ECONOMIC UPDATE

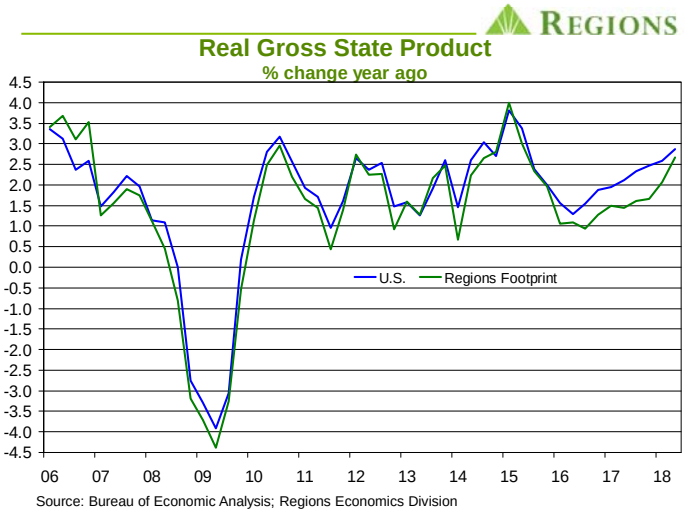
REGIONS

December 2018

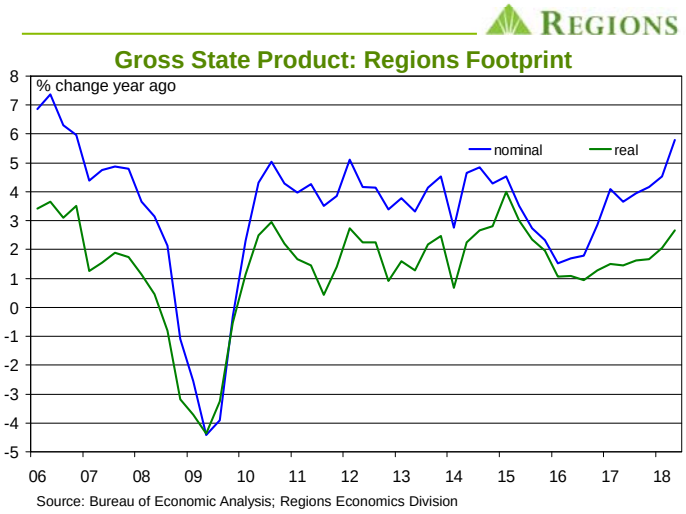
Q2 2018 Gross State Product: Regions Footprint

As a counterpart to the national data on Gross Domestic Product, the Bureau of Economic Analysis (BEA) produces state level data to measure the market value of all goods and services produced by the labor and property located within each state. This measure is known as Gross State Product, or, GSP. As is the case with the GDP data, the GSP data are reported in both nominal and real terms, the former measuring gross output in current dollar terms and the latter measuring gross output in constant dollar (i.e., adjusted for price changes) terms. GSP is measured on an incomes basis, i.e., by aggregating the incomes earned by the various factors of production and the various costs of production. In other words, GSP is the sum of labor income (wages, salaries, and benefits) earned by workers, capital income (income earned by business owners ranging from sole proprietors to shareholders of large corporations as well as returns on capital), and business taxes. Unlike GDP, which can be measured on an incomes basis or an expenditures basis, there is no equivalent measure of GSP on an expenditures basis.

Given that GSP is measured on an incomes basis and that labor earnings comprise the bulk of income, the GSP data are basically a derivative of the state level data on employment and income (note there is also a metro area counterpart measured in the same manner). This, coupled with the fact that the GSP data come with a lengthy lag, is why we devote much more attention to the more timely state level data on employment and income. In other words, the trends apparent in the GSP data largely mirror those we identify and analyze in our regular reviews of the state level employment and income data, particularly the annual benchmark revisions to the data on nonfarm employment and the comprehensive annual data on state level personal income which include data on earnings by industry. That said, it can nonetheless be useful to go through the details of the GSP data, particularly as the GSP data offer an intuitive means of comparing industrial composition across individual states as well as the industry drivers of overall economic growth within a given state. The BEA recently released the GSP data for Q2 2018, and in what follows we highlight some of key aspects of the data.



