." And with the uptick of the economy, we're seeing bond yields in the periphery fall. We've seen the euro strengthen. So investors are looking at the numbers as well.

And finally, one of the great things for us is that the companies who actually participate in surveys, they use the data as well. It's their reward for participation in their own business decision-making. So it's a wonderful bit of feedback, a give-get relationship. And it's great to see companies incorporate the data into their business decision-making and their planning to make the whole economy work better.

For a video of this Q&A, see [PMI L#2340967<GO>](#).