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Economics Group

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Special Commentary

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Are We Headed for Another Global Recession?

Financial markets have encountered significant volatility recently due to a cocktail of negative news that includes Standard and Poor's downgrade of U.S. government debt, the continuing saga of the European sovereign debt crisis and fears of a double-dip recession in the United States. The "hard" economic data that we have at this point suggest that economic activity continues to expand, at least through July. However, there is some cause for concern in the recent downturn in manufacturing sentiment. "Soft" economic data in recent weeks underscore the risks not just to the U.S. economic outlook, but the data raise concerns about the prospects for an uninterrupted global economic recovery as well. In this report, we examine the recent deterioration in various purchasing managers' indexes (PMIs) around the world. In an effort to gauge the significance of this geosynchronous deterioration in business sentiment, we look at the relationships between the PMIs and industrial production (IP) and ultimately on real GDP growth.

Business Sentiment Has Weakened Markedly Recently

A series of weaker-than-expected indicators, including a significant downward revision to first-half U.S. economic growth, have played a role in recent market volatility. Global manufacturing sentiment turned down sharply in July, with many PMIs entering into outright contraction or trending toward contraction territory.

Figure 1

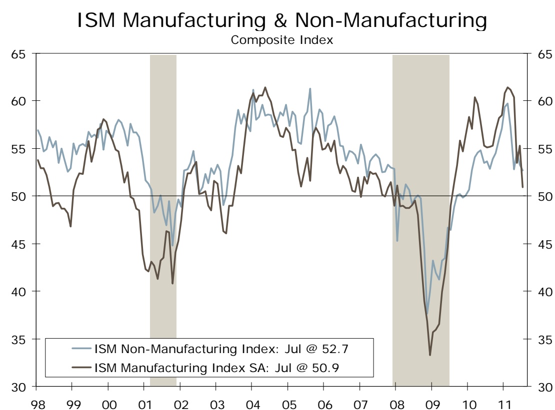
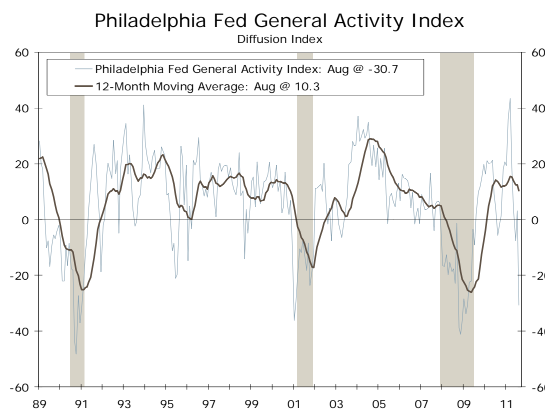


Figure 2



Source: IHS Global Insight, ISM, Federal Reserve Bank of Philadelphia and Wells Fargo Securities, LLC

The most widely followed national PMIs for the U.S. economy are the ISM manufacturing and nonmanufacturing indexes. Both of these measures have slipped from much higher levels earlier this year to present readings, which, in July, were just barely above the demarcation line that separates expansion from contraction (Figure 1). Moreover, the stunning decline in the Philly Fed

This report is available on wellsfargo.com/economics and on Bloomberg WFEC.

index to levels last seen in early 2009 indicates that economic activity may have weakened sharply in early August (Figure 2).[1]

Deterioration in business sentiment in major foreign economies has occurred as well.

Not only has the outlook soured in the U.S. economy, but deterioration in business sentiment in major foreign economies has occurred as well. A rebound in industrial production played an important role in the early stages of recovery in Europe, but the manufacturing PMI in the Eurozone has been losing ground over the past several months. Indeed, the "flash" estimate for August printed at 49.7, its lowest level in nearly two years, and the comparable index for the United Kingdom also dipped below "50" in July (Figure 3). The service sector PMIs were stronger than the manufacturing PMIs —51.5 in the Eurozone in August and 55.4 in the United Kingdom in July—but they, too, have receded somewhat in recent months.