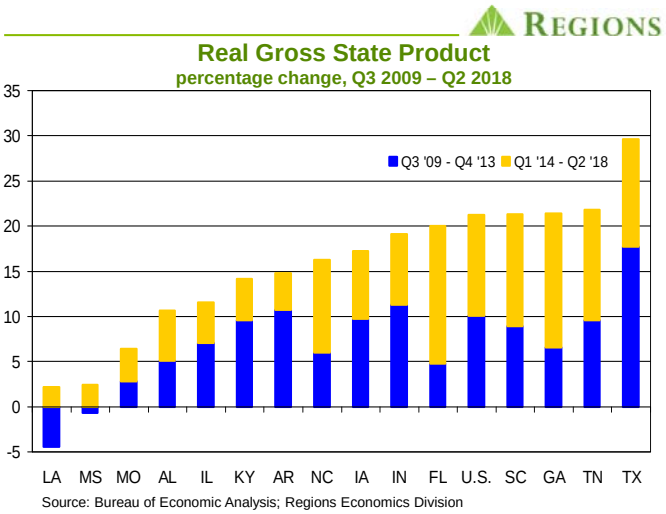
Source: Bureau of Economic Analysis; Regions Economics Division



Source: Bureau of Economic Analysis; Regions Economics Division

Real GDP for the Regions footprint was up 2.67 percent, year-on-year as of Q3 2018, slightly below the 2.87 percent increase for the U.S. as a whole. On a year-to-date basis through Q2 2018, real GSP for the Regions footprint was up by 2.37 percent, lagging the 2.73 percent increase for the U.S. as a whole. Over the first half of 2018, Florida (3.40 percent), Texas (2.91 percent), Tennessee (2.54 percent), and Georgia (2.41 percent) posted the fastest real GSP growth of the states within the Regions footprint, while Iowa (-0.27 percent), Mississippi (1.03 percent), and Louisiana (1.23 percent) had the weakest showings. As seen in the chart, growth in real GDP for the Regions footprint accelerated markedly over the past two quarters which, with the exception of Iowa, is the case with each of the 15 in-footprint states. In Iowa, the pace of contraction in real GSP has slowed over the past two quarters. It is worth noting that growth in nominal GSP has accelerated even more sharply over the past several quarters than has growth in real GSP, with year-on-year growth

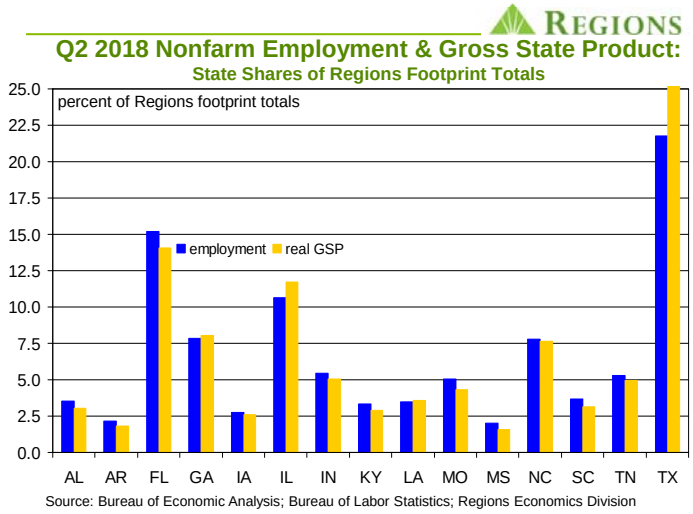
hitting a cycle-high of 5.8 percent in Q2 2018. While real GSP is more relevant as a gauge of economic growth over time, given that it measures growth in actual output (or, in the case of the GSP data, growth in real income), nominal GSP should not be totally overlooked. For instance, we often note that for the U.S. economy as a whole, growth in nominal GDP is a good proxy for growth in top-line corporate revenue, and a similar, though not perfect, argument can be made for growth in nominal GSP. Additionally, to the extent one sees growth in GSP as a reasonable standard against which to measure metrics, such as loan growth, which are reported in nominal terms, then nominal GSP is the proper basis for comparison.



