



## MORNING BRIEFING

September 12, 2022

### What's The Matter With Productivity?

Check out the accompanying [chart collection](#).

**Executive Summary:** We aren't giving up on our "Roaring 2020s" scenario. The idea is that labor shortages should trigger capital spending on technology that boosts productivity. The pandemic derailed that train over the first three years of the decade, exacerbating the chronic labor shortage and temporarily squashing productivity growth. We expect productivity growth to resume during H2 and strengthen to peak around 3.5%-4.0% within the next few years. ... Boosting this rosy scenario: US manufacturers are spending more on productivity-enhancing tech as they expand domestic production capacity—which should continue as they move out of China.

**YRI Monday Webcast.** Dr. Ed is on vacation. Join his webcast next Monday at 11 a.m. EST. Replays of past Monday webinars are available [here](#).

**On The Road.** My wife and I are sightseeing in Budapest, Bratislava, and Salzburg. In Hungary and Slovakia, we heard about the tidal wave of refugees from Ukraine earlier this year. We were also told that many of them moved on to some of the bigger and more prosperous countries in Europe, presumably with more supportive social welfare programs. Our tour guides said that the end of communism in their countries in the early 1990s was at first a terrible shock to their economies, causing widespread unemployment. But then Western business interests started investing in their countries. So now they are experiencing better economic times and are greatly enjoying their freedom from communism. Under communism, everybody worked, but nothing worked, we were often told. Both Budapest and Bratislava are very beautiful cities on the Danube River.

**Productivity I: Pandemic Shock.** Debbie and I continue to believe that chronic labor shortages are likely to force businesses to spend more on technology and capital equipment to boost productivity, subduing inflation. That's the key driver of our "Roaring 2020s" scenario. How's it working out so far? Not so well: The pandemic made a mess of the first three years of the decade; as a result, the past year has looked more like the Great Inflation of the 1970s on fast-forward than like our happier scenario. The good news is that we still have seven more years before the end of the 2020s, and we are sticking by it for the rest of the decade.

Let's review quickly how the pandemic derailed the happier scenario. Labor shortages were exacerbated by the pandemic because of lockdowns and the slow reopening of many businesses. The pandemic also contributed to supply-chain disruptions and parts shortages. Productivity rose rapidly during the lockdowns as employment fell faster than economic output dropped. During the post-lockdown recovery, many workers left jobs and stayed home for various reasons related to the pandemic. For example, many parents had to stay home to provide childcare because the schools were closed and offered only remote learning. As companies scrambled to reopen, many had to increase their wages to keep and attract workers. As a result, many workers quit their jobs for more pay at another job.

For now, the tight labor market is contributing to the wage-price-rent spiral that has spiraled seemingly out of control over the past 12 to 18 months. Wages have risen rapidly. However, real wages have stagnated because prices have risen as fast as wages. The fact that real wages have been flat confirms that productivity has failed to move higher. Nevertheless, the recent data hold a glimmer of hope that real wages are starting to move higher again along with productivity. Let's have a look at the data that are most relevant to our discussion:

(1) *Chronic labor shortages*. Just before the pandemic started, the unemployment rate fell to 3.5% during January and February 2020 ([Fig. 1](#)). That was the lowest reading since 1969. As a result of the lockdowns, the unemployment rate soared to a post-WWII record-high 14.7% during April 2020. Remarkably, it was back down to 3.7% during August.

The labor force participation rate (i.e., the labor force as a percentage of the civilian working-age population) hasn't fully recovered from the pandemic. It was 62.4% during August, a full point below the 63.4% during the first two months of 2020 ([Fig. 2](#)). The unemployment rate would have risen much higher if the labor force hadn't dropped by 8.2 million workers from January through April 2020.

The labor force has recovered to a new record high, hitting 164.7 million in August, which is only 113,000 above its previous record high right before the pandemic. The growth rate in the 12-month average of the civilian working-age population was just 0.8% y/y in August ([Fig. 3](#) and [Fig. 4](#)). The rebound in the labor force participation rate from 61.7% a year ago boosted the growth rate of the labor force to 1.6% in August.

Nevertheless, it's clear that the demand for labor well exceeds the supply of labor. July's JOLTS report showed that there were 11.2 million job openings for 5.7 million of the unemployed ([Fig. 5](#)). In addition, the Consumer Confidence Index (CCI) rebounded slightly from July's low, as only 11.4% of CCI survey respondents said jobs are hard to get ([Fig. 6](#)).

The percent of small business owners saying they have job openings has hovered near 50% for the past 12 months through August.

