



MORNING BRIEFING

November 11, 2019

Productivity Is Rebounding

See the [collection](#) of the individual charts linked below.

(1) Setback or blip? (2) Rule #1 for Forecasters. (3) Back to the future: Big upward revision in productivity growth during second half of 1990s. It can happen again. (4) From paradox to miracle. (5) Productivity rebound is underway. (6) Confirmation coming from real hourly compensation and record-high profit margins. (7) Government's bean-counters can take a decade to catch up with technological change. (8) The cloud and free apps may be boosting GDP and productivity, adding more beans than the bean-counters are counting. (9) YRI is virtual. (10) Movie review: "Midway" (+ +).

US Productivity I: Nostalgia. Did our rebounding-productivity-growth story fall apart last Wednesday when the Bureau of Labor Statistics (BLS) reported that nonfarm business productivity fell 0.3% q/q (saar) during Q3? Recall Yardeni's Rule #1 for Forecasters: "When the data support my story, they are good data. When they don't do so, they must be wrong and are bound to be revised to show I was right after all."

The rule worked very well for me in the second half of the 1990s when I argued that productivity must be better than the official numbers indicated. Back then, Fed Chair Alan Greenspan was also convinced that productivity growth must be better than shown by the BLS stats. Lo and behold, during November 1999 the BLS revised annual productivity growth rates upward for the 1990-98 period from 1.4% to 2.0%. The revised annual rate was even higher for the three years spanning 1995-98: 2.6% instead of the previous 1.9%. These revisions put to rest the apparent disparity between the data and Greenspan's view as well as mine.

These revisions converted the "productivity paradox" into a "productivity miracle," as productivity's growth rate jumped during the second half of the 1990s. That helped to explain why inflation remained subdued and why inflation-adjusted wages rebounded during this period after declining during most of the 1970s through mid-1990.

Back then, I observed that productivity and real incomes stagnated as the Baby Boomers entered the labor force, when they turned 16 years old between 1962 and 1980. In an October 1991 [Topical Study](#), I wrote: "Now that most of them have been employed for several years, odds are that the standard of living for most families will improve along with productivity."

It was easy to predict that during the 1990s, older workers increasingly would outnumber younger ones, which is what happened. I wrote: "Assuming that older workers are more experienced and efficient than younger ones, productivity should grow at a faster pace in the years ahead. There is a very strong correlation between productivity and incomes. As productivity growth rebounds, so should real incomes. Because older workers are more productive than younger ones, they earn more than do younger ones."

US Productivity II: The Here & Now. Could it happen again? Could the BLS revise the weak

productivity growth rates during the current expansion higher? Sure, that's possible, but Debbie and I aren't making that argument. Instead, we are arguing that productivity growth as officially measured has been rebounding since 2015 and should continue to do so for the next several years. Let's have a close look at the official data:

(1) *Year-over-year growth*. We prefer to track productivity growth on a y/y basis rather than on the more volatile q/q basis. It was up 1.4% y/y during Q3, as nonfarm business output rose 2.3%, while hours worked increased 0.9% ([Fig. 1](#)).

(2) *Five-year trend growth*. For a longer-term perspective, we like to track the five-year moving average of annual productivity growth. It bottomed most recently during Q4-2015 at 0.5% ([Fig. 2](#)). It rebounded to a recent high of 1.3% during Q1-2019, but it edged back down to 1.0% during Q3.

We believe that this recent rebound could be the beginning of a longer-term rebound similar to those seen in the first half of the 1960s, first half of the 1980s, and second half of the 1990s through the early 2000s.

(3) *Real income growth*. Confirming our working hypothesis on the outlook for productivity growth is the five-year cycle in inflation-adjusted hourly compensation growth in the nonfarm business sector ([Fig. 3](#)). During the current economic expansion, the annual average bottomed at 0.3% during Q3-2014. It was up to 1.8% during Q3 of this year, the best reading since Q1-2008.

Hourly compensation includes wages, salaries, and benefits and is available quarterly along with the productivity data. We divide this series by the nonfarm business price deflator (NFBD). That's because microeconomic theory posits that in competitive markets productivity determines real labor compensation and that the relevant price index is the one reflecting the prices received by employers, not the prices paid by consumers as reflected in either the Consumer Price Index (CPI) or the Personal Consumption Expenditures Deflator (PCED).

That makes sense, and is corroborated by the very close correlation between real hourly compensation growth (on a five-year basis and using the NFBD), and the comparable growth for productivity.

