ECONOMIC OUTLOOK

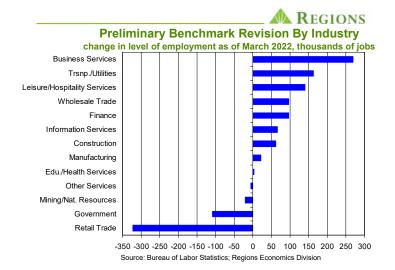


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But Wait, There's More . . .

More jobs, that is. We have for some time been pointing to the sizable supply/demand imbalance in the labor market. While this is something we were discussing before the onset of the pandemic, it wasn't until the pandemic altered labor market dynamics in ways that amplified the imbalance that many took notice. Even with the robust pace of job growth over the past several months – nonfarm payrolls have risen by an average of 487,000 jobs per month over the past twelve months – we've noted that labor supply is simply no match for labor demand and have argued that firms would have been hiring even more workers had they been able to do so. That there have been at least 10.63 million open jobs in each month since July 2021 while labor force participation remains well below pre-pandemic norms goes directly to our point.

As it turns out, firms actually were able to hire even more workers over the past several months than has been reported. The Bureau of Labor Statistics (BLS) recently released the preliminary results of its annual benchmark revisions to the data from its monthly establishment survey, which yields the BLS's estimates of nonfarm employment. Each year, the establishment survey estimates of nonfarm employment are benchmarked to comprehensive counts of employment based on the universe of payroll tax returns, which all employers must file, as of the month of March. While the BLS releases the final revisions with each year's January employment report, each fall they offer a look at the preliminary results. Based on the preliminary 2022 results, the level of nonfarm employment as of March 2022 will be revised up by 462,300 jobs, equivalent to 0.3 percent of total nonfarm employment, considerably larger than the average revision (0.1 percent) over the prior ten years.



The revision to private sector payrolls is even larger; with public sector payrolls revised down by 109,000 jobs, that means the net

upward revision to private sector payrolls as of March 2022 was 571,300 jobs, with the breakdown across the broad industry groups shown in the above chart. In a sense, the upward revision is not surprising as the initial estimates tend to understate actual job growth during times of economic expansion. Moreover, given how the dynamics of the labor market have shifted since the onset of the pandemic, particularly the meaningfully higher degree of turnover, we've suspected the errors associated with the initial estimates of job growth have been larger over recent quarters.

The sizable downward revision to prior estimates of retail trade payrolls seems fitting, particularly in conjunction with the large upward revision to prior estimates of employment in the broad transportation and utilities industry group - the vast majority of which was in transportation and warehousing services. While consumer spending on goods was amped up by the financial support provided to households after the onset of the pandemic, the employment data have been somewhat out of line with data on shopping patterns, i.e., online versus in-store shopping. It is also interesting that prior estimates of employment in leisure and hospitality services were revised meaningfully higher. This is the private sector industry group with the largest gap between current and pre-pandemic levels of employment, the highest rate of job vacancies, and the fastest growth in hourly wages and aggregate earnings. Note that the final benchmark revisions will include revisions to hours worked and average hourly earnings as well as the level of employment, so it will be interesting to see if leisure and hospitality services is still shown to have the fastest wage growth amongst private sector industry groups – we suspect it will.

What is a bit surprising, however, is the magnitude of the upward revision to the level of nonfarm employment. Or, put differently, a surprisingly strong labor market over the past year-plus is now shown to be that much stronger. That does, however, seem hard to reconcile with the data on labor force participation. The data on participation come from the household survey, which is also the source of the unemployment rate and related measures. The household survey data do not undergo a revision process similar to the establishment survey data, so it isn't as though we should expect revised data to show the labor force is larger than has been reported. Some have attempted to reconcile robust growth in nonfarm payrolls and still-depressed labor force participation by pointing to multiple job holders. Note that the establishment survey is a count of jobs, and the household survey is a count of people, so a person holding two jobs would turn up twice in the establishment survey data and once in the household survey data. The data, however, do not bear this out, as the number of multiple job holders and multiple job holders as a share of household employment both remain well below pre-pandemic norms.

