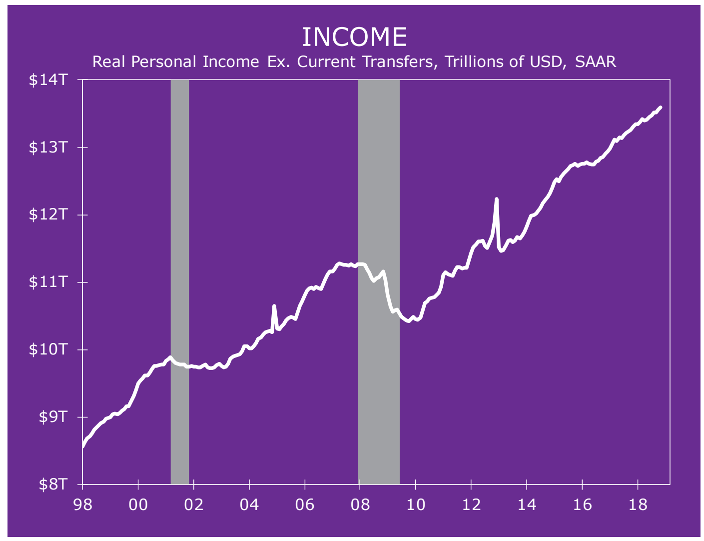
February 14, 2019

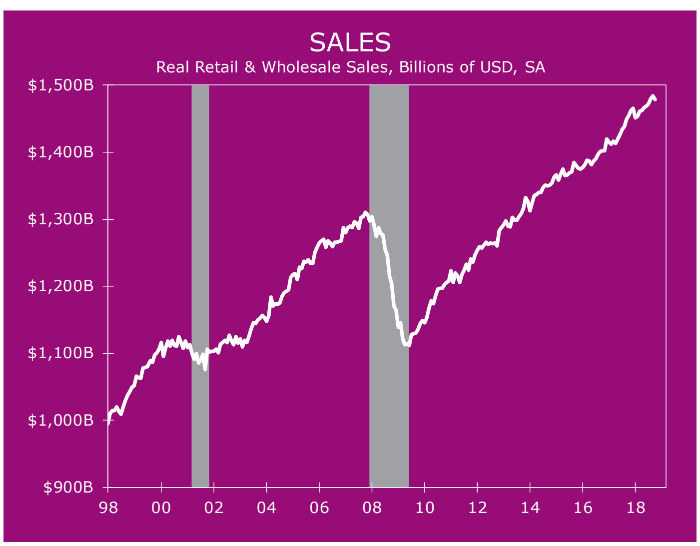
Economics Group

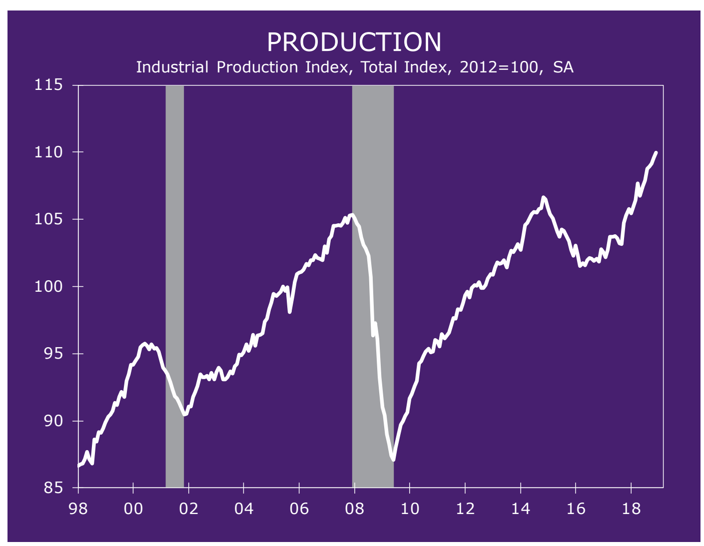
WELLS FARGO SECURITIES

Dating Advice

In this series, we unpack the four indicators that the National Bureau of Economic Research dating committee considers when determining the start and end dates of each cycle. The next recession is coming, it is just a question of when. These reports will help you identify the leading indicators to watch. Dating the economic cycle is not easy; these reports are our best advice. Happy Valentine's Day!