Historically, the NFBD has been inflating at a slower pace than either the CPI or the PCED. The CPI has been outpacing both the PCED and NFBD ([Fig. 4](#)).

(4) *S&P 500 profit margin*. More evidence of rebounding productivity is implicit in the S&P 500 quarterly operating profit margin. It rose to a record high of 10.9% during Q4-2017, i.e., just before President Trump cut the corporate tax rate ([Fig. 5](#)). After the tax cut, it rose to a record high of 12.5% during Q3-2018. It has remained near that record since then, with a reading of 11.7% during Q2-2019.

Meanwhile, the weekly series we construct for the S&P 500 forward profit margin, which tracks the quarterly series of the actual profit margin very closely, has been hovering around 12.0% all year through the 10/31 week. As we've noted before, that's impressive given that the headline news suggests that tariff and labor costs have been rising all year. If so, then rebounding productivity growth must be offsetting those cost increases.

(5) *S&P 500 profit margins for sectors and industries*. I asked Joe to drill down to the profit margins of the 11 sectors of the S&P 500 as well as of most of the major S&P 500 industries. He compiled a handy collection of them in our [S&P 500 Sectors & Industries Profit Margins](#).

To smooth out the volatility in the data, Joe constructed the following quarterly profit margins based on

four-quarter trailing operating earnings from S&P. On this basis, the S&P 500 operating profit margin was 11.2% during Q2, just a touch below the record high of 11.3% during Q3-2018 ([Fig. 6](#)).

All but two of the 11 sectors were either at record highs or very close to their recent record highs: Real Estate (20.9%), IT (20.6), Financials (15.8), Communication Services (15.3), Utilities (12.1), S&P 500 (11.2), Industrials (9.7), Materials (9.1), Health Care (8.7), Consumer Staples (7.4), Consumer Discretionary (7.1), and Energy (6.7). The laggards are Energy and Health Care.

Here is a selection of industries with record, or near-record, profit margins that have been on uptrends for a while, in the order that they appear in Joe's chart book: Hotels, Resorts & Cruise Lines (11.5%), Restaurants (17.0), Specialty Stores (8.9), Home Improvement Retail (8.5), Household Products (15.9), Tobacco (31.5), Soft Drinks (15.8), Biotechnology (31.7), Pharmaceuticals (22.6), Aerospace & Defense (9.6), Electrical Components & Equipment (12.8), Construction Machinery & Heavy Trucks (10.4), Industrial Machinery (11.3), Railroads (26.5), Data Processing & Outsourcing (26.6), Communications Equipment (21.9), Semiconductors (25.9), and Broadcasting (11.5).

That's a long list, covering a broad assortment of industries. Its length and breadth confirm our view that businesses across-the-board are using technology to boost their productivity and profit margins. We believe that the managers of the S&P 500 companies responded to the Trauma of 2008 by focusing on boosting their profit margins. They can do so by using the tools provided by the ongoing high-tech revolution, particularly now that labor is becoming increasingly scarce and expensive.

US Productivity III: Underestimated? There's a case to be made that upward revisions in the official productivity data—like those made in the late 1990s—are warranted again now.

Back then, I argued that in addition to demographic factors, the high-tech revolution, which started in the mid-1990s, must be boosting productivity. The official bean-counters at the BLS certainly were aware of the structural changes impacting the economy, but I observed that it can take them 5-10 years to change their output-measuring methodology to reflect structural changes in the economy.

The high-tech revolution is ongoing and going stronger than ever. Consider the following:

(1) *The cloud*. In the past, companies used their own software that was purchased and loaded onto their mainframes, minicomputers, PCs, and laptops. They networked their systems through in-house or outsourced "server farms." All this required large IT departments to maintain the systems and to upload software updates—a challenging job as PCs and laptops proliferated. Much of this IT infrastructure operated well below capacity.

The cloud changed all that. Now companies can use the servers of cloud vendors such as Amazon, IBM, and Microsoft for their data-processing and storage needs. In effect, this is reminiscent of my days at the Federal Reserve Bank of New York in the late 1970s, when we used remote computer terminals to access the fire power of the organization's mainframe computers, kept in a large, air-conditioned room on another floor.

Any computer hardware connected to the cloud is analogous to a remote terminal, and the mainframe is now all the servers operated by the cloud companies. This greatly reduced the need for large in-house IT departments, especially since software companies rent their latest products so that there is no need to update them on individual computers anymore. In 2011, Microsoft started to rent Office 365, which is on the cloud and automatically updated there, for an annual subscription fee.