(2) *Productivity hits the skids.* During Q2-2022, nonfarm business (NFB) productivity fell 2.4% y/y, the lowest growth rate since the start of the data in 1948 ([Fig. 7](#)). That's partly because productivity jumped by 1.9% y/y during Q4-2021. And that's because real NFB output, which closely tracks real GDP, rose faster than hours worked right after the pandemic; but it has slowed in recent quarters relative to hours worked ([Fig. 8](#)). We expect that productivity growth will recover over the rest of this year and through next year as NFB output outpaces hours worked.

(3) *The big picture.* The growth rate of productivity is very volatile on both a q/q and y/y basis. That's why Debbie and I keep track of the average annual growth rate of productivity over 20-quarter periods ([Fig. 9](#)). That data series clearly shows the productivity cycles since 1952. The current cycle bottomed at 0.5% during Q4-2015 and rose to a recent peak of 2.0% during Q2-2021. The big drops in productivity during H1-2022 depressed the 20-quarter average to 1.3%.

Nevertheless, we think that the current cycle will boost productivity to 3.5%-4.0% once our Roaring 2020s scenario gets going over the rest of the decade. That might sound like a stretch, but it is consistent with the peaks of the past three cycles in productivity growth. We certainly don't expect a repeat of the collapse in productivity growth that occurred during the Great Inflation of the 1970s.

(4) *The real Phillips curve.* During the 1970s, the labor force grew rapidly as the Baby Boom generation started to enter the labor market. Tight monetary policies back then depressed the economy and pushed the unemployment rate higher.

Historically, we've found that a high (low) unemployment rate is associated with weak (strong) productivity growth ([Fig. 10](#)). Nominal wages do rise at a faster pace in tight labor markets, but so does productivity, which is the ultimate determinant of real wages. This is confirmed by the average annual growth rate of inflation-adjusted hourly compensation over 20-quarter periods, which tracks the comparable growth rate in productivity ([Fig. 11](#)). As goes productivity, so goes real hourly compensation.

The macro-economic textbooks all discuss the Phillips curve, which posits that there is an inverse relationship between the unemployment rate and wage inflation. Phillips curve discussions almost always fail to incorporate the inverse relationship between

unemployment and real hourly compensation. The latter tends to grow faster (slower) when the labor market is tight and productivity is growing faster (slower) ([Fig. 12](#)).

(5) *Inflationary consequences*. The pandemic has scrambled the economy. The labor market is very tight as a result of the excessively stimulative fiscal and monetary policy responses to counter the depressing impact of it on the economy. Wages have increased at a faster pace, but the result has been a wage-price spiral with inflation-adjusted wages stagnating for the past year ([Fig. 13](#)). Inflation-adjusted wages (using average hourly earnings for production and nonsupervisory workers) was flat over the 12 months through July. Real hourly pay should resume its annualized average 1.2% growth trend (which started around 1994) as the pandemic's adverse impact on productivity dissipates.

The wage-price spiral is a wage-price-productivity spiral, as we saw during the 1970s. Productivity growth collapsed back then. The labor market wasn't tight, but it was significantly unionized. So the decade's food and energy price shocks were almost immediately passed through to wages by cost-of-living adjustments in union contracts.

This time, the pandemic exacerbated the underlying chronic labor shortage and temporarily (in our opinion) depressed productivity, sending prices and wages soaring together.

There is a very strong correlation between the inflation rate of the implicit price deflator of the nonfarm business sector and the inflation rate of unit labor costs in the sector, i.e., the ratio of hourly compensation to productivity ([Fig. 14](#)). This relationship is more significant than that of the Phillips curve—in that sense, it's the “real Phillips curve.”

**Productivity II: The Manufacturing Problem.** It is widely believed that services is the economic sector with the worst productivity performance. That's not correct. The biggest problem has been in manufacturing. It started at the end of 2001, when China joined the World Trade Organization (WTO). Prior to that event, manufacturing productivity almost always grew faster than nonfarm business productivity ([Fig. 15](#)). Since then, manufacturing productivity growth has dropped significantly. Since 2014, it has stayed mostly below zero and below the growth rate of the broader measure of productivity.

From 1948 through the end of 2001, manufacturing production and capacity expanded at an average annual rate of about 4.0% ([Fig. 16](#)). Ever since China joined the WTO, manufacturing production and capacity both have been flatlining.

The obvious explanation for the stalling since 2001 of US manufacturing capacity—and

subsequently US productivity—is that lots of manufacturing capacity was moved to China after the country joined the WTO in late 2001.

Now the escalating Cold War between the US and China may very well cause more US companies to move their production out of China and back to the US. The Chinese government's increasing hostility toward capitalism (i.e., property rights and the sanctity of contracts protected by the rule of law) and terrible handling of the Covid pandemic also are likely to stimulate more onshoring by US firms.