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

Together we'll go far

February 14, 2019

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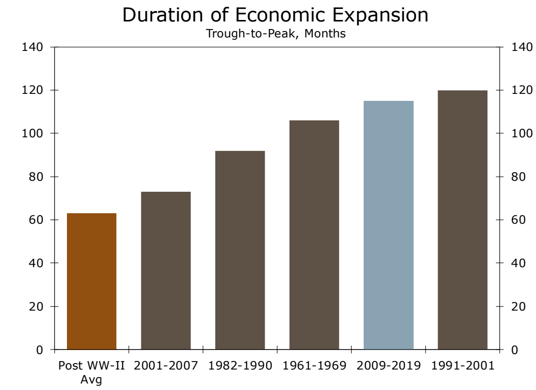
Dating Advice

As this expansion nears the longest ever, we examine the indicators that define a recession. Recession is coming, it's just a question of when. Dating the economic cycle is not easy; this short series of reports is our best advice.

Long in the Tooth

Since 1945 there have been 12 U.S. recessions that have lasted, on average, 10.8 months. Add up the duration of every post-war recession and you get 130 months or just shy of 11 years. That is less than 15% of the time. Said differently, more than 85% of the time the economy is in expansion. The average expansion during that same time period is just under five years, and the longest (1991-2001) was 120 months. If the U.S. economy is still in expansion in July as we expect it to be, this will become the longest U.S. economic expansion on record.

In the lead-up to the financial crisis in 2008-2009, there were very few economists calling for recession, let alone the worst contraction in output since the Great Depression. What explains this reluctance? And what does it mean for identifying the eventual end of the current cycle?

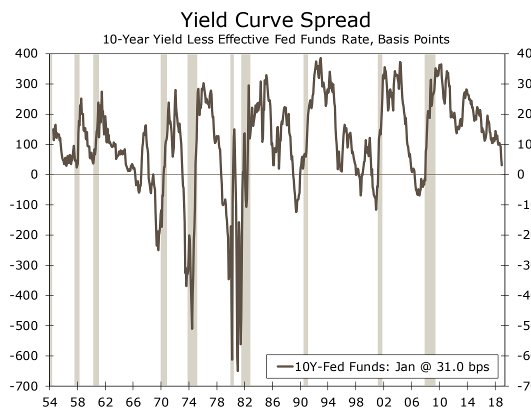


Why the Reluctance About Calling a Recession?

Imbalances in the economy can be identified in advance. Yet pinning down the precise date for *when* those imbalances lead to recession requires advance knowledge of what the initial spark that saps confidence will be.

Making a recession call well ahead of a downturn therefore means sticking your neck out. John Maynard Keynes lamented that "worldly wisdom teaches that it is better for reputation to fail conventionally than to succeed unconventionally." An untested model or even a well-informed hunch lacks the sufficient basis for a recession call.

Even for the economist with the guts to do it, the incentives are misaligned. If the call does not go your way, you are accused of "crying wolf," and if 85% of the time the economy is in expansion, why chance it?



Night Gathers and My Watch Begins

Why chance it? Because that's our job. The length of this expansion alone implores a hard look at when the next recession may strike. More crucially, sailing is anything but smooth at present. Risks are mounting and early warning signals of a recession keep popping up. Global growth is slowing. The world's most influential central bank, the Fed, is teetering on restrictive monetary policy. U.S. policy uncertainty is at a five-year high amid ongoing trade disputes and only tentative resolution to the government shutdown. The leading economic index, a key yardstick for the direction of the economy, is losing momentum. Perhaps most ominously, an inverted yield curve has preceded each of the past seven recessions, and we are uncomfortably close to inversion again.

