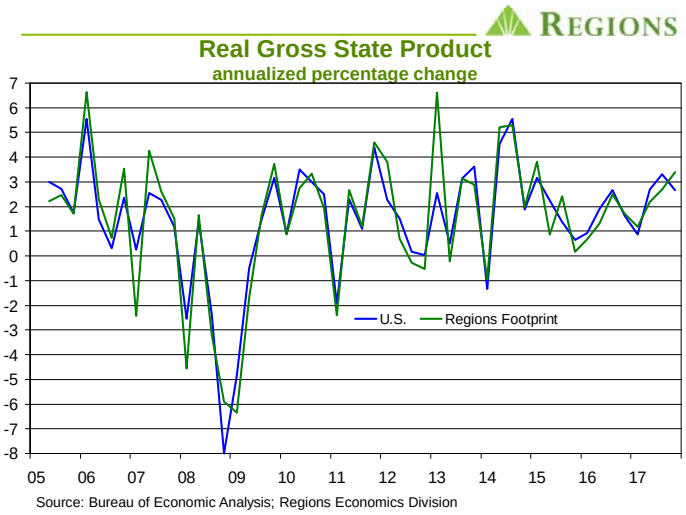
ECONOMIC UPDATE
REGIONS
May 2018

Q4 2017/2017 Annual 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 has released the GSP data for Q4 2017 and 2017 as a whole, the main points of which we summarize in what follows.



Source: Bureau of Economic Analysis; Regions Economics Division

For the Regions footprint as a whole, real GSP grew at an annualized rate of 3.38 percent in Q4 2017, easily outpacing annualized growth of 2.66 percent for the U.S. as a whole. Texas (5.16 percent), Florida (3.67 percent), and South Carolina (3.03 percent) posted the fastest growth in the footprint in Q4 2017, with Iowa (0.70 percent), Missouri (2.14 percent) and Louisiana (2.17 percent) logging the slowest growth (these are all annualized rates). In our write-up of the Q3 2017 GSP data, we noted that Hurricanes Harvey and Irma impacted the GSP data, holding down measured Gross State Product to a significant degree in Florida (Irma) and Texas (Harvey) and to a lesser degree in Louisiana (Harvey) with minimal impact in other states. We also noted the Q4 data would be impacted, as rebuilding efforts would boost measured Gross State Product. This proved to be the case.

Given how the GSP data are measured (i.e., based on income flows rather than expenditures), however, the main channel through which the hurricanes impacted GSP was the construction industry. The hurricanes disrupted significant levels of construction activity in Q3 in those states impacted, which held down GSP, but as that activity resumed and rebuilding efforts began in Q4 there was a sizeable boost to GSP in Q4. For instance, Texas saw a 10.83 percent annualized decline in GSP for the construction industry in Q3 2017, which flipped to annualized growth of 15.06 percent in Q4, thus boosting top-line real GSP growth, and similar effects can be seen, albeit to lesser degrees, in the data for Florida and Louisiana. Though we know that in the GDP data the hurricanes and their aftermath led to significant swings in patterns of consumer spending those patterns cannot be seen in the GSP data since the GSP data are measured on an incomes, rather than an expenditures, basis.

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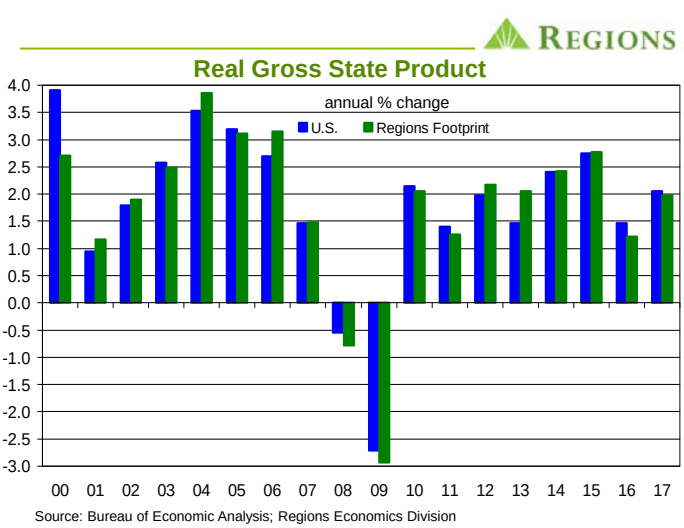
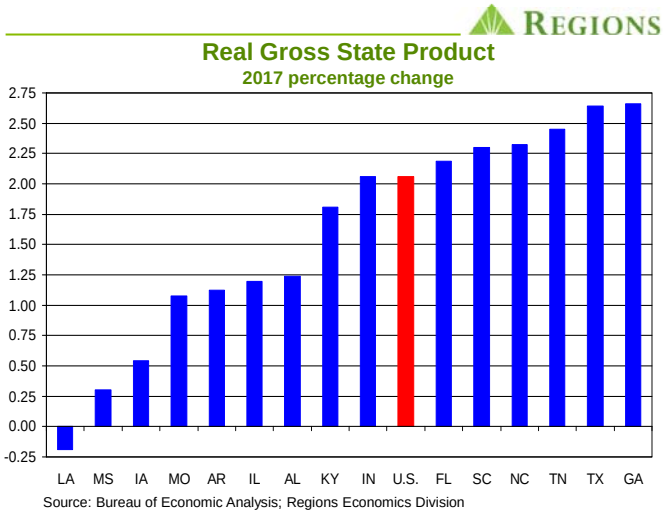
Another driver of GSP in Q4 was mining/natural resources, where higher prices led to increased production; higher prices are accounted for in the real GSP data so growth in Q4 reflects increased output. For the Regions footprint as a whole, GSP in the mining/natural resources industry rose at an annualized rate of 14.46 percent, with increases of 19.75 percent in Kentucky, 15.43 percent in Texas, 11.88 percent in Alabama, and 8.54 percent in Louisiana. Other industry level drivers of Q4 real GSP growth were business services, manufacturing, transportation, utilities, and wholesale trade. Lagging industry groups included agriculture/fishing/forestry (which was a significant drag on GSP in Iowa), finance, and government.