There isn't any evidence of this happening yet in the monthly manufacturing capacity data, which remain at the same levels as when China entered the WTO. Nevertheless, some indicators suggest that manufacturers and other businesses in America are expanding their capacity domestically and spending more on technology and capital equipment to boost their productivity:

(1) *Technology*. Over the past seven quarters through Q2-2022, technology has been around a record 52% of total capital spending (in current dollars) ([Fig. 17](#)).

(2) *Capital equipment*. Over the past 24 months through July, new orders for industrial, metalworking, and material handling equipment soared by 67% ([Fig. 18](#)). Some of that increase reflected higher prices; but even so, the real increase undoubtedly has been significant.

(3) *Factories*. Construction put in place for both manufacturing and commercial structures rose to record highs during July ([Fig. 19](#)).

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## Calendars

**US: Mon:** Consumer Inflation Expectations. **Tues:** Headline & Core CPI - 0.1%/m/m/8.1%/y/y/0.3%/m/m/6.1%/y/y; NFIB Small Business Optimism Index 90.1; Federal Budget Balance -\$230.0b; OPEC Monthly Report. (Bloomberg estimates)

**Global: Mon:** Italy Industrial Production 0.3%/m/m/-0.4%/y/y; Spain Industrial Production; UK GDP 0.3%; UK Headline & Manufacturing Industrial Production 0.4%/m/m/1.9%/y/y/0.4%/m/m/1.6%/y/y; UK Trade Balance -£22.3b; Japan PPI 0.4%/m/m/8.9%/y/y; Japan Machine Tool Orders; Australia Westpac Consumer Sentiment;

DeGuindos; Schnabel. **Tues:** Eurozone ZEW Economic Sentiment -58.3; Germany ZEW Economic Sentiment -60.0; Germany CPI 0.3%/m/m/7.9%/y/y; Spain CPI -0.2%/m/m/10.8%/y/y; Italy Quarterly Unemployment Rate 8.1%; UK Average Earnings Including & Excluding Bonus 5.2%/5.0%; UK Employment Change 3M/3M 256k; UK Claimant Count Change -13.2k; UK Unemployment Rate 3.8%; Japan Reuters Tankan Index; Japan Core Machinery Orders -0.8%/m/m/6.6%/y/y; Bailey; McCaul. (Bloomberg estimates)

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## Strategy Indicators

**Global Stock Markets Performance ([link](#)):** The US MSCI index rose 3.8% last week as the index skirted dropping back into a bear market again and finished the week at 16.1% below its record high on December 27. The US MSCI ranked fifth of the 48 global stock markets that we follow in a week when 37 countries rose in US dollar terms. The AC World ex-US index rose 0.7% and remained in a bear market at 23.9% below its June 15, 2021 record high. Nearly all regions rose last week. EM Latin America gained 2.3%, followed by EM Eastern Europe (1.6%), EMU (1.0), and EAFE (0.8). EMEA (-1.5) was the worst performing region last week, followed by EM Asia (-0.3) and BIC (0.5). Turkey was the best-performing country last week with a gain of 11.5%, followed by Argentina (9.4), Peru (5.1), Chile (4.4), and the US (3.8). Among the 17 countries that underperformed the AC World ex-US MSCI last week, the 5.3% decline for Pakistan was the biggest, followed by Norway (-3.2) and Korea (-2.5). The US MSCI's ytd ranking rose four places to 21/49. After lagging for much of year through July, the US MSCI's ytd decline of 15.6% remains less than the AC World ex-US's 20.4% drop. EM Latin America is up 3.9% ytd and is the only region outperforming the AC World ex-US. The laggards: EM Eastern Europe (-85.6), EMEA (-34.5), EMU (-27.2), EM Asia (-21.9), BIC (-21.6), and EAFE (-21.3). The best country performers so far in 2022: Chile (33.2), Turkey (32.9), Jordan (18.2), Argentina (12.9), and Brazil (8.8). Apart from Russia, in which investors have lost 100.0% of their investment this year, here are the worst-performing countries ytd: Sri Lanka (-60.7), Poland (-43.7), Hungary (-42.5), Austria (-39.0), and Egypt (-38.9).