Figure 3

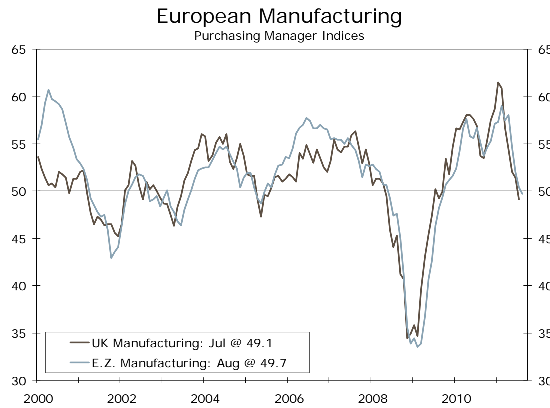
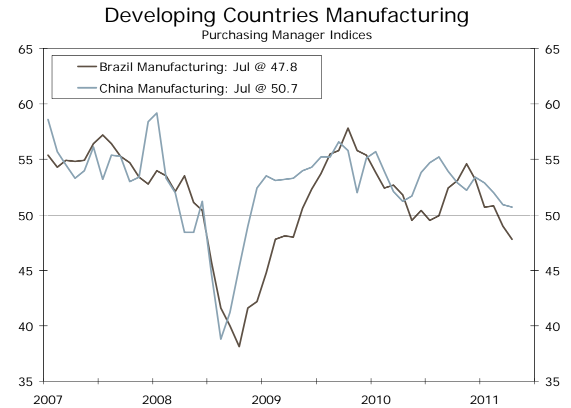


Figure 4



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

Global economic commentary in the wake of the past recession has focused on the relative outperformance of developing economies over advanced countries thus far in this recovery. In terms of output measures like industrial production and GDP, developing economies certainly have outperformed the debt-burdened nations in the developed world. That said, manufacturing sentiment in the developing world has weakened as well in recent months. The trend decline in the Chinese PMI over the past year is signaling slowing momentum in the Chinese manufacturing sector (Figure 4). The PMI in India is slightly better at 53.6, but Brazil has crossed over into contraction territory at 49.5.

Why Have Sentiment and Production Growth Slowed?

The global economy was hit by a number of negative shocks earlier this year.

Some of the deterioration in sentiment and the slowdown in production this year can be attributed to shocks like the sharp rise in energy prices during the Arab Spring uprisings earlier this year as well as a spike in food prices around the same time that weakened growth in real disposable income. The supply dislocations associated with the Japanese earthquake and tsunami in March also imparted a negative shock to the industrial sector in many economies. More recently, renewed concerns about the European sovereign debt crisis and recognition that economic policy in many major economies would be constrained in its ability to respond to future shocks may have weighed on sentiment.

Importantly, growth in consumer spending in many advanced economies has not strengthened significantly, which has constrained overall GDP growth in these countries. In the United States, the year-over-year growth rate of personal consumption expenditures (PCE) rose as high as 3.0 percent in the last quarter of 2010, but it has subsequently retreated to only 2.1 percent

[1] **The Philly Fed survey for August was conducted between Aug. 8 and Aug. 16. The marked volatility in financial markets during that period likely led to uncertainty among businesses that may have caused them to revise production and employment decisions.**

(Figure 5).[2] Similar stories can be told in the Eurozone and the United Kingdom as well. Real PCE in the former grew only 1.0 percent in Q1 2011 (latest available data) on a year-ago basis. British real PCE actually declined 0.5 percent in Q1 2011.

Slowdowns in some economies can quickly be transmitted to other economies via trade flows.

With growth in consumer spending sluggish, advanced economies have needed to rely on growth in exports and business fixed investment spending to drive overall GDP growth in the present recovery. Last year, real exports of goods and services in the United States grew more than 11 percent and business spending on equipment and software was up nearly 15 percent. Investment spending was an important driver of GDP growth in the United Kingdom last year, and net exports made an important contribution to growth in the Eurozone. However, due to increasing economic integration, slowdowns in some economies can quickly be transmitted to other economies via trade flows.[3] With most economies experiencing slower growth at present, countries that rely on exports to drive their own growth are at risk, especially if their exports are cyclically sensitive.

In that regard, the United States exports cyclically sensitive goods. Industrial supplies and materials (i.e., unfinished goods used in manufacturing processes) account for two-thirds of the volume of U.S. goods exports. Not only has growth in real U.S. exports slowed recently, but real imports have also decelerated (Figure 6). With the United States accounting for roughly one-quarter of global GDP, slower economic growth in the United States obviously can lead to slower GDP growth in many other economies as well.