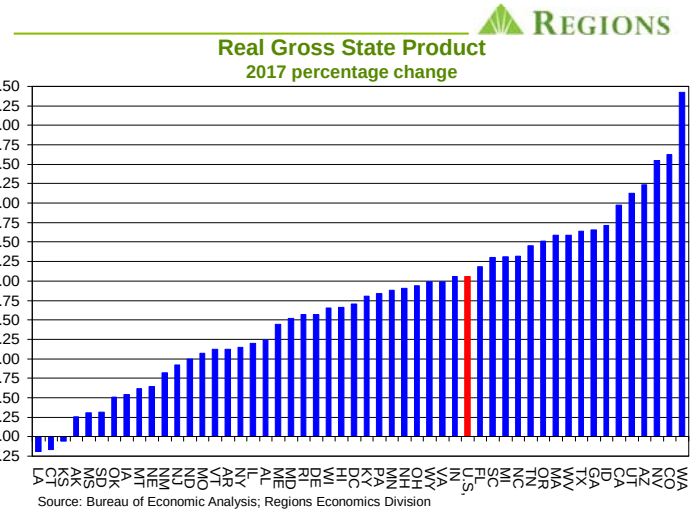
Source: Bureau of Economic Analysis; Regions Economics Division



Source: Bureau of Economic Analysis; Regions Economics Division

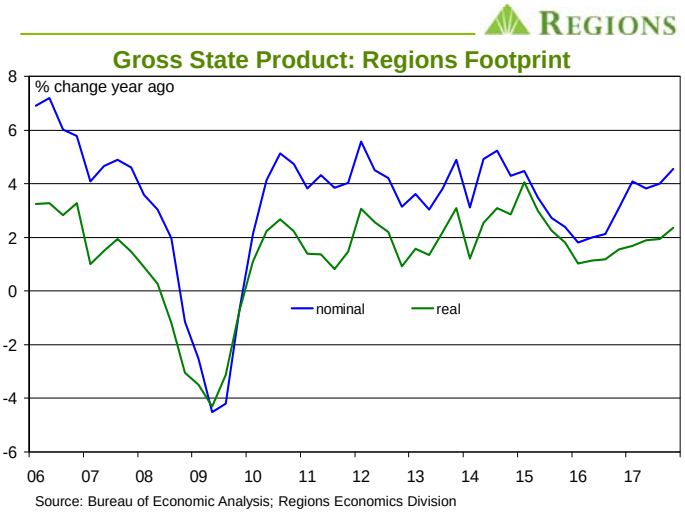
With the release of the Q4 data we also got our first look at how GSP fared for 2017 as a whole. For the Regions footprint as a whole, real GSP grew by 1.97 percent in 2017, slightly below growth of 2.06 percent for the U.S. as a whole. In each instance, however, growth in 2017 was much improved from growth in 2016, as is seen in the first chart above; revisions to the data put 2016 real GSP growth at 1.22 percent for the Regions footprint and 1.46 percent for the U.S. as a whole. It will come as no surprise that real GSP growth in each of what we've dubbed the "Big Six" in-footprint states – Florida, Georgia, North Carolina, South Carolina, Tennessee, and Texas – outpaced the U.S, average in 2017, led by Georgia (2.66 percent) and Texas (2.64 percent). These six states are far and away the main drivers of demographics and economic activity within the footprint, accounting for roughly 75 percent of population growth, job growth, and income growth over the past several years. Louisiana saw a second consecutive annual decline in real GSP, after a decline of 0.38 percent in 2016 real GSP declined a further 0.19 percent in 2017. Mississippi, with an increase of 0.30 percent, and Iowa, with an increase of 0.54 percent, also logged notably weak performances in 2017.

In the "for what it's worth" department, the chart to the side shows 2017 real GSP growth for each of the 50 states and the District of Columbia. Washington posted the fastest real GSP growth of any state in the U.S. in 2017, with a 4.42 percent increase, easily outpacing runner-up Colorado's 3.62 percent increase. Georgia (eighth) and Texas (ninth) ranked in the top-ten. In addition to Louisiana, real GSP declined in Connecticut and Kansas in 2017.



