Economics Group

Weekly Economic & Financial Commentary

U.S. Review

The Hill Is Alive with the Sound of Yellen

- Yellen's testimony to Congress this week did not change our outlook for a rate hike in June, as the Fed sees recent weakness in inflation as transitory.
- Consumer prices fell again in January, though much of the decline can be blamed on lower oil prices and a stronger dollar.
- Consumers remain confident despite the fall in the headline index. Weaker home sales numbers point to consumers' hesitation to make major purchases.
- Durable goods orders rebounded some, though not enough to make up for recent weakness.

Global Review

Modest Pace of Growth Continues Abroad

1Q

-2.1

1.2

1.1

1.4

3.9

-4.8 76.9

6.6

0.93

0.25

4.34

2.73

2.53

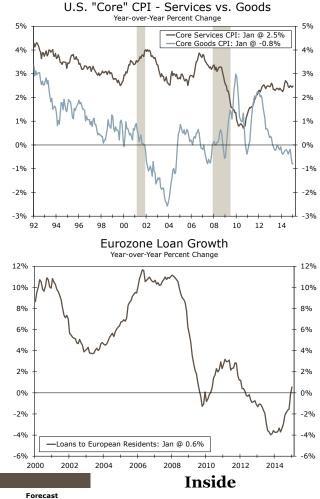
2.52 2.17

1.99

2.21

2.29 2.30

- Further evidence emerged this week that a modest cyclical upswing appears to be taking hold in the Eurozone. Sentiment indicators continued to improve, consumer spending in France was stronger than expected and growth in bank lending turned positive for the first time in nearly three years.
- Revised real GDP data in the United Kingdom showed that consumer spending continues to be an important driver of growth in that economy. Economic data out of Japan were mixed, but they generally showed that the economy has continued to expand in the first quarter.



wens rargo U.S. Economic rorecast											
Actual		Forecast			Actual F		Forecast				
2014			2015			2012	2013	2014	2015	2016	
2Q	3Q	4Q	1Q	2Q	3Q	4Q					
4.6	5.0	2.2	1.8	2.7	2.9	2.9	2.3	2.2	2.4	2.8	2.9
2.5	3.2	4.2	3.5	2.7	2.7	2.6	1.8	2.4	2.5	3.2	2.6
1.6	1.5	1.1	0.5	0.3	0.5	1.1	1.8	1.2	1.3	0.6	2.0
2.1	1.8	1.2	-0.2	-0.3	0.0	0.8	2.1	1.5	1.6	0.1	2.4
5.7	4.1	4.3	3.0	4.9	3.5	3.1	3.8	2.9	4.2	4.0	3.6
0.1	1.4	2.2	2.6	2.7	3.5	4.6	11.4	4.2	-0.2	3.4	5.8
75.9	81.3	85.1	88.5	89.8	91.0	92.3	73.5	75.9	78.5	90.4	94.7
6.2	6.1	5.7	5.6	5.5	5.4	5.3	8.1	7.4	6.2	5.4	5.1
0.99	1.03	1.06	1.07	1.13	1.21	1.24	0.78	0.92	1.00	1.15	1.31
0.25	0.25	0.25	0.25	0.50	0.75	1.00	0.25	0.25	0.25	0.63	2.00
4.16	4.16	3.86	3.60	3.72	3.87	3.89	3.66	3.98	4.17	3.77	4.56

2.35

1.80

2.54

2.20

2.82

U.S. Review	2
U.S. Outlook	3
Global Review	4
Global Outlook	5
Point of View	6
Topic of the Week	7
Market Data	8

Forecast as of: February 27, 2015 ¹ Compound Annual Growth Rate Quarter-over-Quarter

² Year-over-Year Percentage Change

³ Federal Reserve Major Currency Index, 1973=100 - Quarter End

⁴ Millions of Units

Real Gross Domestic Product

Personal Consumption

Consumer Price Index

Corporate Profits Before Taxes

Trade Weighted Dollar Index ³ Unemployment Rate

Quarter-End Interest Rates ⁵ Federal Funds Target Rate

Conventional Mortgage Rate

Industrial Production ¹

Housing Starts ⁴

10 Year Note

Inflation Indicators ² PCE Deflator

Annual Numbers Represent Averages

Source: U.S. Department of Commerce, U.S. Department of Labor, Federal Reserve Board, IHS Global Insight and Wells Fargo Securities, LLC