Even if the final benchmark revision is not quite as large as implied by the preliminary estimate, the conclusion will remain the same, i.e., the labor market is even tighter than had been thought to be the case. At 3.7 percent as of August, the unemployment rate is still well below the rate most FOMC members would associate with full employment, while as of July (the latest available estimate), there were 11.239 million open jobs across the U.S. economy (with the initial estimate for June revised meaningfully higher). With labor supply no match for labor demand, the pace of wage growth is significantly faster than pre-pandemic rates, and we expect this to remain the case even should the demand for labor cool in the months ahead as we and most others expect.

In terms of how the FOMC sees the world, this faster wage growth is a primary source of broader inflation pressures. Between the number of open jobs and still-depressed labor force participation, Committee members must see their task as even taller than they first thought, with one implication being they may feel compelled to push the Fed funds rate even higher than would otherwise be the case. One problem, however, is that the higher rates go, the more pronounced will be the slowdown in the economy, and a pronounced slowdown, let alone a recession, has typically been a catalyst for lower, not higher, labor force participation. We've often noted that nothing in the economy has been normal for the past two-plus years. Even in a nothing is normal world, we still struggle with the notion that what should be the economy's greatest asset – a robust labor market – is seemingly square in the sights of a central bank out to slay inflation.

More Workers, Less Productivity?

Even before the BLS released the preliminary results of the annual benchmark revisions to the nonfarm employment data, the robust pace of job growth was oddly out of alignment with the 1H 2022 GDP data. That disparity is even more pronounced in the wake of the BLS's benchmark revisions. Recall that real GDP is reported to have contracted in each of the first two quarters of 2022, which is seemingly at odds with the robust growth in nonfarm payrolls over that same span. Unless of course you believe that firms were taking on workers at a break-neck pace in order to have them sit idle all day every day. Or, it could be that "quiet quitting" is really a thing and the only people who haven't caught on to it are the bosses who don't know their subordinates aren't really working.

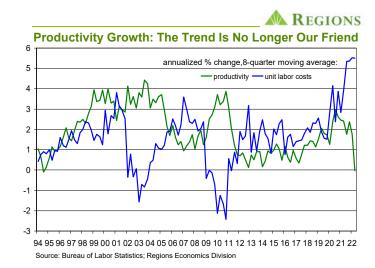
Yeah, okay, neither of those things actually makes sense, which leaves us in the exact same place, i.e., trying to reconcile the wide disparity between the employment data and the GDP data for the first half of 2022. Since the release of the initial estimate of the Q1 data, which showed real GDP contracted at an annual rate of 1.4 percent (subsequently revised to -1.6 percent), we've been on record with our view that the GDP data have said more about the quirks of GDP accounting than the underlying health of the U.S. economy. We discussed this in detail in our May *Outlook*, and our view hasn't changed even with the Bureau of Economic Analysis (BEA) reporting another contraction in real GDP – at a 0.6 percent rate in their second estimate – in Q2. Business inventories having risen at a much slower pace than in Q1 knocked 1.83 percentage points off the quarterly change in real GDP in Q2.

Another reason to be at least a bit wary of the 1H GDP data is that the data on real Gross Domestic Income (GDI) tell a different story than that told by the GDP data. Real GDI expanded at annual rates of 1.8 percent in Q1 and 1.4 percent in Q2, not great by any means but clearly at odds with the reported contraction in real GDP over

the first half of 2022. In theory, GDP and GDI are measuring the same thing, simply from different vantage points. Whereas GDP is a measure of the value of the final goods and services produced in a given time period, GDI is a measure of income generated by the production of those goods and services, the bulk of which is in the form of wages and corporate profits. While the two series are constructed from different source data and there can be disparities in the timing of expenditures (the basis of GDP) and income being booked, they tend to tell the same story over time.