So what defines recession and what should we be watching? The official call is up to the National Bureau of Economic Research, whose dating committee determines the start and end dates for each cycle. It considers recession to be "a significant decline in economic activity…normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales."

In this series of notes, we unpack each of these components. None of these four horsemen of the apocalypse are signaling recession yet. But what do the leading indicators for each signal in light of the gathering clouds? The next recession is coming, it is just a question of when. These reports will help you identify the leading indicators to watch. Dating the economic cycle is not easy; these reports are our best advice.

Source: Federal Reserve Board, U.S. Department of Commerce and Wells Fargo Securities

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Dating Advice: Do They Have a Job?

A drop in employment bears particular weight when declaring a recession. Not only are employers continuing to add jobs, but hiring has strengthened. Leading indicators suggest a contraction in employment is a ways off.

Before You Agree to a Date: Does It Already Feel Like Work?

A decline in employment is one of two measures that receive "particular emphasis" from the official recession-dating committee. If employment is contracting, aggregate hours-worked and output are likely falling as well.

Currently, employment and hours-worked show no signs of a broad retrenchment in economic activity. Payroll employment has risen for 100 consecutive months, most recently by 304,000 jobs in January. With average weekly hours little changed, the aggregate number of hours worked by all employees has also continued to climb.

Chance Meeting, or No Such Thing as a Coincidence?

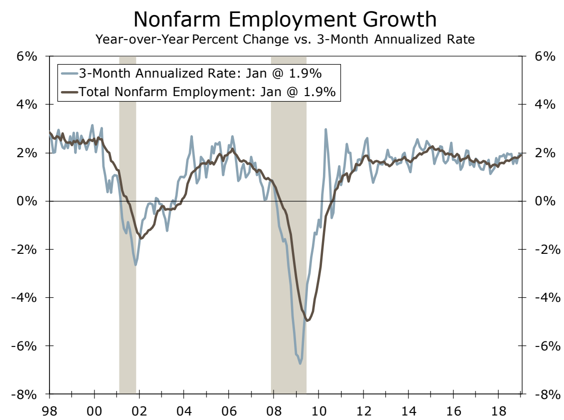
Back-to-back declines in employment are exceptionally rare outside of a recession or the first few months of a recovery, making the level of employment a reliable coincident gauge of a broad contraction in the economy. But hiring does not turn on a dime. Before an outright drop in employment, the pace of new job growth slows, with the downdraft typically beginning at least a year ahead of a recession. Current payroll figures show no such slowing, with employment in January increasing at the strongest pace since 2016 (top chart). Moreover, a deceleration in job growth may not portend a contraction in output as reliably as it once did, given the already-tight labor market and significantly slower growth in the working-age population.

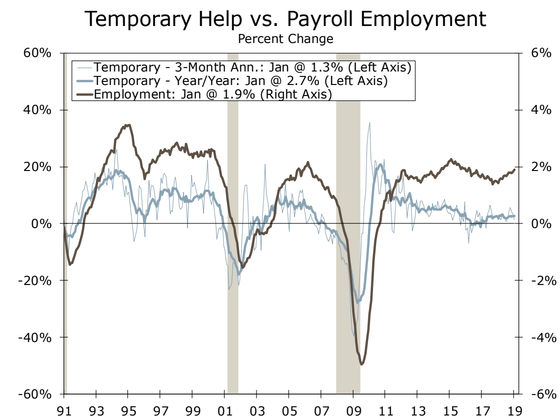
A number of labor market indicators that lead total payrolls also suggest an outright drop in employment, and therefore recession, remains at the very least a few months away.