**S&P 1500/500/400/600 Performance ([link](#)):** All three of these indexes moved higher for the first time in four weeks. LargeCap rose 3.6%, less than the gain for MidCap (4.4%) and below SmallCap's 2.7% rise. All three indexes moved further away from their recent bear markets. LargeCap finished the week at 15.2% below its record high on January 3. MidCap is 14.2% below its record high on November 16, while SmallCap is 18.6% below its

November 8 record high. All 33 sectors moved higher for the week compared to all 33 falling a week earlier. MidCap Materials was the best performer, with a gain of 6.0%, followed by MidCap Health Care (5.8), LargeCap Consumer Discretionary (5.6), MidCap Industrials (5.1), and MidCap Consumer Discretionary (5.0). LargeCap Energy (0.6) was the biggest underperformer last week, followed by SmallCap Energy (0.8), SmallCap Communication Services (0.9), and SmallCap Utilities (0.9). In terms of 2022's ytd performance, LargeCap's 14.7% decline continues to trail MidCap's (-12.1), but LargeCap moved ahead of SmallCap (-14.8) in the latest week. Eight of the 33 sectors are positive so far in 2022, up from four a week earlier. Energy continues to dominate the top performers: LargeCap Energy (44.8), SmallCap Energy (41.8), MidCap Energy (40.6), LargeCap Utilities (7.5), and MidCap Utilities (0.7). The biggest ytd laggards: LargeCap Communication Services (-29.7), SmallCap Consumer Discretionary (-26.3), SmallCap Real Estate (-25.0), SmallCap Communication Services (-23.0), and LargeCap Tech (-21.5).

**S&P 500 Sectors and Industries Performance** ([link](#)): All 11 S&P 500 sectors rose last week, and six outperformed the composite index's 3.6% gain. That compares to a 3.3% decline for the S&P 500 a week earlier, when all 11 sectors fell and six outperformed the index. Consumer Discretionary was the top performer with a gain of 5.6%, followed by Materials (4.9%), Financials (4.4), Health Care (4.4), Real Estate (4.1), and Utilities (3.7). Energy was the worst performer, albeit with a gain of 0.6%, followed by Consumer Staples (1.9), Communication Services (2.9), Tech (3.2), and Industrials (3.4). The S&P 500 is down 14.7% so far in 2022 with seven sectors ahead of the index and just two in positive territory. The best performers in 2022 to date: Energy (44.8), Utilities (7.5), Consumer Staples (-4.5), Health Care (-7.7), Industrials (-10.3), Financials (-12.4), and Materials (-14.1). The ytd laggards: Communication Services (-29.7), Tech (-21.5), Consumer Discretionary (-19.9), and Real Estate (-17.2).

**S&P 500 Technical Indicators** ([link](#)): The S&P 500 rose 3.6% last week and improved relative to its 50-day moving average (50-dma) and its 200-day moving average (200-dma). The index closed back above its 50-dma after falling below a week earlier for the first time in seven weeks. However, it closed below its 200-dma for the 29th time in 31 weeks. It had been above its 200-dma for 81 straight weeks through early February. The S&P 500's 50-dma moved higher for just the sixth time in 19 weeks as the index improved to 0.8% above its rising 50-dma from 2.3% below its rising 50-dma a week earlier. That compares to a 23-month high of 8.7% above its rising 50-dma the week in early August and a 27-month low of 11.1% below its falling 50-dma in mid-June. The index had been mostly trading above its 50-dma from late April 2020 to early April 2022; in June 2020, it was 11.7% above, which was the highest since its record high of 14.0% in May 2009. That compares to 27.7% below

on March 23, 2020—its lowest reading since it was 29.7% below on Black Monday, October 19, 1987. The price index closed Friday at 4.5% below its falling 200-dma, up from 8.2% below a week earlier and down from an 18-week high of 0.8% below in early August. It remains well above its 26-month low of 17.1% below its falling 200-dma in mid-June. The latest reading is down sharply from 10.8% above its rising 200-dma in early November. That compares to 17.0% above in December 2020, which was the highest since November 2009 and up from the 26.6% below registered during the Great Virus Crisis on March 23, 2020—the lowest reading since March 2009. At its worst levels of the Great Financial Crisis, the S&P 500 index was 25.5% below its 50-dma on October 10, 2008 and 39.6% below its 200-dma on November 11, 2008. The 200-dma declined for a 19th straight week, albeit at a slower pace.

**S&P 500 Sectors Technical Indicators** ([link](#)): Eight of the 11 S&P 500 sectors are trading above their 50-dmas, up sharply from only two sectors above a week earlier. Utilities marked its seventh straight week above its 50-dma and Utilities its fifth. All 11 sectors had a rising 50-dma, up sharply from five sectors a week earlier. Looking at the more stable longer-term 200-dmas, only two sectors were trading above, unchanged from a week earlier. Energy was above for a 51st straight week and Utilities for a seventh week. For perspective, at the depths of the Great Virus Crisis in April 2020, Health Care was the only sector trading above its 200-dma. Just three sectors have a rising 200-dma, unchanged from a week earlier: Consumer Staples, Energy, and Utilities.

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