When there have been large divergences between the two in initial estimates, revised data have tended to lean toward where the initial estimate of GDI was. As such, we would not be surprised if the revised data show either no contraction in real GDP in the first half of 2022 or a smaller contraction than has been reported thus far. As it turns out, we won't have to wait long to find out. In conjunction with the release of the third estimate of Q2 GDP on September 29, the BEA will release their annual comprehensive revisions to the GDP data, which this year will span from Q1 2017 through Q1 2022, with revisions to data on GDP and GDI. Given the sizable revision to the level of nonfarm employment, it follows that the estimates of wage and salary income incorporated into the 1H 2022 GDI data will be revised higher.

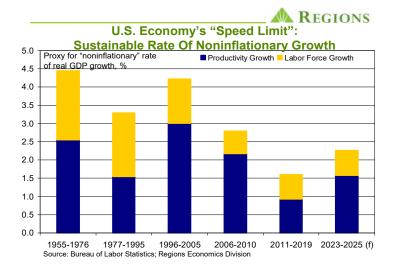
Even if the revised data show real GDP tracking real GDI more closely over 1H 2022 than has thus far been reported, that would still leave a decided disconnect between the employment data and the GDP data. As the data now stand, the combination of robust growth in private sector employment and contracting real output in the nonfarm business sector (a subset of the GDP data) has yielded a sharp decline in labor productivity, which has fallen in three of the past four quarters. Nonfarm labor productivity is reported to have declined at annual rates of 7.4 percent in Q1 2022 and 4.1 percent in Q2 and, leaving aside for now pending revisions to the GDP data, the upward revision to the level of nonfarm employment suggests the productivity data will ultimately show an even larger decline in labor productivity over the first half of 2022 than has been reported thus far.



Even in the most normal of times the productivity data tend to be highly volatile from one quarter to the next, so we use an 8-quarter moving average to show the underlying trends. The above chart shows that what prior to the pandemic had been an encouraging upward trend in productivity growth has been reversed, to the point that as of Q2 2022 the 8-quarter moving average of changes in productivity was negative for the first time since Q3 1994. While that was just before the dawn of the "productivity miracle," a tenyear run of average productivity growth of 3.0 percent, a repeat of that episode seems highly unlikely, at least any time soon.

The flip side of falling labor productivity is the sharp acceleration in the growth of unit labor costs (labor costs per unit of output). Three of the past four quarters – coinciding with the declines in productivity – have seen double-digit annualized increases in unit labor costs and the 8-quarter moving average of changes in unit labor costs has topped 5.0 percent for four straight quarters, the longest stretch since 1982-83. Even if we are correct in thinking that the data on labor productivity and costs have been subject to measurement issues over the past several quarters, the trends are clearly moving in the wrong direction.

It will take some time for the revisions in the productivity data to catch up with the revisions to the data on GDP and employment, but when that does happen the most likely outcome will be some softening in the recent trends in productivity and unit labor costs. These trends have implications for inflation and longer-term real GDP growth. Thus far, rapidly rising unit labor costs seem to have had little impact on corporate profit margins. While off recent highs, margins nonetheless remain notably elevated relative to historical norms, as corporations have been able to pass along higher costs in the forms of higher output prices. How much longer that will be the case, however, remains to be seen.



The above chart will be familiar to our longer-term readers, as it illustrates a topic we've discussed on numerous occasions over the years, i.e., the rate at which the economy can grow on a sustained basis without generating inflation pressures. For any economy, the two main determinants of what we refer to as its "speed limit" are the rates of labor force growth and productivity growth. The time periods delineated in the above chart are based on productivity growth cycles and, as we discussed on several occasions, the years prior to the pandemic saw anemic productivity growth. As noted above, growth had been trending higher in the period immediately

prior to the pandemic, but that trend has been broken as labor productivity has declined sharply over recent quarters.