With the data for Q2 2018, we now have GSP data for 36 quarters since the end of the 2007-09 recession. While there are any number of ways to compare growth across time and across geographies, we thought it would be interesting to split the 36 quarters of recovery/expansion right down the middle, i.e., to compare growth over the first half of the post-recession period to growth over the second half. One reason we think this to be of interest is that it allows us to see whether, and where, momentum in growth has shifted over time. The chart to the side shows growth in real GSP for the U.S. as a whole and for each state in the Regions footprint over the Q3 2009 through Q2 2018 period, with the blue portion of the bars showing growth over the first 18 quarters of the post-recession period and the yellow portion of the bars showing growth over the second 18 quarters. As seen in the chart, growth in Texas over the entire post-recession period has easily outpaced growth in every other in-footprint state and growth for the U.S. as a whole, with real GSP rising by 29 percent. At the other end of the spectrum, real GSP in Louisiana is 2.26 percent lower than was the case in Q2 2009, the final quarter of the recession.

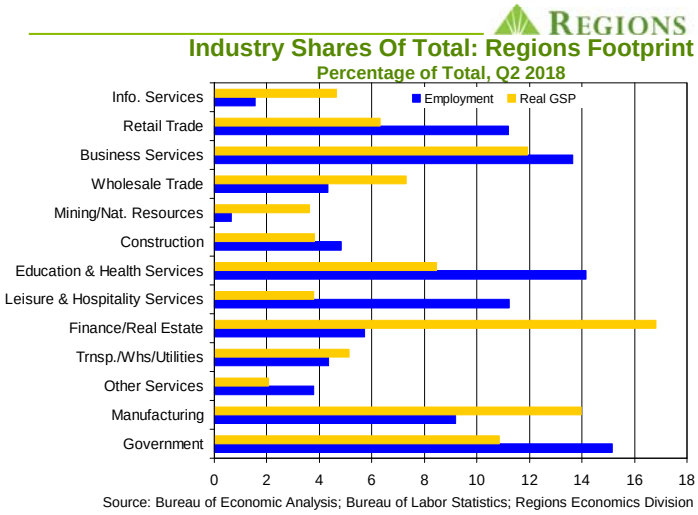
To our earlier point about shifts in momentum, note that over the first half of the post-recession period Florida logged rather middling 4.8 percent growth in real GSP, the fourth-slowest in the Regions footprint over this period. Over the past 18 quarters, however, Florida's real GSP has grown by 15.2 percent, more than any other state in the footprint and easily ahead of growth for the U.S. as a whole. This swing is a good illustration of the extent to which the industrial make-up of a given state, or metro area, influences the rate at which its economy grows. For instance, Florida suffered a 10.6 percent peak-to-trough decline in real GSP during the 2007-09 recession, the most severe decline of any state in the Regions footprint and more than double the decline for the U.S. as a whole. Moreover, while Q3 2009 is officially the first quarter of recovery from the 2007-09 recession, Florida saw its real GSP decline further during that quarter, meaning that not only did the state suffer more during the downturn, it also got a later start on the recovery. Florida's economy was hit extremely hard by the housing market meltdown, and the severity of that meltdown along with Florida's above-average exposure to consumer sensitive sectors such as retail trade and leisure & hospitality services acted as a material drag on the state's GSP growth in the early phases of recovery, during which energy, manufacturing, and trade were primary drivers of overall growth. As the recovery endured and ultimately transitioned to expansion, however, Florida's economy gathered pace as the expansion played right into the state's strengths, in terms of its industrial make-up. Solid consumer fundamentals, within the state and nationally, have supported travel/tourism and stronger growth in consumer spending which, along with materially better housing market conditions, have helped drive growth in Florida. At the same time, Florida's transportation infrastructure has supported growth in transportation and logistics.