U.S. Review

Rate Hike Still Likely in June

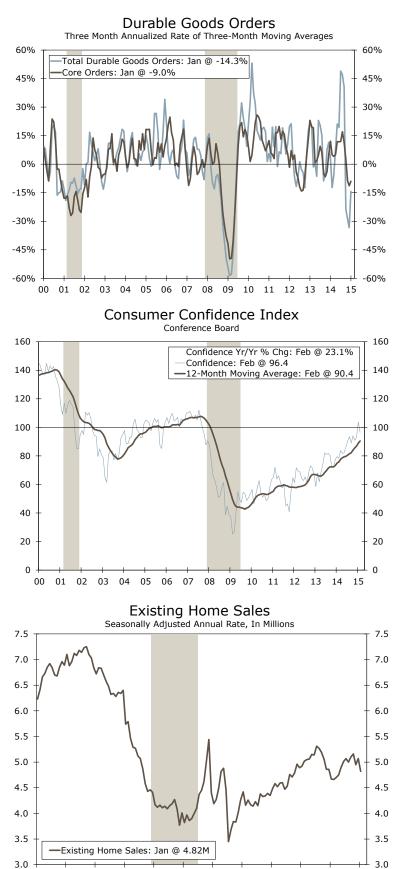
Chair Yellen provided testimony to both houses of Congress this week. Her remarks indicated that the word "patient" would be removed from the press release prior to the meeting when the fed funds rate is actually increased. We expect that language to be removed during the March meeting and that the first rate hike will come in June; however, Yellen was clear that the removal of the word "patient" should not be considered as an indication that rates will be increased under a predetermined timeline, and that a rate hike is as always "data dependent."

In addition, the Fed seems set to look through the recent weakness in inflation. Yellen said that the Fed could raise rates as long as it was "reasonably confident" that consumer inflation would reach its 2 percent objective in the medium term. Yellen specifically mentioned that the decline in headline inflation was due to a drop in oil prices and that recent weakness in core prices, which exclude energy and food, has to do with a stronger dollar and potentially some spillover from falling oil prices.

The consumer price index, which was released after Yellen's remarks, corroborated this narrative. Year over year, CPI fell 0.1 percent in January, but core CPI held up at 1.6 percent. Somewhat more telling is that the cost of services excluding energy, which is less influenced by movements in exchange rates, was up 2.5 percent on a year-ago basis. Assuming that the labor market continues to make solid gains and consumer prices hold up, these underlying details in the CPI report should help to justify movement toward the Fed's inflation objective over the medium term come June.

Other economic data released this week were somewhat mixed. Durable goods orders finally perked up in January, after falling in four of the five previous months. Most of the gain was thanks to the volatile aircraft component, which surged 128.5 percent in the month. After excluding transportation, durable goods orders increased just 0.3 percent. Capital goods orders also rebounded on a monthly basis but were lower year over year. Looking ahead to February, the regional PMIs offered little optimism, as Dallas fell further into negative territory, and the Richmond and Kansas City Fed surveys weakened. All three regions saw their orders components fall further into negative territory as low energy prices and dollar strength continue to weigh on the factory sector.

On the flipside are U.S. consumers, who have seen their purchasing power rise along with the stronger dollar and weakness in gas prices. The consumer confidence index fell in February but is still at a level not seen since 2007. A stronger labor market and slower price appreciation have added to the recent upswing in confidence, but there has not been a commensurate pickup in major purchases expectations. Although the share of consumers that plan to buy a home in the next six months increased in February, that share remains below its year-ago level. The lack of homebuyers was also evident this week, as existing home sales fell 4.9 percent in January and new home sales ticked lower moderately.



04 05 06 07 08 09 10 11 12 13 14 15 Source: U.S. Department of Commerce, Conference Board, National Association of Realtors and Wells Fargo Securities, LLC

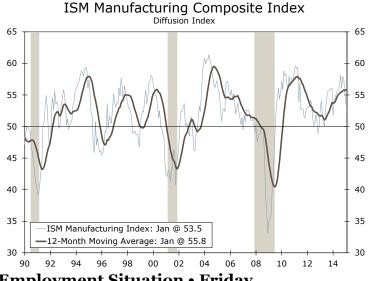
Economics Group

Personal Income & Spending • Monday

Personal income rose 0.3 percent in December, while personal spending declined 0.3 percent for the month. While some of the decline in spending activity was related to a slide in prices, namely gasoline prices, there was also some underlying softness. After controlling for inflation, real spending declined 0.1 percent. Looking ahead to January, we expect personal spending to pull back again to start the year as a combination of more modest consumer demand and lower inflation weigh on the reading. Personal income should continue to improve. We expect that income rose another 0.3 percent in January as ongoing strength in hiring activity continues to fuel income gains. While consumer spending may be off to a more modest start to the year, we expect that real consumer spending for the quarter will remain robust, rising 3.5 percent on an annualized basis.