Leaving aside for now the data for 2020-2022 – not because it isn't important, but we just won't know what to make of it until we see the pending revisions to the component parts – we've included our forecast for the next few years in the above chart. As the chart suggests, we don't hold out much hope for sustained improvement in the rate of labor force growth, but we are anticipating better growth in labor productivity. That cannot, however, be taken for granted. A key component of our forecast is continued strong growth in business investment, a key driver of productivity growth over time. This path of business investment is by no means assured given that business confidence is flagging amid a slowing economy and an increasingly uncertain outlook.

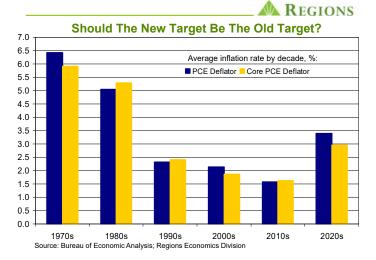
But, if we are correct in anticipating a structurally slower rate of labor force growth, without faster productivity growth the U.S. economy will be relegated to the slow lane for some time to come. That would, in turn, have dour implications for inflation, interest rates, and income growth. The significance of business investment and productivity growth is lost on those who do not understand that increased consumption is a sign of, not the cause of, economic growth. So, absent meaningful and sustained improvement on the demographic (labor force) front, which is highly unlikely, how productivity growth looks when the revised data emerge and the pandemic-related disruptions are further in the rear view mirror will very much matter, as that will set the foundation for the rate at which the economy can grow over the next few years.

Meet The New Target. Same As The Old Target?

While the trend rate of productivity growth has clear implications for the economy's speed limit and the path of inflation, those are longer-term relationships. Thinking about longer-term trends in inflation may seem like a luxury at present given how elevated inflation is, the considerable uncertainty as to how long it will remain so, and the potential costs of bringing it down. Okay, it's really more like an indulgence, but, what with high inflation and all, it got bumped up to a luxury. Either way, it is worth thinking about where the longer-term trend rate of inflation will settle once this whole not so transitory bout of transitory inflation is past. Many, including apparently most FOMC members, seem to think that 2.0 percent is still an appropriate target. Others, us included, are not so sure, thinking that a higher, i.e., above 2.0 percent, trend rate of inflation is more likely than a return to the sub-2.0 percent inflation that prevailed in the years prior to the pandemic. Indeed, we were discussing our doubts on this point well before the onset of the pandemic, and the FOMC's move to an average inflation target in 2020 did nothing to change our view.

To some extent, whether one believes 2.0 percent is a reasonable, not to mention achievable, target rate of inflation depends on why they believe inflation was so low for so long in the years prior to the pandemic. Recall that the four decades prior to the pandemic saw a sustained deceleration in inflation, from an average rate of inflation, as measured by the PCE Deflator, of 6.43 percent during the 1970s to an average rate of 1.57 percent during the 2010s. Obviously the elevated rates of inflation that have prevailed for the

past year-plus have put an end to that run, as illustrated in the chart below, but what remains to be seen is whether this is just a, well, transitory break or the start of a prolonged period with a sustained rate of inflation of over 2.0 percent.



Some attribute the sustained deceleration in inflation primarily to better central banking, i.e., more consistent and credible central bankers committed to holding down inflation. While not dismissing the role of more consistent and credible central bankers, we've long held that the main forces behind the deceleration in inflation were: 1) technology; 2) demographics; and 3) globalization. On its own, each of these factors would have worked to push inflation lower, but what we got was the combination of all three, which exerted a strong downward push on inflation globally, particularly during the 1990s. We think it more than mere coincidence that over the duration of the "productivity miracle" alluded to above, headline PCE inflation averaged less than 2.0 percent.

Long before the pandemic, it seemed clear that at least two of these factors had changed course and, as such, could no longer be relied on to help hold down inflation. Globalization had started to give way to tariff wars and the perception that it was a major contributor to growing income inequality well before the pandemic laid bare the risks of running just-in-time inventory systems on global supply chains. Additionally, demographic trends went from a tailwind to growth to a headwind, and that is not just a U.S. story but a global story. Whether, or at least to what extent, technology continues to act as a brake on inflation is debatable. Some argue that technological innovations are not as geared toward business applications now as was the case in the 1990s and 2000s and, as such, do not generate the same kinds of growth in productivity. Still, firms have been increasingly investing in technology and automation as a much-needed offset to labor supply constraints and a counter to faster growth in labor costs. While we were pointing to this pattern prior to the pandemic, it has clearly gathered pace over recent quarters.