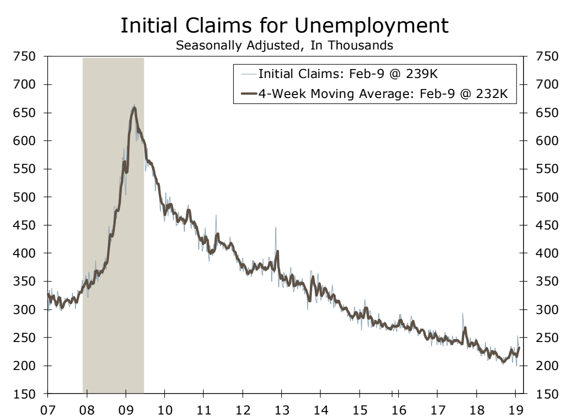
First, hiring of **temporary workers**, which lead total payrolls by about four months, has continued at a steady pace (middle chart). Second, job openings, which lead payrolls by two months, rose to a fresh cycle-high in December.

That said, there are a few hints of an impending slowdown in employment growth, although that is not the same as a contraction. **Initial jobless claims**, which lead payrolls by two months but are released in particularly timely fashion, are no longer falling. Readings over the past few months have been unusually volatile due to the fall's string of natural disasters, early timing of Thanksgiving and, more recently, the government shutdown, but on a four-week average basis are little changed since November and up from September.

In addition, while the **ISM non-manufacturing employment index** and **small business hiring plans** are coincident indicators for payrolls, both have come down over the past couple of months. But along with hiring of temporary workers and record job openings, the historically strong levels of all three of these indicators suggest an outright drop in employment is hardly imminent.







Source: U.S. Department of Labor and Wells Fargo Securities

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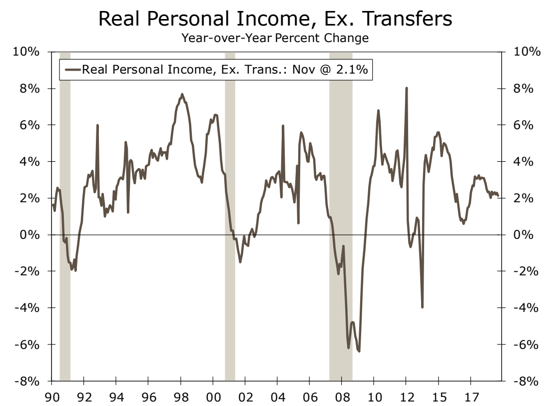
Dating Advice: Get Real, Does it Matter Who Makes More?

Continued growth in output is dependent on consumers' means to spend. That's why real personal income is another key indicator for the dating committee. Financial markets suggest heightened vulnerability ahead.

When Not Even the Paycheck is Goin' Steady…

Of the four indicators the dating committee scrutinizes to assess the onset of a recession, employment and personal income receive "particular emphasis." Without adequate income gains, households are unable to sustain their pace of spending. That's important for growth, given that personal consumption expenditures account for roughly 70% of total U.S. output.

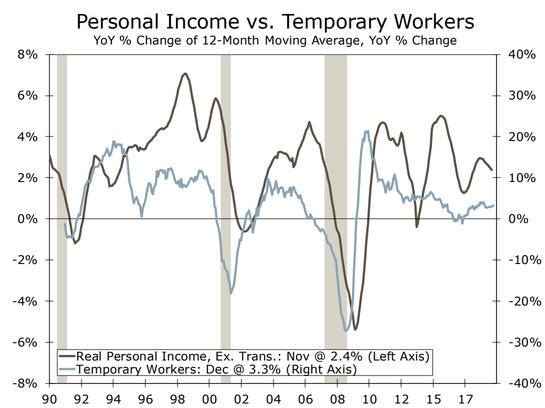
In an effort to capture the purchasing power of consumers, the dating committee analyzes the inflation-adjusted measure of personal income excluding transfer payments, such as Social Security. This measure was up 2.1% on a year-over-year basis in November (top chart). That marks the seventh consecutive month that income growth was below its cycle average of 2.4%. As the pace of real income growth appears to have rolled over since 2017, is the moderation in income grounds for concern?