Previous: 0.3% Wells Fargo: 0.3%

Consensus: 0.4% (Month-over-Month)



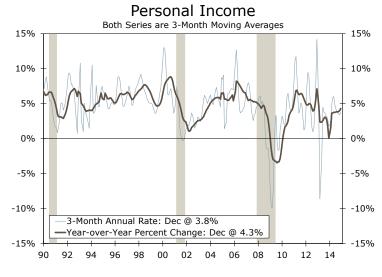
Employment Situation • Friday

Employment gains were strong again in January with 257,000 net new jobs created. The unemployment rate edged slightly higher to 5.7 percent as more individuals entered the labor market. The labor force participation rate rose to 62.9 percent for the month. Average hourly earnings also rose 0.5 percent in a further indication of stronger income growth ahead. We expect that 252,000 jobs were added in February while the unemployment rate edged down to 5.6 percent. The pace of job growth has been impressive over the past several months; however, there is reason to believe that the pace may begin to slow as the year progresses. Given that full-time job growth has begun to pick up, it suggests that the number of jobs added may slow but the quality of the jobs added is improving. Our expectation is that the pace of job growth will gradually downshift throughout the year, with average gains in the fourth quarter of this year around 210,000 per month.

Previous: 257,000

Wells Fargo: 252,000

Consensus: 235,000

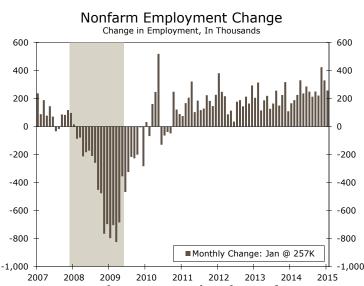


ISM Manufacturing Index • Monday

The ISM manufacturing index down shifted slightly in January to 53.5 from December's 55.1 reading. While the headline reading did pull back slightly, the measure remains in expansion territory. Key components of the index, including production, new orders, and employment, all pulled back for the month but remained in expansion territory. Looking ahead to February's ISM manufacturing reading, we expect the index to pull back slightly to 53.3. Among the dominate factors affecting manufacturing activity in recent months has been slower production in the wake of strong inventory building in the fourth quarter of last year and the fact that exports remain weak amid the slower global growth environment. We continue to expect manufacturing activity to pick up as the year progresses but at a more modest pace compared to the growth in output observed over the past couple of years.

Previous: 53.5 Consensus: 53.1

Wells Fargo: 53.3



Source: U.S. Dept. of Commerce, Institute for Supply Management, U.S. Dept. of Labor and Wells Fargo Securities, LLC

Global Review

Modest Pace of Growth Continues Abroad

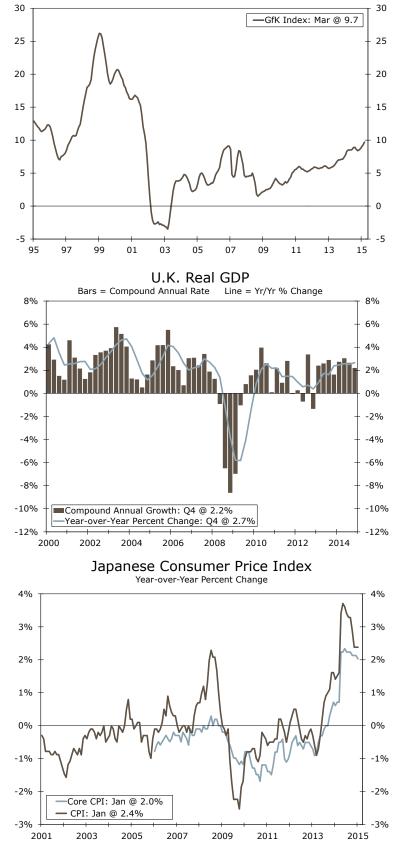
Economic data that were released this week showed that most major foreign economies have continued to grow in the early stages of 2015, if only at a modest pace. Let's start in the Eurozone, where sentiment indicators continue to improve. The economic confidence indicator for the entire euro area rose for the second consecutive month in February. In Germany, the Eurozone's largest economy, a widely followed measure of consumer confidence continued to trend higher (top chart). "Hard" data showed that real consumer spending in France rose 0.6 percent in January relative to the previous month. The stronger-than-expected outturn, which follows the 1.6 percent increase that was registered in December, means that consumer spending in France has a fair bit of momentum behind it in Q1.