The cloud also reduced the need for buying as much hardware and software, since it provides a much

more efficient way to process and store data. The servers of the cloud companies are operating much closer to full capacity than those at server farms and on site at company locations. This could well explain why real capital spending on computers was flat from 2008 through 2016.

(2) *Free stuff*. It is possible that technological innovation is outpacing the ability of the government's statisticians to measure output, so they are underestimating productivity. Hal Varian, the chief economist of Google, rightly observed that the digital revolution happening doesn't show up anywhere in the economic numbers, as GDP doesn't include all the free stuff we're getting with the Internet. For example, WhatsApp meets the telecommunications needs of billions of people, but it isn't in GDP and productivity because it is free. The relatively small cost of producing such apps is measured in GDP, but the huge benefits are not.

(3) *Brave New World*. In a March 2017 [study](#), "The Coming Productivity Boom," Michael Mandel and Bret Swanson explained why they see lots of productivity upside for "physical industries," which represent 75% of private-sector employment and 70% of private-sector GDP but make up just 30% of the investments in information technology. Their analysis makes good sense to me:

"The 10-year productivity drought is almost over. The next waves of the information revolution—where we connect the physical world and infuse it with intelligence—are beginning to emerge. Increased use of mobile technologies, cloud services, AI, big data, inexpensive and ubiquitous sensors, computer vision, virtual reality, robotics, 3D additive manufacturing, and a new generation of 5G wireless are on the verge of transforming the traditional physical industries—health care, transportation, energy, education, manufacturing, agriculture, retail, and urban travel services."

US Productivity IV: YRI Is Virtual. At Yardeni Research, we've been big fans of the high-tech revolution, writing about it frequently since the early 1990s. We've also been enthusiastic users of the tools provided by the high-tech revolution to increase our productivity.

Since 2007, when I formed my own company, we have been virtual. We don't have a central office. Everyone works from wherever they like. We replaced a couple of servers we had at a server farm with a virtual server on the cloud at Amazon Web Services (AWS) in 2012. We subscribe to Microsoft's Office 365. Our *Morning Briefing* is delivered to all our accounts by email and posted on the website. It is a collaborative undertaking, with all of the YRI team contributing to its production; that often entails a daily flood of 300 emails among us to get the job done.

Our charting system detects when the thousands of data series provided by our data vendors are updated. The charts that use those series are automatically revised with the updates on our server, which is on AWS. The charts are refreshed in their appropriate locations in the hundreds of chart publications we've created over the years. So, for example, when the employment report is posted at 8:30 am during the first Friday of every month, all of the employment publications we keep on the website are automatically updated within a few seconds of the information's release.

Movie. "Midway" (+ +) ([link](#)) is an action-packed movie about the action that was packed into the major battles in the Pacific between the US and Japan from Pearl Harbor at the end of 1941 to Midway during June 1942. The acting and dialogue are uniformly lame. However, the true story about so many American heroes is awe inspiring. It certainly puts us to shame today for all our petty domestic political intrigues and conflicts. The heroes of World War II selflessly and courageously defended and spread our democracy, while they tear it apart in a selfish and cowardly manner. In today's bitterly divided political circus, partisans on the left and on the right claim that their goal is to save our democracy, while they selfishly and cowardly tear it apart. Fortunately, there are still plenty of heroes in our military, as evidenced by their effectiveness in crushing ISIS.

CALENDARS

US. Mon: Rosengren. **Tues:** Small Business Optimism Index 102.0, Clarida, Kashkari, Harker. (DailyFX estimates)

Global. Mon: UK GDP -0.1%*m/m*/0.4%*q/q*/1.1%*y/y*, UK Headline & Manufacturing Industrial Production -1.2%/-1.6% *y/y*, UK Trade Balance - £2.0b, Mersch. **Tues:** Eurozone ZEW Survey Current Situation & Expectations -22.0/-13.0, UK Employment Change (3m/3m) & Unemployment Rate (3m) - 102k/3.9%, Mersch. (DailyFX estimates)