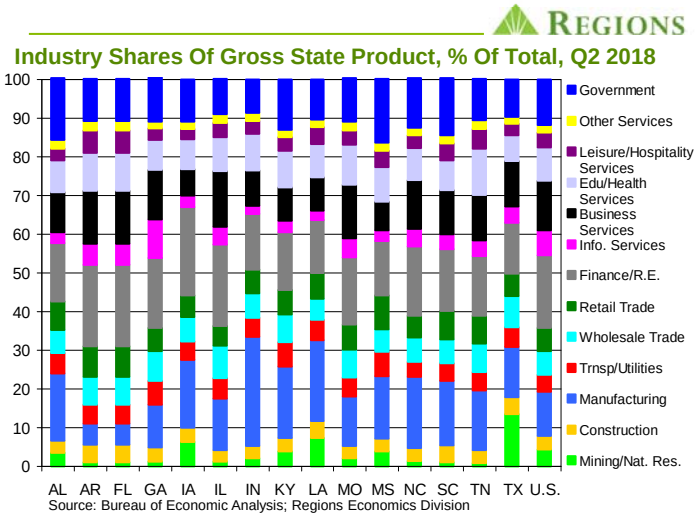
North Carolina also got off to a relatively slow start from the 2007-09 recession, which we note because North Carolina is one of what we often refer to as the "Big Six" of the Regions footprint, i.e., the group of states in which growth in population, employment, and income routinely tops that of the U.S. as a whole (Florida, Georgia, South Carolina, Tennessee, and Texas are the others). In the early phases of the recovery, agriculture, construction, nondurable goods manufacturing, and government acted as weights on North Carolina's economy, resulting in relatively slow growth in total real GSP over the first half of the post-recession period. Over the second half, however, North Carolina's expansion has been broader based and its favorable demographic profile has supported a vigorous rebound in housing market activity, which has contributed to overall GSP growth. While energy was one of the most rapidly growing sectors in the early phases of the recovery, keep in mind that it has been shale, as opposed to offshore exploration and production, that has driven growth in energy production. This helps account for why Louisiana fared so poorly over the early phases of expansion, and the state's relative lack of industrial diversity has also hampered growth. Its heavy exposure to durable goods manufacturing helped power Indiana's recovery over the earlier stages of the expansion, but that relative advantage has faded somewhat, and the state has seen a slower pace of growth over the second half of the post-recession period.



The chart to the side shows each state's shares of employment and real GSP for the Regions footprint as a whole as of Q2 2018. Texas easily accounts for the largest shares of both total employment and total GSP within the footprint, with Florida second on both counts. That Illinois ranks third in both, however, is a useful reminder of the danger of associating size with growth; while large in absolute terms, Illinois typically ranks at or near the bottom in terms of population growth, income growth, and employment growth within the Regions footprint, and the state economy has a below-average degree of industrial diversity. So, while one can argue that base effects work both ways, the reality is that the "Big Six" in-footprint states consistently outperform the other in-footprint states and the U.S. as a whole in terms of growth in key economic and demographic metrics, even though in an absolute sense some of the Big Six are not all that big.