There are further signs that financial conditions in the euro area continue to improve as growth in bank lending turned positive on a year-ago basis for the first time in nearly three years (see chart on front page). As we wrote in a recent report, there appears to be a modest cyclical upswing taking hold in the Eurozone. (See *The Eurozone: the Good, the Bad and the Ugly*, available upon request.) Recent data out of the euro area give us more confidence that this upswing is indeed taking hold.

A cyclical upswing has been in place in the U.K. economy for roughly two years, and data released this week confirmed the 0.5 percent (2.2 percent at an annualized rate) sequential rise in real GDP that preliminary data indicated had occurred in Q4 2014. The breakdown of real GDP into its underlying demand components showed that real consumer spending, which rose at an annualized rate of 2.0 percent in Q4, continues to be an important driver of overall GDP growth. In addition, the 14.9 percent annualized jump in real exports in the fourth quarter helped to offset the surprising 2.1 percent decline in fixed investment spending and the 0.8 percentage point drag exerted on overall GDP growth by less stockbuilding. Recent data suggest that the expansion remains intact in the current quarter, although we forecast that real GDP will grow a bit slower this year than it did in 2014 (2.6 percent).

Turning to Japan, economic data out of that country were mixed in January, but they generally showed that the economy has continued to expand in the first quarter. On a positive note, industrial production jumped 4.0 percent relative to the previous month and construction orders grew strongly on a year-ago basis. On the other hand, however, retail spending slipped 1.3 percent, showing that consumers have not yet gotten completely back into the game yet following last year's hike in the consumption tax. That tax hike helped to push CPI inflation higher (bottom chart), which eroded real income. As we discuss in a recent report, real income growth should turn positive again once the tax hike falls out of the year-over-year comparisons in April. (See Room For Growth in Japanese Consumer Spending.) As we also discuss in that report, the Japanese economy likely will not slip back into deflation after the tax-hike induced effects on the CPI fall out of the year-over-year calculations this spring.

GfK Index of German Consumer Confidence Standardized Indicator Points, NSA



Source: IHS Global Insight and Wells Fargo Securities, LLC

Economics Group

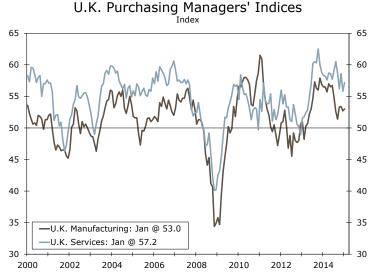
China Manufacturing PMI • Saturday

The consensus expects the official PMI index to remain stuck just below the 50 demarcation point, at 49.7, near the level recorded in January. Thus, the release will probably not contain any new information than what we have been accustomed to from China during the past several years: just very slow growth. However, the good news is that the HSBC preliminary manufacturing PMI went above the 50 demarcation point in February, something that could potentially be a sign of a slightly better environment for the Chinese manufacturing sector.

The drop below the 50 demarcation point for the official PMI number was the lowest since September 2012, but the index has been close to the demarcation point since at least mid-2011. That means that the Chinese manufacturing sector has remained directionless since about that time, which is not very promising for the global economy.

Previous: 49.8

Consensus: 49.7



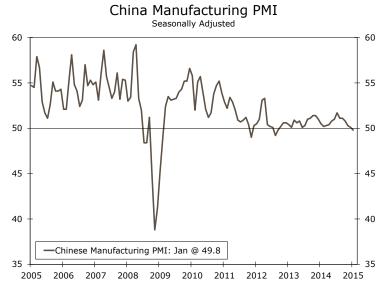


For next week, we will get several indicators that could shed some light on whether Germany's better-than-expected performance in the last quarter of 2014 has some staying power. As expected, consensus expectations call for a drop of 1.0 percent for January's reading as a consequence of such a strong performance, 4.2 percent, for December 2014. That is, it is not unusual to see weakness after such a strong reading the previous month. Furthermore, factory orders' behavior is normally more volatile than other indicators so a low number, even if negative, will be good news for the prospects of the German industrial sector.