STRATEGY INDICATORS

Global Stock Markets Performance ([link](#)): Last week saw the US MSCI index rise 0.8% as it continued to set new record highs for the first time since late July. The AC World ex-US also rose 0.8% for the week, but remains in a correction at 10.9% below its record high, in January 2018. The US MSCI's weekly performance ranked 21st among the 49 global stock markets of which 33 rose in US dollar terms. Nearly all regions rose w/w, but the following outperformed or matched the AC World ex-US: EM Asia (2.2%), BRIC (1.2), and EMEA (0.8). The regions underperforming the AC World ex-US last week: EM Latin America (-2.9), EAFE (0.5), EMU (0.5), and EM Eastern Europe (0.7). Pakistan was the best-performing country, with a gain of 5.8%, followed by Turkey (3.9), China (3.2), Thailand (2.9), and Israel (2.9). Of the 27 countries that underperformed the AC World ex-US MSCI last week, Brazil fared the worst with a drop of 4.2%. Also underperforming were Greece (-3.9), Peru (-3.4), Chile (-1.2), and Sri Lanka (-1.2). The US MSCI's ytd ranking remained steady last week at 7/49, with its 23.5% ytd gain 9.3ppts ahead of the AC World ex-US (14.2). All regions and 40/49 countries are in positive territory ytd. The regions that are outperforming the AC World ex-US ytd: EM Eastern Europe (23.8), EMU (16.8), and EAFE (14.9). EM Latin America (6.8) is the biggest laggard ytd, followed by EMEA (10.0), EM Asia (11.6), and BRIC (13.5). The best country performers ytd: Egypt (41.0), Russia (36.8), Greece (29.1), Taiwan (24.2), and Ireland (24.0). The worst-performing countries so far in 2019: Argentina (-34.9), Chile (-17.9), Pakistan (-6.9), Poland (-5.3), and Malaysia (-5.0).

S&P 1500/500/400/600 Performance ([link](#)): All three of these indexes rose for a fifth straight week following declines in seven of the prior 10 weeks. LargeCap's 0.9% gain last week was a hair ahead of both SmallCap (0.8%) and MidCap (0.8). LargeCap ended the week at a record high of 3093.808, and MidCap was near a three-month high, which was 2.5% below its record high on 8/29/18. SmallCap exited its correction for the first time in 12 months during the week, but remains 10.0% below its 8/29/18 record. Twenty-one of the 33 sectors moved higher last week, compared to 25 rising a week earlier. Last week's best performers: SmallCap Energy (5.1), SmallCap Materials (4.1), LargeCap Financials (2.4), and MidCap Materials (2.4). SmallCap Utilities (-5.9) was biggest underperformer, followed by MidCap Utilities (-4.0), LargeCap Utilities (-3.7), LargeCap Real Estate (-3.7), and MidCap Real Estate (-2.8). In terms of 2019's ytd performance, all three indexes have logged double-digit gains. LargeCap leads with a gain of 23.4% ytd, 3.2ppts ahead of MidCap (20.2) and 6.4ppts ahead of SmallCap (17.0). Thirty-one of the 33 sectors are positive ytd, with Tech and Industrials sweeping the top performers: LargeCap Tech (38.7), SmallCap Tech (35.5), MidCap Tech (34.5), MidCap Industrials (29.6), SmallCap Industrials (27.3), and LargeCap Industrials (27.0). SmallCap Energy (-23.0) is the biggest decliner so far in 2019, followed by these underperformers: MidCap Energy (-21.1), SmallCap Communication Services (1.1), SmallCap Consumer Staples (5.1), and LargeCap Energy (5.2).

S&P 500 Sectors and Industries Performance ([link](#)): Seven of the 11 S&P 500 sectors rose last week as six outperformed the S&P 500's 0.9% gain (versus seven rising and five outperforming the S&P 500's 1.5% gain the week before). Financials was the best-performing sector with a gain of 2.4%,

ahead of Energy (2.0%), Materials (2.0), Industrials (1.8), Tech (1.7), and Communication Services (1.2). Last week's underperformers: Utilities (-3.7), Real Estate (-3.7), Consumer Staples (-0.5), Consumer Discretionary (-0.2), and Health Care (0.3). All 11 sectors are up so far in 2019, compared to just two sectors rising during 2018, when the S&P 500 fell 6.3%. However, there was an extensive reshuffling in performance ranking among the sectors last week, leaving only these four ahead of the S&P 500's 23.4% rise ytd now: Information Technology (38.7), Industrials (27.0), Communication Services (26.3), and Financials (24.9). The ytd laggards: Energy (5.2), Health Care (9.9), Utilities (16.5), Materials (19.2), Consumer Staples (19.6), Real Estate (21.4), and Consumer Discretionary (22.1).