Our view is that there is much further to go along these lines, which is one reason we expect solid growth in business investment and improving productivity growth over coming years. But, even to the extent we are correct on this point, the faster productivity growth fueled by such business investment would to some extent

be offset by diminished labor force growth, which could mean little net change in the economy's speed limit.

These questions won't be settled any time soon, but where you think inflation will settle and how you think it will get there both matter, particularly if you're a central banker trying to gauge the appropriate course of monetary policy. These things also matter to market participants as they gauge appropriate levels of market interest rates. While we by no means expect inflation to remain at or near the elevated rates seen of late, we do think that the possibility, if not probability, of inflation settling in well above 2.0 percent over the longer-term should be given more credence than many are attaching to it now.

August Employment Report

Total nonfarm payrolls rose by 315,000 jobs in August, better than expected, with private sector payrolls up by 308,000 jobs and public sector payrolls up by 7,000 jobs. Prior estimates of job growth in June and July were revised down by a net 107,000 jobs for the two-month period. While job growth remained broad based in August, it was less so than over the past several months. The one-month hiring diffusion index, a measure of the breadth of hiring across private sector industry groups, fell to 62.1 percent from 69.7 percent in July and 71.1 percent in June. At the same time, the average length of the workweek fell by one-tenth of an hour in August, which bears noting. At times of turns in demand, firms tend to alter hours worked before they alter head counts. That declines in average weekly hours were broad based across industry groups is consistent with a slower pace of economic activity. There was also an increase in the number of people working part-time due to slack business conditions, though this series can be volatile from month-to-month. In the months ahead, these two metrics - average weekly hours and part-time due to slack business conditions, will be key indicators of the extent to which the demand for labor is softening prior to that being seen in the form of significant increases in layoffs.

The unemployment rate rose to 3.7 percent in August as a jump in labor force participation more than offset a sizable increase in household employment. The jump in participation, however, came after declines in three of the four prior months, reflecting the natural volatility of the household survey data, and was overstated by seasonal adjustment. That said, at 62.4 percent as of August, the labor force participation rate is about where we expected it would be at this point, even if it did get there by a different route.

Much of the reaction to the August employment report has been focused on what it might mean for the FOMC, and our view is not much. Despite rising in August, the jobless rate remains well below what most FOMC members would equate with full employment, while job vacancies remain notably elevated. Despite the jump in August, labor force participation still remains well below prepandemic norms. Moreover, despite some softening in the monthly changes, headline inflation remains far above the FOMC's target rate, as does core inflation, with core inflation pressures still broad based. The FOMC has pushed back, and very aggressively, against the notion of a quick transition from rate hikes to rate cuts and has signaled their intent to front-load rate hikes as they push the Fed funds rate above neutral. As such, we continue to expect a 75-basis point funds rate hike at this month's FOMC meeting.