On Friday, we will also get industrial production where the consensus is expecting an increase of 0.5 percent after a 0.1 percent increase in December. If the consensus is correct, this will represent the fifth consecutive monthly improvement in German industrial production, something that does not happen very often.

Previous: 4.2% (Month-over-Month)

Consensus: -1.0%



U.K. Manufacturing PMI • Monday

The U.K. manufacturing sector weakened somewhat during the second half of last year compared to the very strong performance recorded in the first half. Another improvement for this index in February, even if the consensus is expecting the index to go up by just 0.3 points from the 53.0 reading in January, will reinforce the notion that the weakness in the U.K.'s manufacturing sector has subsided and the sector will continue to slowly improve as news from the rest of the world improves somewhat.

Meanwhile, the service PMI is also expected to improve marginally in February, something that will also support the current growth environment. This number is going to be released on Wednesday, the day before the Bank of England is expected to keep monetary policy unchanged. We believe that the Bank of England will keep its main policy rate at its current level until the end of this year.

Previous: 53.0

Consensus: 53.3



Interest Rate Watch

Dynamic Change Over the Cycle

As the economic cycle ages, the patterns of credit, interest rates and Treasury finance tend to change, bringing multiple challenges to decision makers. Benchmarks for valuation change as the cycle matures.

Credit Compromises

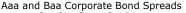
For credit, the obvious pattern is that spreads tend to narrow and credit availability increases as lenders lower standards to maintain loan growth and market share. As illustrated in the top graph, corporate spreads over Treasury benchmarks have declined, despite the decline in the Treasury benchmark, as investors pursue yield. However, the problem becomes to what extent is the lower marginal incremental yield enough to preserve capital when the inevitable next recession occurs. Given that we are already six years into this recovery, the end may be closer than the beginning.

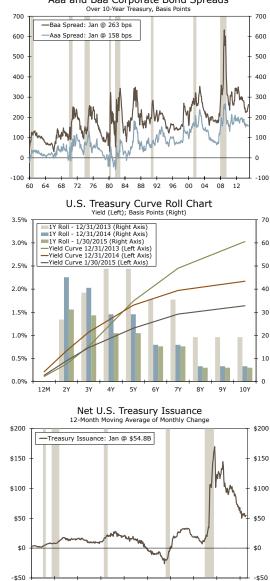
Marginal Return for Duration Risk?

As the cycle matures, the yield curve tends to flatten and thereby, the return for extending duration declines. The marginal additional yield in the current market declines sharply after a three-year duration as illustrated in the middle graph. Early in the cycle, the decision to go long was incentivized by a significant pickup in yield. However, that yield spread has now declined. Moreover, the Fed is likely to raise short-term rates this summer-either June or September-and the interest-rate risk in longer-term instruments will reassert itself. For decision makers, there is a delicate decision to make in the trade-off of additional yield for additional duration risk.

Treasury Finance Turns

Finally, the outlook for Treasury finance changed according has to the Congressional Budget Office, as illustrated in the bottom graph. For investors, the problem is that Treasury issuance will be increasing and that would put an upward bias on rates. This bias is compounded by the lack of Fed buying and the increase in the funds rate. Change is in the air.





Credit Market Insights

Tight Standards Hampering Housing

Last month, the U.S. Census Bureau announced that the homeownership rate declined again in 2014, falling to a 20-year low of 64.5 percent. Looking for ways to turn the homeownership trend around and attract more buyers back into the housing market, Freddie Mac and Fannie Mae agreed in December to guarantee mortgages with lower down payments (as low as 3 percent) to encourage banks to ease lending standards in the mortgage space. Unfortunately, banks typically only approve such low down payments for buyers with high credit scores who do not have trouble obtaining a mortgage in the first place.

Mortgage credit standards on the whole have been loosening for a while; however, when compared to historic standards, credit remains extremely tight. The Mortgage Bankers Association's mortgage credit availability index, an indicator of tightness in mortgage standards, ticked up 1.8 percent month over month in January and is now 4.2 percent above year-ago levels, but remains 86 percent below its prerecession peak.

Thus, while efforts are being made to make mortgages more accessible, these programs are still not bridging the gap between lenders and the average borrower as hoped. Until banks feel comfortable enough to make more significant efforts to ease standards, it seems unlikely that aspiring homebuyers and prospective mortgage applicants will get a break anytime soon.