Commodities Performance ([link](#)): Last week, the S&P GSCI index rose 0.5% as 11 of the 24 commodities moved higher. That compares to a 0.2% gain a week earlier when 15 of the 24 commodities moved higher. The index had nearly climbed out of a correction during mid-April, recovering to a drop of just 10.0% shy of its high in early October 2018, after being down as much as 26.9% from that high on 12/24/18. It remained close to a bear market in the latest week, but improved to 16.6% below its 10/3/18 high. Coffee was the strongest performer last week, rising 6.5%, ahead of Lean Hogs (5.6%), Natural Gas (4.0), Cotton (1.9), and Crude Oil (1.9). Silver was the biggest decliner, with a drop of 6.5%, followed by Nickel (-3.7), Gold (-3.0), Lead (-2.7), and Zinc (-2.2). The S&P GSCI commodities index is up 12.0% ytd following a decline of exactly that magnitude, 12.0%, in 2018. The top-performing commodities so far in 2019: Nickel (52.1), Crude Oil (26.1), Unleaded Gasoline (25.1), Brent Crude (15.5), and Gold (14.4). The biggest laggards in 2019: Kansas Wheat (-13.0), Cotton (-9.3), Natural Gas (-4.0), Live Cattle (-1.9), and Aluminum (-1.1).

S&P 500 Technical Indicators ([link](#)): The S&P 500 price index rose 0.9% last week, and improved relative to its short-term 50-day moving average (50-dma) and its long-term 200-day moving average (200-dma). The index's 50-dma relative to its 200-dma rose for a third week following nine straight declines. It's down from a 17-month high of 5.4% in mid-August, but formed a Golden Cross for a 33rd week after 16 weeks in a Death Cross formation. The index had been in a Golden Cross for 137 weeks through late November, and its previous Death Cross lasted for 17 weeks through April 2016 (when its 50-dma bottomed at a then-four-year low of 4.5% below its 200-dma in March 2016). The Golden Cross reading improved to a five-week high of 3.0% from 2.7%. That compares to a 26-week low of 2.5% in mid-October and -5.2% in early February, which had matched the lowest reading since November 2011. It's still down from a 55-month high of 7.2% in February 2018. The S&P 500's 50-dma rose for a fifth week following three down weeks as the price index improved to a 15-week high of 3.4% above its rising 50-dma from 3.2% above its rising 50-dma a week earlier. It had peaked recently during mid-July at a 19-week high of 4.3% above. That was up from a 22-week low of 4.2% below its falling 50-dma at the end of May, but down from 6.6% above during mid-February, which was its highest since October 2011. The 200-dma rose for a 22nd week. It had been rising for 16 weeks through mid-May after falling from October to February in the first downtrend since May 2016 (when it had been slowly declining for nine months). The index traded above its 200-dma for a 23rd week, and improved to an eight-week high of 6.5% above its rising 200-dma from 6.0% a week earlier. That compares to a 17-month high of 8.8% above its 200-dma at the end of July and 14.5% below on 12/24, which was the lowest since April 2009; the index remains well below the seven-year high of 13.5% above its rising 200-dma during January 2018.

S&P 500 Sectors Technical Indicators ([link](#)): Eight of the 11 S&P 500 sectors traded above their 50-dmas last week, down from 10 a week earlier and all 11 the week before that. Consumer Staples and Utilities each fell below for the first time since the beginning of June, and Real Estate was below for a second week and just the fourth time in 43 weeks. However, the longer-term picture—i.e., relative to 200-dmas—remained steady w/w at 10 sectors trading above. That's up from just six at the end of August, which was the lowest count since early June. Energy was below for a 17th week after being

above—just for a week in early July—for the first time since early October. Ten sectors are in the Golden Cross club (with 50-dmas higher than 200-dmas), unchanged from a week earlier. That compares to just two sectors in the club during February and all 11 in January 2018. Energy has not been in a Golden Cross for 52 straight weeks. Nine sectors have rising 50-dmas now, down from all 11 in the prior two weeks and up from just three in early October. Real Estate's 50-dma fell for the first time since January, and Utilities' dropped for just the second time since then. Ten sectors have rising 200-dmas, unchanged from a week ago. The sole laggard, Energy, has been mostly falling since last October. Materials and Financials moved higher for an 11th week in what appears to be a successful attempt at new uptrends for the first time since September 2018. That compares to just two sectors with rising 200-dmas in early January, in what was then the lowest count since all 11 sectors had falling 200-dmas two years before.