Figure 5

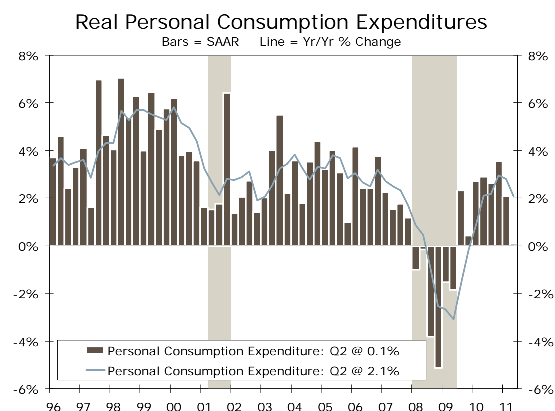
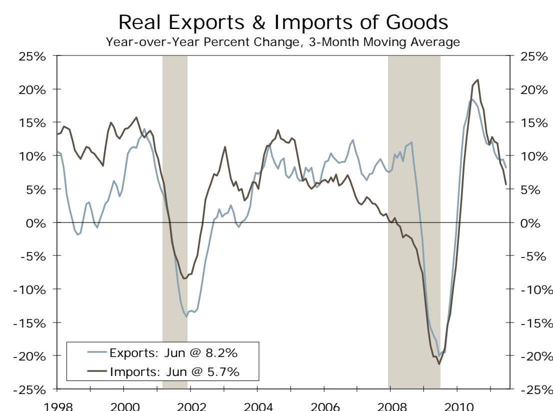


Figure 6



Source: U.S. Department of Commerce and Wells Fargo Securities, LLC

Does Sentiment Tell Us Anything Useful About Actual Production?

The recent decline in the PMIs may point to weaker growth in IP over the next few months.

In sum, growth in most economies slowed in the first half of this year, and the recent weakening of PMIs in many countries indicates that further ratcheting down of growth could be in the cards. The key question then is whether "soft" sentiment data in the manufacturing sector are indeed good predictors of future economic activity. A quick glance at a chart shows that the year-over-year growth rate in U.S. IP tends to move with the ISM manufacturing index (Figure 7). As shown in the appendix, correlation analysis confirms this visual impression as year-over-year changes in manufacturing PMIs are strongly correlated with year-over-year changes in IP in the United States, the United Kingdom and the Eurozone. The correlation is highest when the PMIs are lagged by a few months, suggesting that the recent decline in the indices discussed above may point to weaker growth in IP over the next few months.

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[2] **Between 2004 and 2007 real PCE growth in the United States averaged 3.0 percent per annum.**

[3] **Global exports as a percent of global GDP held steady around 20 percent throughout most of the 1980s and the 1990s. Starting about 10 years ago the ratio started to trend higher, and it currently is about 30 percent.**

We also regressed year-over-year changes in IP in the United States, the United Kingdom and the Eurozone on lagged values of each economy's PMI. As shown in the appendix, each PMI had a statistically significant effect on IP growth. Moreover, each PMI is currently below or near levels that historically have been associated with IP growth turning negative. If national PMIs fall further from current readings, which seems likely in light of some of the regional U.S. indices, our analysis suggests that year-over-year IP growth rates in the United States and the Eurozone will turn negative at some point over the next few months. British IP is already negative and likely will weaken further in the months ahead.[4]

Economies need not necessarily enter recession just because IP growth turns negative.

However, economies need not necessarily enter recession just because IP growth turns negative. Indeed, U.S. IP growth turned briefly negative on a year-over-year basis in 1985, 1989 and 2003 without the overall U.S. economy slipping into recession. The U.K. and Eurozone economies also had episodes of negative IP growth in the past decade without economy wide recessions. Service sectors, which tend to be less cyclical than industrial sectors, account for more than 70 percent of value added in the U.S., British and Eurozone economies. Manufacturing PMIs need to fall much further—in the United States the threshold on the ISM manufacturing index seems to be around 44—before the entire economy would slip into recession.