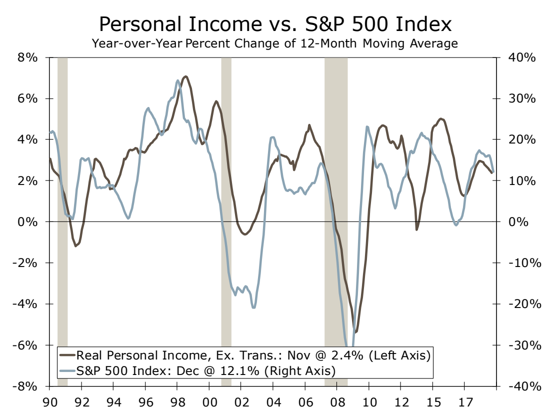
Don't Ignore Signs that Suggest You're Not the Priority

With a sustained decline in real personal income indicative of a recession, it is useful to analyze the leading indicators of income growth to see if vulnerabilities are increasing.

Employee compensation accounts for roughly 75% of personal income excluding transfers, and fluctuations here are most closely tied to the labor market. If employers are cutting pay, reducing hours or laying off workers, aggregate income is likely already retrenching. It therefore is useful to keep an eye on the hiring of **temporary workers**. Not only does this measure lead total employment by four months, it also leads real personal income by about three months (middle chart). With the hiring of temporary workers continuing at a steady pace, a coming retrenchment in real income growth seems unlikely.



Taking a look at another leading indicator of real personal income, the **S&P 500 index**, may tell a slightly different story. The S&P 500 index, which leads real personal income growth by about twelve months, experienced a sharp selloff in the final months of 2018 (bottom chart). One interpretation of the recent market weakness would suggest a slowdown is in store for real personal income growth this year. A sustained slowdown in financial markets is indicative of broader softness in corporate profits. This would be consistent with our expectation for **NIPA corporate profits**, or an economy-wide measure of profit growth, to decelerate this year, limiting corporations' ability to hire and increase pay. At the same time, financial market weakness would affect income growth more directly through returns on assets, which account for about 20% of personal income excluding transfers.



While the leading indicators of real personal income may not be causing us to sound the recession alarms just yet, the outlook for financial markets suggests a time of heightened vulnerability.

Source: IHS Markit, U.S. Department of Commerce, U.S. Department of Labor and Wells Fargo Securities

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Dating Advice: How Much You Spend Matters

Falling sales are another sign that output is contracting. Inflation-adjusted sales have slowed over the past year. Declining consumer confidence and tighter financial conditions suggest some further moderation ahead.

Buy Me Something Pretty (Experiences Don't Count)

If household income is declining and businesses are shedding workers, sales are also likely to be suffering. Specifically, the National Bureau of Economic Research (NBER) dating committee uses inflation-adjusted manufacturing, wholesale and retail trade sales to help define a recession. We say "help" since manufacturing-trade sales exclude spending on services, the bulk of U.S. output. As the NBER aims to determine a contraction in *total* economic activity, it admittedly places "less emphasis" on manufacturing-trade sales (and industrial production, which we discuss in our next note) due to the narrower sector coverage.

The November manufacturing and trade sales figures are another casualty of the partial government shutdown, but the data heading into the current blind period were not particularly promising. In October, the most recent month available, real sales declined 0.4%, which was the first monthly drop since January 2018.

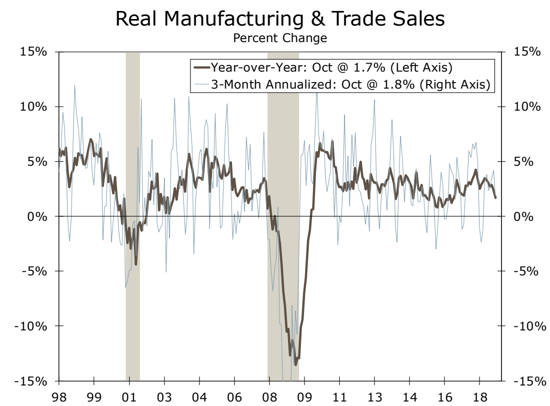
Unlike employment, it is not unusual to see real sales decline every so often in an expansion. In fact, real sales have declined at least two months out of every calendar year since the current expansion began. But momentum has clearly softened over the past year, with sales up only 1.7%, the weakest 12-month performance in two years (top chart).