ECONOMIC OUTLOOK A REGIONS September 2022



September 2022

Q1 '22 (a)	Q2 '22 (p)	Q3 '22 (f)	Q4 '22 (f)	Q1 '23 (f)	Q2 '23 (f)	Q3 '23 (f)	Q4 '23 (f)		2020 (a)	2021 (a)	2022 (f)	2023 (f)	2024 (f)
-1.6	-0.6	1.8	1.0	1.2	1.2	1.4	1.5	Real GDP ¹	-3.4	5.7	1.7	1.2	1.7
1.8	1.5	0.5	1.3	2.0	1.1	1.5	1.4	Real Personal Consumption ¹	-3.8	7.9	2.3	1.4	1.6
10.0	0.0	4.2	3.2	3.7	3.7	3.6	3.4	Real Business Fixed Investment ¹	-5.3	7.4	4.5	3.4	3.3
14.1	-2.7	2.4	2.0	3.1	2.8	2.7	2.1	Equipment ¹	-8.3	13.1	4.2	2.3	2.2
11.2	10.0	6.9	4.9	4.8	4.5	4.6	4.5	Intellectual Property and Software ¹	2.8	10.0	9.4	5.3	4.4
-0.9	-13.2	1.7	1.8	2.1	3.9	3.5	3.9	Structures ¹	-12.5	-8.0	-4.8	1.6	3.3
0.4	-16.2	-18.1	-9.5	-3.3	-0.1	0.6	2.1	Real Residential Fixed Investment ¹	6.8	9.2	-7.3	-6.1	2.7
-2.9	-1.8	-0.1	1.0	0.4	1.2	1.3	0.9	Real Government Expenditures ¹	2.5	0.5	-1.5	0.6	1.1
-1,544.7	-1,474.6	-1,363.5	-1,416.9	-1,431.5	-1,453.8	-1,468.0	-1,474.3	Real Net Exports ²	-942.7	-1,284.3	-1,449.9	-1,456.9	-1,497.0
1,187	1,088	908	912	933	932	940	955	Single Family Housing Starts, ths. of units ³	1,002	1,131	1,024	940	1,000
533	567	537	530	522	511	502	495	Multi-Family Housing Starts, ths. of units ³	393	474	542	508	476
19.8	17.7	12.6	7.6	2.4	-0.9	-0.7	0.2	CoreLogic House Price Index⁵	6.6	15.7	14.2	0.3	1.8
14.1	13.4	13.4	14.2	14.7	15.0	15.3	15.5	Vehicle Sales, millions of units ³	14.5	15.0	13.8	15.1	15.8
3.8	3.6	3.6	3.6	3.6	3.7	3.9	4.0	Unemployment Rate, % ⁴	8.1	5.4	3.6	3.8	4.2
4.6	4.4	4.0	3.1	2.1	1.4	0.7	0.4	Non-Farm Employment⁵	-5.8	2.8	4.0	1.2	0.3
-7.8	-0.6	0.4	0.0	4.5	2.1	2.8	3.1	Real Disposable Personal Income ¹	6.2	2.3	-5.5	2.1	3.3
6.9	7.6	6.9	6.3	5.3	3.9	3.6	2.9	GDP Price Deflator⁵	1.2	4.1	6.9	3.9	2.0
6.3	6.5	6.1	5.8	5.3	4.4	4.1	3.5	PCE Deflator⁵	1.2	3.9	6.2	4.3	2.2
8.0	8.6	8.3	7.5	6.6	5.0	4.3	3.7	Consumer Price Index⁵	1.2	4.7	8.1	4.9	2.3
5.2	4.8	4.7	4.9	4.8	4.5	4.1	3.3	Core PCE Deflator⁵	1.4	3.3	4.9	4.2	2.3
6.3	6.0	6.2	6.1	5.6	4.8	4.1	3.4	Core Consumer Price Index⁵	1.7	3.6	6.2	4.5	2.6
0.17	0.81	2.25	3.50	3.88	3.88	3.88	3.66	Fed Funds Target Rate Range Mid-Point, %4	0.42	0.13	1.68	3.82	2.62
1.94	2.93	3.03	3.37	3.41	3.41	3.39	3.32	10-Year Treasury Note Yield, %4	0.89	1.44	2.82	3.38	3.27
3.82	5.27	5.50	5.85	5.89	5.88	5.83	5.70	30-Year Fixed Mortgage, % ⁴	3.12	2.96	5.11	5.82	5.51
-4.8	-3.8	-3.6	-3.6	-3.5	-3.4	-3.3	-3.3	Current Account, % of GDP	-3.0	-3.7	-3.9	-3.4	-3.3

a = actual; f = forecast; p = preliminary

Notes: 1 - annualized percentage change 2 - chained 2012 \$ billions 3 - annualized rate 4 - quarterly average 5 - year-over-year percentage change