Figure 7

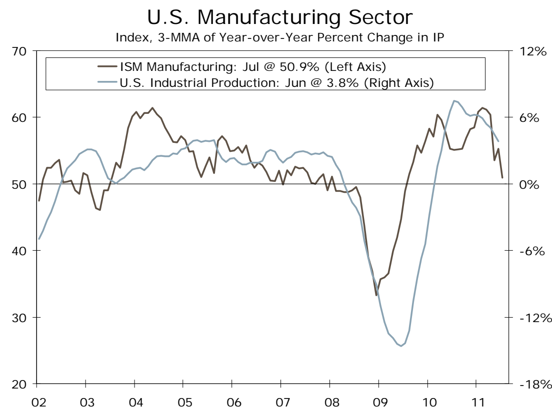
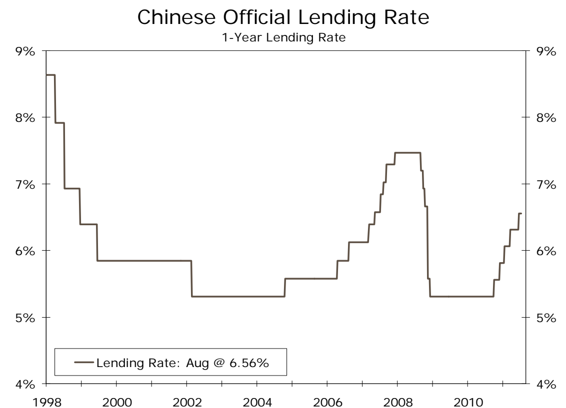


Figure 8



Source: IHS Global, ISM, Federal Reserve Board, Bloomberg LP and Wells Fargo Securities, LLC

Are We Headed for Global Recession?

The global economy is in its most challenging environment since the global downturn ended in mid-2009. We wrote in a recent report that we are not yet forecasting a renewed downturn in the U.S. economy.[5] Nor are we projecting a global recession either, at least not yet. The recent declines in manufacturing PMIs in most economies are certainly worrying, and economic activity will probably soften further over the next few months. However, a renewed global downturn need not ensue. Although the present economic and financial situation may appear grim, there are some offsets that may help to support global economic activity.

First, oil and food prices have retreated significantly. For example, the price of Brent crude, which is the global benchmark for oil, is down about 15 percent since early May, and corn prices are off 10 percent since mid-June. Lower food and energy prices should put more purchasing power in consumers' wallets, especially in developing economies where these goods represent a larger percentage of consumer spending than in advanced economies.

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[4] **IP in the United Kingdom declined 0.3 percent on a year-ago basis in June. Interestingly, our regression results show that a reading of 53.0 on the British manufacturing PMI is associated with zero IP growth on a year-ago basis. British IP was flat on balance between 1997, when data on the PMI begin, and 2007. IP in the United Kingdom remains 12 percent below its December 2007 level.**

[5] **See "Outlook: Even Slower Growth With Significant Downside Risk" (August 19, 2011), which is available on our website.**

Second, long-term interest rates have declined significantly. For example, the yield on the 10-year U.S. government bond has declined nearly 100 bps over the past few weeks. Although yield spreads generally have widened, absolute yields in the investment-grade corporate bond markets generally have moved lower, which should help to bolster balance sheets. Mortgage rates also have declined, leading to an increase in refinancing activity. To the extent that homeowners can refinance, they should be able to reduce monthly mortgage payments, which would allow them to spend more, if they choose, on other goods and services.

Developing economies, which in aggregate account for one-third of global GDP, have policy flexibility.

Policymakers in the advanced economies may have limited options to respond to renewed economic weakness. Policy interest rates in most major economies are close to the zero percent bound, and fiscal loosening is arguably constrained by large budget deficits. However, developing economies, which in aggregate account for one-third of global GDP, up from 20 percent about a decade ago, generally have policy flexibility. For example, the Chinese central bank, which has raised its benchmark 12-month lending rate by 125 bps since last October, could easily reverse course especially if, as we project, CPI inflation recedes in the coming months, and the Chinese government could direct banks to accelerate lending again (Figure 8). Central banks in many other developing countries have tightened this year, and they have scope to ease policy to bolster growth. In addition, government deficits in many developing economies are generally under control at present, so fiscal policy could turn expansionary. Developing countries are not large enough to drive global GDP growth, but expansionary economic policies, in combination with the offsets noted above, could help to shore up global economic activity as advanced economies transition through the current soft patch.