US ECONOMIC INDICATORS

Productivity & Unit Labor Costs ([link](#)): Nonfarm productivity during Q3 fell for the first time since Q4-2015 after robust gains during the first half of this year. Productivity contracted 0.3% (saar) last quarter after expanding 2.5% and 3.5%, respectively, during Q2 and Q1—the best two-quarter performance since Q3-2014. Output (to 2.1% from 1.9%, saar) was slightly faster during Q3 than Q2, though hours worked (2.4 from -0.5) rose more than output last quarter—posting its biggest gain since Q4-2015—after contracting during Q2 for the first time since Q3-2015. Productivity rose 1.4% y/y during Q3—holding around Q2's 17-quarter high of 1.8%. The recent bottom was -0.1% y/y during mid-2016. Unit labor costs (3.6 from 2.4) accelerated last quarter as productivity declined; hourly compensation advanced 3.3% (saar), slowing steadily from Q1's 9.4%—which was the highest since Q4-2012. Unit labor costs rose 3.1% y/y, with hourly comp rising 4.5%—up from 1.0% and 2.0% y/y, respectively, at the end of 2018.

Consumer Sentiment ([link](#)): “The strongest part of the economy has been job and wage gains,” notes Richard Curtin, director of the University of Michigan's consumer survey. “Although consumers have become somewhat more cautious spenders, they see no reason to engage in the type of retrenchment that causes recessions.” The Consumer Sentiment Index (CSI) improved in mid-November for the third month—the longest string of gains in two years—rising from 89.8 in August to 95.7 in mid-November. (The early November reading of the CSI was nearly identical to the 2019 average of 95.6 and only a few index points below its 97.0 average since the start of 2017.) The expectations component climbed for the third month from 79.9 to 95.9 over the period, while the present situation component slipped to 110.9 this month after increasing from 105.3 to 113.2 the previous two months. A reading on inflation expectations, closely watched by the Fed, edged up to 2.4%—at the lower end of the recent range but stable. Meanwhile, spontaneous negative references to tariffs were mentioned by one in four consumers, while references to the impact of impeachment on economic prospects were virtually nonexistent—mentioned by less than 2%.

GLOBAL ECONOMIC INDICATORS

Germany Manufacturing Orders ([link](#)): Germany's Economy Ministry was cautiously optimistic following the surprise jump in September factory billings, noting this “could signal a bottoming out of orders.” Orders have been bouncing around recent lows since the summer, rebounding 1.3% in September following a two-month decline of 2.6%. September's advance was driven by gains in foreign orders from outside the Eurozone (3.0%) and domestic orders (1.6); foreign billings from within the Eurozone contracted 1.8% after a two-month increase of 2.8%. Orders for capital goods were the most impressive in September, rising across the board, with foreign orders from both outside (4.0) and inside (2.4) the Eurozone climbing along with domestic (2.3) ones. Meanwhile, domestic demand for consumer goods orders rose 3.1% during September, with both durable (4.5) and nondurable (2.5)

goods billings moving higher. Foreign orders of consumer goods, however, were a mixed bag, with orders for durable goods from outside the Eurozone (3.7) up and within the Eurozone (-12.9) down; nondurable goods demand was the reverse—with orders from inside (5.8) up and outside (-2.1) down. Intermediate goods orders fell 1.5% during September, driven by an 8.2% drop in orders from within the Eurozone; orders from outside the Eurozone rose 1.1%, while domestic orders were little changed.

Germany Industrial Production ([link](#)): Headline and manufacturing production in September both fell to their lowest levels since December 2016. Germany's headline production—which includes construction—fell for the fifth time this year, dropping 0.6% m/m and 3.4% ytd, with factory output down 1.3% and 3.9% over the comparable periods. Excluding construction, production fell 1.0% m/m and 4.3% ytd. Here's a look at output, both monthly and ytd, for the main industrial groupings: consumer durable goods (-2.4% m/m & -1.2% ytd), capital goods (-1.5 & -4.5), intermediate goods (-1.3 & -4.8), consumer nondurable goods (-0.1 & -0.7), and energy (2.0 & -9.0). Looking ahead, IHS Markit's M-PMI (to 42.1 from 41.7) ticked up in October, though remained firmly in contractionary territory—posting its second weakest performance since June 2009. According to the report, October saw further marked, though slower, decreases in both output and new orders, while employment dropped to the greatest extent since January 2010.

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