Source: IHS Global Insight, Bloomberg LP and Wells Fargo Securities, LLC

02 06 10

Credit Market Data							
Mortgage Rates	Current	Week Ago	4 Weeks Ago	Year Ago			
30-Yr Fixed	3.80%	3.76%	3.59%	4.37%			
15-Yr Fixed	3.07%	3.05%	2.92%	3.39%			
5/1 ARM	2.99%	2.97%	2.82%	3.05%			
1-Yr ARM	2.44%	2.45%	2.39%	2.52%			
Bank Lending	Current Assets	1-Week	4-Week	Year-Ago			
	(Billions)	<u>Change (SAAR)</u>	Change (SAAR)	Change			
Commercial & Industrial	\$1,812.0	19.70%	6.35%	12.00%			
Revolving Home Equity	\$455.1	-5.52%	-2.39%	-3.01%			
Residential Mortgages	\$1,575.7	21.00%	3.78%	1.14%			
Commerical Real Estate	\$1,614.7	4.83%	5.76%	6.73%			
Consumer	\$1,200.5	10.40%	1.25%	4.88%			

Source: Freddie Mac, Federal Reserve Board and Wells Fargo Securities, LLC

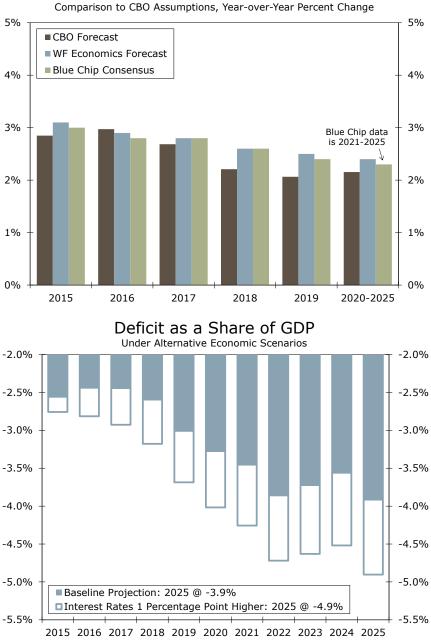
Topic of the Week

Federal Fiscal Policy Outlook

The recently-published 2015 Federal Budget Outlook from the Congressional Budget Office (CBO) forecasts economic growth and the federal deficit through 2025. Although similar to the Wells Fargo forecast in the nearterm, the longer-run estimate of economic growth is slightly slower. Both forecasts see stronger consumer spending and business investment over the next couple of years; with a continued drag from net exports (the full report is available here). A key difference lies in the forecast for government purchases; we expect a slightly larger boost over the next two years given our expectations for the partial reversal of sequestration cuts.

Our forecast also calls for a slightly flatter yield curve in comparison to the CBO's, which would lead to lower net interest expense costs on government debt as rates rise later this year. The average maturity of government debt holdings is roughly five years but has been increasing in duration over the past several years. The higher the duration of debt, the greater the cost of interest expense and the greater drag on the current deficit. The deficit as a share of GDP, at 2.4 percent in 2014, is set to rise to almost 4 percent by 2025, and has led to some concerns about how to balance the budget in the years to come. This concern about budgets has led to tension between the President and Congress on how to fund different mandatory and discretionary outlays.

Congress has been struggling to find a way to keep the Department of Homeland Security funded beyond the end of this month. It now appears likely that Congress will pass a short-term resolution to keep the agency operating for another three weeks. For a discussion of the effects of a lapse in DHS Funding, see our report *Capitol Hill Update: DHS Funding Still Uncertain.*



Source: CBO and Wells Fargo Securities, LLC

Subscription Info

Wells Fargo's Weekly Economic & Financial Commentary is distributed to subscribers each Friday afternoon by e-mail.

To subscribe please visit: www.wellsfargo.com/economicsemail

The Weekly Economic & Financial Commentary is available via the Internet at www.wellsfargo.com/economics

Via The Bloomberg Professional Service at WFRE.