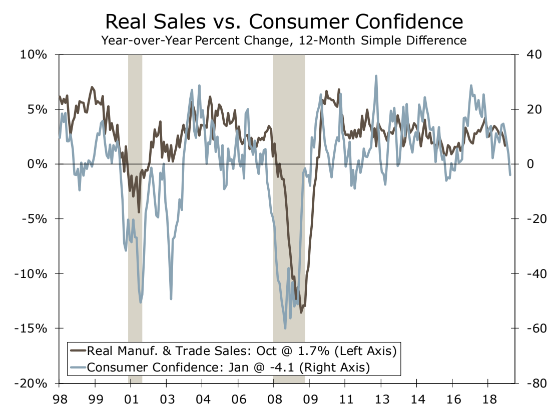
Be Confident and Offer Gas Money

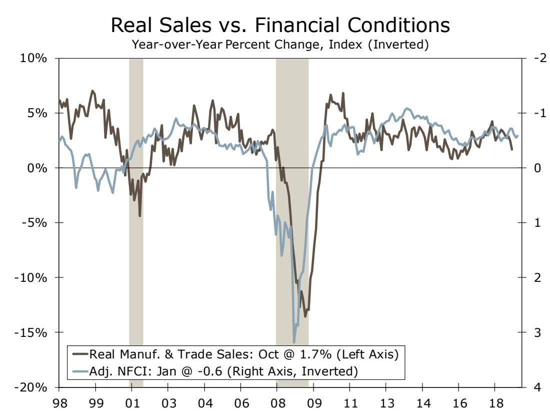
The slowdown in real sales growth should not come entirely as a surprise. Spending is closely tied to consumers' means to spend (income), but also **confidence** in the economy. The absolute level of consumer confidence is not nearly as important for real sales growth as the rate at which confidence is changing. The one-year change in consumer confidence tends to roll over about five months before the year-ago rate of real manufacturing-trade sales (middle chart). With confidence shaken amid three consecutive monthly declines, spending in the coming months looks set for a bumpier ride.

Gasoline prices are another consideration since they bear an outsized influence on the inflation half of "real sales." Falling prices at the pump free up money to spend on other items, and can foreshadow a boost to real sales by up to six months. The drop in gas prices since early October should lend support to real sales over the next few months, but gasoline is expected to be a headwind for sales as the year progresses and prices move up again.

Furthermore, when the cost and availability of credit tighten, manufacturing-trade sales slow in subsequent months (bottom chart). Although **financial conditions** do not seem overly restrictive at present, tighter conditions since September also pose a challenge to the recent pace of manufacturing and trade sales.







Source: Federal Reserve Bank of Chicago, The Conference Board, U.S. Dept. of Commerce and Wells Fargo Securities

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Dating Advice: Don't Make Such a Production Out of Things

Industrial production is the fourth, albeit least emphasized, variable considered by the NBER in dating the cycle. Factory output is solid at the moment, but leading indicators are less bright.

Everything Was Going So Well…

December figures for industrial production (IP) were better than expected, particularly for manufacturing output. The 1.1% pick up in manufacturing output was the fastest sequential increase in 10 months. This category typically comprises about three quarters of all industrial production, and, even among the various subcomponents, there was broad-based strength. Mining, which accounts for another 14% of industrial output, rose 1.5% in December. As a whole, industrial production has accelerated over the past year and is presently at an all-time high, thus not yet consistent with a recession. Could that soon change?

The Greenback Boogie Man

As the middle chart shows, the **dollar** is inversely related to production—periods of dollar strength have been associated with a retrenchment in manufacturing and broader industrial production.