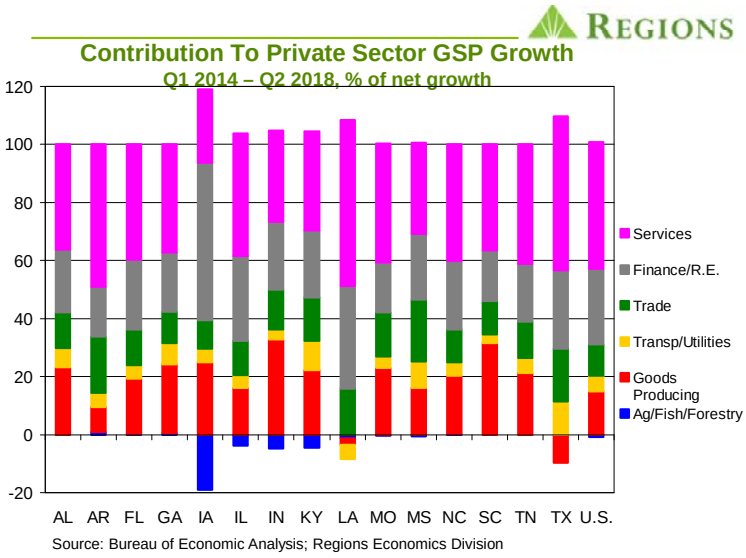
These are but a few illustrations of how the industrial make-up helps shape the (economic) fortunes of a given state or metro area. We think it also interesting to compare industry shares of output and employment, in the sense that this comparison helps distinguish between higher value and lower value industry groups. The first chart below shows the shares of real GSP and employment for the Regions footprint as a whole as of Q2 2018, and it is striking the extent to which, for most industry groups, there are disparities between employment shares and GSP shares. For instance, though both shares are small, mining and natural resources accounted for just 0.64 percent of total employment in the Regions footprint as of Q2 (with most of this concentrated in Texas and Louisiana), but accounted for 3.64 percent of total real GSP. Finance (which includes finance, insurance, and real estate) accounted for 16.81 percent of real GSP, easily the largest of any industry group) but only 5.72 percent of total employment. Conversely, government accounted for 15.15 percent of total employment as of Q2, the largest of any industry group, but for only 10.86 percent of real GSP. At 14.17 percent, education & health services accounted for an outsized share of total employment relative to its 8.46 percent share of real GSP. We would caution, however, that one cannot make inferences about labor productivity across industry groups from the above chart. Without data on hours worked in each industry group (data which are not available on the state level or the metro area level), we simply cannot compare labor productivity across industry groups. After all, if workers in the Finance sector routinely work 100 hours a week, it would be hours worked, not productivity, that drives the disparity between the employment share and the GSP share. Still, we think these comparisons are of interest, particularly within a given state, and they can also help explain what are sometimes wide disparities between employment growth and growth in total personal income.





The second chart above shows the industry share of total GSP for each state in the Regions Footprint as of Q2 2018. For technical reasons, i.e., we ran out of colors, the "agriculture, fishing, and forestry" industry group is lumped into the "mining & natural resources" industry group, hence in Texas the higher share of GSP accounted for by mining & natural resources mainly reflects energy production while in Iowa the higher share for this group mainly reflects agriculture. This is a useful way to illustrate our point about the importance

of the industrial make-up of a given economy. For instance, government accounts for higher shares of GSP in Alabama (15.98 percent) and Mississippi (16.53 percent) than in any other in-footprint states, easily above the 11.75 percent share for the U.S. as a whole. But, in the post-recession years in which states have faced persistent budget pressures, namely slow revenue growth and rising shares of spending being diverted to entitlement programs, state government employment remains below the prior cyclical peak, helping account for what in these states has been below-average growth in employment and personal income. Conversely, each of these states has an above-average exposure to manufacturing, in terms of shares of total employment and real GSP, which is true of the Regions footprint as a whole. This is one bright spot across the Regions footprint, even if uncertainty over trade policy and the prospects of a wider and more intense trade war looms as a dark cloud. While it may seem surprising, at 22.73 percent, Finance accounts for a higher share of GSP in Iowa than in any other in-footprint state, which reflects the significant presence of financial services in the Des Moines metro area. These large industry concentrations, however, can be both a blessing and a curse; just as sizeable concentrations in the "right" industry groups can drive above-average growth in the broader economy, should those industry groups slip into a downturn, that can spread through the broader economy. This is why we routinely stress the importance of industrial diversity in our discussions of drivers of economic growth over the long-term.