And for those with permission at www.wellsfargoresearch.com

Real GDP Growth Estimates

Market Data 🜢 Mid-Day Friday

U.S. Interest Rates							
	Friday	1 Week	1 Year				
	2/27/2015	Ago	Ago				
3-Month T-Bill	0.01	0.02	0.04				
3-Month LIBOR	0.26	0.26	0.23				
1-Year Treasury	0.15	0.15	0.15				
2-Year Treasury	0.63	0.63	0.32				
5-Year Treasury	1.52	1.59	1.48				
10-Year Treasury	2.01	2.11	2.64				
30-Year Treasury	2.62	2.71	3.59				
Bond Buyer Index	3.62	3.62	4.38				

Foreign Exchange Rates						
Friday	1 Week	1 Year				
2/27/2015	Ago	Ago				
1.119	1.138	1.371				
1.542	1.540	1.669				
0.726	0.739	0.822				
119.380	119.030	102.130				
1.249	1.253	1.112				
0.949	0.938	0.888				
) 0.780	0.784	0.897				
14.974	15.031	13.261				
6.269	6.256	6.128				
61.839	62.221	61.985				
2.875	2.870	2.319				
95.301	94.253	80.285				
	Friday 2/27/2015 1.119 1.542 0.726 119.380 1.249 0.949) 0.780 14.974 6.269 61.839 2.875 95.301	Friday 1 Week 2/27/2015 Ago 1.119 1.138 1.542 1.540 0.726 0.739 119.380 119.030 1.249 1.253 0.949 0.938 14.974 15.031 6.269 6.256 61.839 62.221 2.875 2.8705				

Foreign Interest Rates			
	Friday	1 Week	1 Year
	2/27/2015	Ago	Ago
3-Month Euro LIBOR	0.02	0.03	0.26
3-Month Sterling LIBOR	0.56	0.56	0.52
3-Month Canada Banker's Acceptance	0.97	0.93	1.27
3-Month Yen LIBOR	0.10	0.10	0.14
2-Year German	-0.23	-0.22	0.09
2-Year U.K.	0.42	0.41	0.49
2-Year Canadian	0.50	0.40	0.99
2-Year Japanese	0.02	0.03	0.08
10-Year German	0.32	0.37	1.56
10-Year U.K.	1.77	1.77	2.68
10-Year Canadian	1.34	1.42	2.41
10-Year Japanese	0.34	0.39	0.59

Commodity Prices						
	Friday	1 Week	1 Year			
	2/27/2015	Ago	Ago			
WTI Crude (\$/Barrel)	49.02	50.34	102.40			
Gold (\$/Ounce)	1214.46	1201.95	1331.33			
Hot-Rolled Steel (\$/S.Ton)	503.00	530.00	630.00			
Copper (¢/Pound)	269.80	259.45	323.65			
Soybeans (\$/Bushel)	10.20	10.03	14.07			
Natural Gas (\$/MMBTU)	2.74	2.95	4.51			
Nickel (\$/Metric Ton)	14,323	13,928	14,182			
CRB Spot Inds.	473.12	471.89	532.74			

Source: Bloomberg LP and Wells Fargo Securities, LLC

Next Week's Economic Calendar

Monday	Tuesday	Wednesday	Thursday	Friday
2	3	4	5	6
Personal Income & Spending		ISM Non-Manufacturing	Factory Orders	Nonfarm Payrolls
December 0.3% & -0.3%		January 56.7	December -3.4%	January 257K
January 0.3% & 0.0% (W)		February 56.5 (W)	January 0.6% (W)	February 252K(W)
S ISM Manufacturing				Unemployment Rate
January 53.5				January 5.7%
February 53.3 (W)				February 5.6% (W)
United Kingdon	Australia	Brazil	Germany	
Manufacturing PMI	GDP (YoY)	Industrial Production (YoY)	Factory Orders (YoY)	
Previous (January) 53.0	Previous (3Q) 2.7%	Previous (January) -2.7%	Previous (December) 3.4%	
Mexico	Canada		Russia	
HSBC Manufacturing PMI	Quarterly GDP Annualized		CPI (YoY)	
Previous (January) 56.6	Previous (3Q) 2.8%		Previous (January) 15.0%	