Although we are not calling for a renewed global recession, there are significant downside risks to keep in mind. First, consumers and businesses are not oblivious to the recent volatility in financial markets, and their psyches probably have been bruised. If consumers and businesses turn defensive, spending could weaken significantly. Second, the European debt crisis continues to fester. Wholesale selling of government bonds in highly indebted European countries could lead to another financial crisis. Third, growth is barely positive at present in some advanced economies, making them very vulnerable to unforeseen shocks (e.g., a spike in energy prices, a natural disaster, a major terrorist attack, etc.).

Even if the global economy should get through the next few months without falling into recession again, the outlook for growth in 2012 is not very strong. With governments in most major economies embarking on fiscal consolidation measures and with consumers in some of these countries needing to deleverage further, it likely will be years before the global economy returns to the heady days of 2004—2007 when global GDP growth averaged 5 percent per annum.[6]

[6] **In our most recent *Monthly Economic Outlook*, which we released on August 10, we forecasted global GDP growth of 3.8 percent in 2012. However, given the recent downward revision to our U.S. GDP growth forecast, we likely will revise down our global GDP growth forecast to less than 3.5 percent in 2012.**

Appendix

To gain some perspective on whether or not we should be concerned by the recent downturn in manufacturing sentiment, we ran some simple correlations to ascertain what association, if any, there is between manufacturing sentiment and growth in industrial production for the three main regions we considered in the paper: the United States, the United Kingdom and the Eurozone.

Are PMIs a Good Indicator of Future Industrial Production?

Correlation Between Year-over-Year Percent Change in PMIs and Industrial Production

	3-Month Lag	2-Month Lag	1-Month Lag	No Lag
Eurozone	0.67	0.59	0.48	0.35
United Kingdom	0.58	0.49	0.40	0.29
United States	0.38	0.30	0.20	0.09

Correlations between year-over-year percent changes in IP and PMIs grow stronger as the length of the PMI lag increases. In each region, the longest lag corresponds to the highest correlation. This suggests that the recent decline in manufacturing sentiment should be associated with further weakness in year-over-year growth rate in industrial production in these countries.

To determine the statistical significance of PMIs as predictors of change in industrial production, we ran 12 regressions of the year-over-year change in industrial production on the level of the PMI and lags. Our null hypothesis stated that there was no statistically significant relationship between year-over-year changes in industrial production and the level of PMI. For every region and for every lag chosen, our null hypothesis was rejected, confirming our belief that the current level of PMI is an important indicator of behavior in IP growth.

For the United States and United Kingdom, the 3-month lag specification has the highest R^2, that is, it has the most explanatory power for current year-over-year change in industrial production. In the Eurozone, the 2-month lag specification has the highest R^2. These results suggest that recent declines in PMIs should lead to deterioration in industrial production growth in the next few months.

PMI - IP Regression Results

	Intercept	Coefficient	Total R-Square	Threshold PMI
United States, 3-month Lag	-48.55	0.96	0.79	48.4
t-Statistic	(-24.11)	(-24.89)		
United Kingdom, 3-Month Lag	-31.89	0.60	0.64	53.0
t-Statistic	(-16.07)	(-15.62)		
Eurozone, 2-Month Lag	-28.04	0.58	0.51	50.5
t-Statistic	(-14.99)	(-16.16)		

A useful interpretation of these results would be to determine a threshold level of PMI that corresponds with zero percent change in industrial production. By setting each specification equal to zero, we can determine the level of PMI consistent with a zero percent change in industrial production in two or three months time, depending on the lag. As we mentioned earlier, each level of PMI is near or below the threshold value indicated by our regression output. The last reading for the ISM manufacturing index was 50.9, which gives the United States a two point cushion above a complete stalling of industrial growth. In the United Kingdom, manufacturing sentiment fell below 53.0 in May of this year and has continued to decline, reaching 49.1 in July. For the Eurozone, the August level of the manufacturing PMI, 49.7, is below the threshold value calculated from our regression analysis, suggesting that growth in Eurozone industrial production may turn slightly negative in the next two months.

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