On a year-over-year basis, the trade-weighted value of the dollar versus our major trading partners is presently up more than 9%. A prior period of dollar strength in the second half of 2015 was followed by such steep declines in production that there was serious discussion at the time about whether or not we were in a manufacturing recession. The strong dollar is a potential headwind we will be watching as it may signal a slowing in one of our four recession indicators should it strengthen further. That said, our foreign exchange strategists anticipate gradual dollar weakening over the next year or so, which could actually be a source of reprieve for manufacturing output.

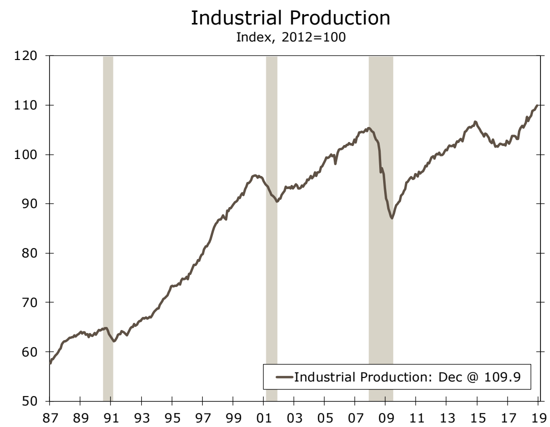
We're Just in a Soft Patch

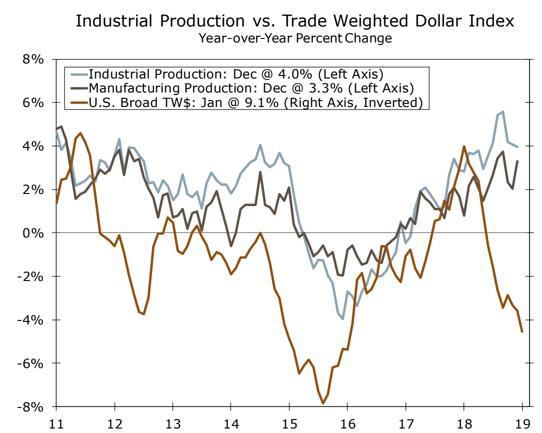
The West Texas price for a barrel of crude oil is down about 30% since October. That could signal trouble for mining output. Between 2014 and 2016 **oil prices** fell more than 75% peak to trough, and mining output soon went down the tubes as well. Admittedly, the current soft patch is tame by comparison, but with oil prices leading mining output by about five months, some pain is yet to come.

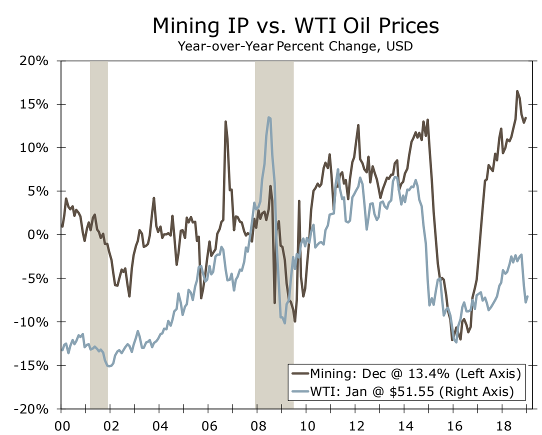
Sometimes in Dating, There are Things You Need to Overlook

Even if IP was clearly rolling over, it would not be a singularly sufficient indication of recession. The National Bureau of Economic Research (NBER) defines a recession as a decline in total economic activity, and therefore places less emphasis on indicators of particular sectors. Production has taken on a less-consequential role as the U.S. economy has shifted toward services and away from manufacturing.

Take 2014-2016 as a recent example why a retrenchment in manufacturing may not mean curtains for the economy. IP contracted 4.8% over the course of 17 months as global growth slowed, the dollar skyrocketed and commodity prices plummeted. But the slowing output and industrial sector's retrenchment were not enough to take the broad economy down with it.







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