Note: (W) = Wells Fargo Estimate (C) = Consensus Estimate

Wells Fargo Securities, LLC Economics Group

Diane Schumaker-Krieg	Global Head of Research,	(704) 410-1801	diane.schumaker@wellsfargo.com
	Economics & Strategy	(212) 214-5070	
John E. Silvia, Ph.D.	Chief Economist	(704) 410-3275	john.silvia@wellsfargo.com
Mark Vitner	Senior Economist	(704) 410-3277	mark.vitner@wellsfargo.com
Jay H. Bryson, Ph.D.	Global Economist	(704) 410-3274	jay.bryson@wellsfargo.com
Sam Bullard	Senior Economist	(704) 410-3280	sam.bullard@wellsfargo.com
Nick Bennenbroek	Currency Strategist	(212) 214-5636	nicholas.bennenbroek@wellsfargo.com
Eugenio J. Alemán, Ph.D.	Senior Economist	(704) 410-3273	eugenio.j.aleman@wellsfargo.com
Anika R. Khan	Senior Economist	(704) 410-3271	anika.khan@wellsfargo.com
Azhar Iqbal	Econometrician	(704) 410-3270	azhar.iqbal@wellsfargo.com
Tim Quinlan	Economist	(704) 410-3283	tim.quinlan@wellsfargo.com
Eric Viloria, CFA	Currency Strategist	(212) 214-5637	eric.viloria@wellsfargo.com
Sarah Watt House	Economist	(704) 410-3282	sarah.house@wellsfargo.com
Michael A. Brown	Economist	(704) 410-3278	michael.a.brown@wellsfargo.com
Michael T. Wolf	Economist	(704) 410-3286	michael.t.wolf@wellsfargo.com
Zachary Griffiths	Economic Analyst	(704) 410-3284	zachary.griffiths@wellsfargo.com
Mackenzie Miller	Economic Analyst	(704) 410-3358	mackenzie.miller@wellsfargo.com
Erik Nelson	Economic Analyst	(704) 410-3267	erik.f.nelson@wellsfargo.com
Alex Moehring	Economic Analyst	(704) 410-3247	alex.v.moehring@wellsfargo.com
Donna LaFleur	Executive Assistant	(704) 410-3279	donna.lafleur@wellsfargo.com
Cyndi Burris	Senior Admin. Assistant	(704) 410-3272	cyndi.burris@wellsfargo.com

Wells Fargo Securities Economics Group publications are produced by Wells Fargo Securities, LLC, a U.S broker-dealer registered with the U.S. Securities and Exchange Commission, the Financial Industry Regulatory Authority, and the Securities Investor Protection Corp. Wells Fargo Securities, LLC, distributes these publications directly and through subsidiaries including, but not limited to, Wells Fargo & Company, Wells Fargo Bank N.A., Wells Fargo Advisors, LLC, Wells Fargo Securities International Limited, Wells Fargo Securities Asia Limited and Wells Fargo Securities (Japan) Co. Limited. Wells Fargo Securities, LLC. ("WFS") is registered with the Commodities Futures Trading Commission as a futures commission merchant and is a member in good standing of the National Futures Association. Wells Fargo Bank, N.A. ("WFBNA") is registered with the Commodities Futures Trading Commission as a swap dealer and is a member in good standing of the National Futures Association. WFS and WFBNA are generally engaged in the trading of futures and derivative products, any of which may be discussed within this publication. Wells Fargo Securities, LLC does not compensate its research analysts based on specific investment banking transactions. Wells Fargo Securities, LLC does not compensate its research analysts based on specific investment banking transactions. Wells Fargo Securities, LLC does not complexate its research analysts based on specific investment banking transactions. Wells Fargo Securities, LLC does not guarantee their accuracy or completeness, nor does Wells Fargo Securities, LLC assume any liability for any loss that may result from the reliance by any person upon any such information or opinions. Such information and opinions are subject to change without notice, are for general information only and are not intended as an offer or solicitation with respect to the purchase or sales of any security or as personalized investment advice. Wells Fargo Securities, LLC is a separate legal entity and distinct from affiliate

Important Information for Non-U.S. Recipients

For recipients in the EEA, this report is distributed by Wells Fargo Securities International Limited ("WFSIL"). WFSIL is a U.K. incorporated investment firm authorized and regulated by the Financial Conduct Authority. The content of this report has been approved by WFSIL a regulated person under the Act. For purposes of the U.K. Financial Conduct Authority's rules, this report constitutes impartial investment research. WFSIL does not deal with retail clients as defined in the Markets in Financial Instruments Directive 2007. The FCA rules made under the Financial Services and Markets Act 2000 for the protection of retail clients will therefore not apply, nor will the Financial Services Compensation Scheme be available. This report is not intended for, and should not be relied upon by, retail clients. This document and any other materials accompanying this document (collectively, the "Materials") are provided for general informational purposes only.

SECURITIES: NOT FDIC-INSURED/NOT BANK-GUARANTEED/MAY LOSE VALUE