Source: Bureau of Economic Analysis; Regions Economics Division

Finally, the chart to the side breaks down growth in private sector GSP for each in-footprint and the U.S. as a whole over the second half of the post-recession period, showing the contribution to overall growth of broad industry groups. One commonality across states is weakness in the agriculture, fishing, and forestry group. This is most clear in Iowa, of course, where this sector accounts for a larger share of total GSP than in the other states. Either way, this industry has been a persistent drag on growth, though to a much lesser degree on other states than in Iowa (as evidenced by the blue bars being not very visible for most states). Persistent weakness in agricultural prices has led to declining farm income across the footprint, and this is being compounded by trade disputes that have seen foreign countries impose tariffs on imports of U.S. crops.

Also, keep in mind that the broader "goods producing" category includes mining & natural resources, construction, and manufacturing. The presence of mining & natural resources accounts for why this broader category has been a drag on growth in Texas – the chart is based on changes in nominal GSP, and energy prices have been lower over the last four years than had been the case earlier in the cycle. As such, sector has been a drag on nominal GSP growth in Texas over the second half of the post-recession period (though for the entire post-recession period energy is a large positive for growth and continues to account for sizeable shares of the state's employment and income). That Finance has accounted for such a large share of growth in Iowa over the last four-plus years is consistent with our earlier discussion of the significant presence of financial services firms in the Des Moines metro area. The above-average contributions of the broad goods producing group in Indiana and South Carolina reflects growth in durable goods manufacturing, though in the case of South Carolina growth from this source is on more tenuous grounds as exports of transportation goods are vulnerable to trade disputes. Indeed, this point applies to many states within the Regions footprint, with manufacturing accounting for larger shares of both total employment and total GSP than is the case for the U.S. as a whole. Along with agriculture, this heavy reliance on manufacturing across the Regions footprint accounts for why we repeatedly stress the downside risks from trade policy.

As we've noted before, a main drawback of the GSP data is a lack of timeliness – here we are closing in on year-end and the Q2 data have only recently been released. This does not mean the GSP data are not worthy of our time and attention. They are, but rather than shed a great deal of new light on the economy of a given state, the GSP data help reinforce patterns already apparent in the data on employment and income. It does sometimes help to have a different lens through which to view these patterns, and we find the GSP data useful in that regard. One advantage of analyzing the GSP data is perhaps that the GSP data more readily lend themselves to helping identify those specific industry groups that offer opportunities and those that pose potential downside risks. The bottom line, as it pertains to the economic performance of the Regions footprint, is that economic growth remains fairly concentrated amongst a handful of states and has been uneven across industry groups, though as the expansion has endured, these disparities across states and across industries have begun to narrow. We look for them to narrow further over coming quarters – despite what has been considerable angst in the financial markets of late, we expect the current economic expansion to endure at least through 2019.

Real Gross State Product, Regions Footprint

STATE	Real GSP: % change year-to-date through Q2	Real GSP: % change current expansion	Q2 2018 % from prior peak
Alabama	2.29	10.93	4.97
Arkansas	1.37	15.21	4.97
Florida	3.40	20.73	8.42
Georgia	2.41	22.38	13.68
Iowa	-0.27	18.01	10.59
Illinois	1.95	11.82	5.94
Indiana	2.19	20.04	7.77
Kentucky	1.33	14.59	6.48
Louisiana	1.23	(2.36)	(7.06)
Missouri	1.92	6.51	3.05
Mississippi	1.03	1.76	(4.26)
North Carolina	2.30	16.85	9.49
South Carolina	1.60	22.42	13.86
Tennessee	2.54	22.95	17.42
Texas	2.91	31.76	28.85
U.S.	2.73	22.32	17.44

Source: Bureau of Economic Analysis; Regions Economics Division