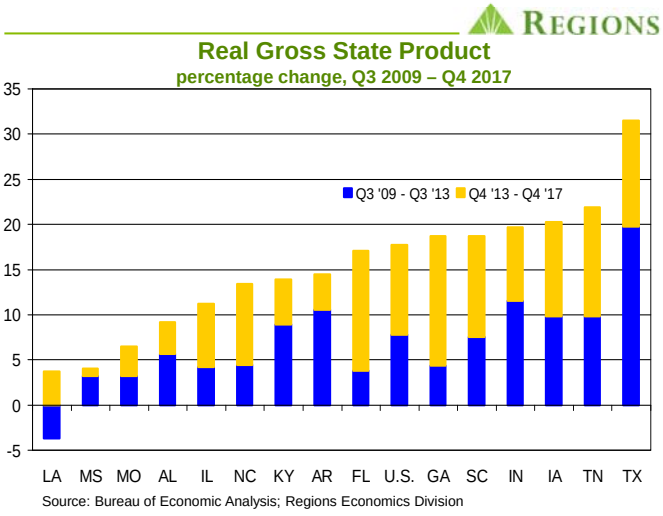
Source: Bureau of Economic Analysis; Regions Economics Division

Though the discussion thus far has been focused on real GSP, we think it also worth at least noting what has been a faster pace of growth in nominal GSP, i.e., the current dollar value of Gross State Product without accounting for price changes. While it can be argued that growth in real GSP is more relevant as a gauge of economic growth over time as it measures growth in actual output, or in this case income, there are reasons to focus on growth in nominal GSP. 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. One can make a similar, though not perfect, argument for growth in nominal GSP. Moreover, to the extent one sees growth in GSP as a reasonable standard by which to assess metrics, such as loan growth, which are reported in nominal terms, the nominal GSP data are the proper basis for comparison. For the Regions footprint



as a whole, nominal GSP rose by 4.12 percent in 2017 compared to growth of 3.97 percent for the U.S. As with real, i.e., inflation adjusted growth, nominal growth during the current expansion has been well below growth seen in past expansions. That said, with inflation accelerating and having recently broken above the FOMC's 2.0 percent target rate, 2018 should see faster growth in nominal GSP than in 2017, and real growth should be faster as well.

With the current economic expansion about to hit its ninth birthday and with growth over the current expansion having for the most part been slow and uneven, we think it worth considering how patterns of growth within the footprint have changed over time. Thus, as we have done in our write-ups of the GSP data in the past, we break the current expansion down into two distinct periods to see how patterns of growth, both across states and across industry groups, have changed over time. As it happens, with the data for Q4 2017 there are now 34 quarters worth of Gross State Product data since the end of the 2007-09 recession, so the most obvious dividing line would be right down the middle, i.e., split the 34 quarters into two 17-quarter periods and see how growth, and the composition of growth, has changed. Obviously the industry composition of growth will influence the geographic dispersion of growth given the different industrial mix of the individual states within the Regions footprint.

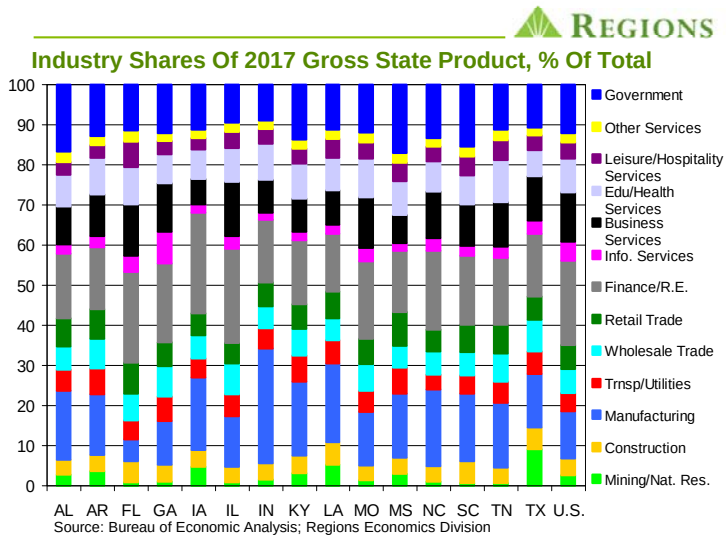


The chart to the side shows the results on a state by state basis. The height of the bar for each state represents the percentage change in real GSP over the life of the current expansion, which began in Q3 2009. The bar for each state is split into the two 17-quarter periods, the blue bars cover Q3 2009 through Q3 2013 and the gold bars cover Q4 2013 through Q4 2017. As is seen in the chart, Texas has seen far and away the fastest growth in real GSP over the entire expansion, with real GSP having increased by 33.86 percent compared to 18.50 percent growth for the U.S. as a whole. Conversely, Louisiana has seen virtually no change in real GSP over the life of the current expansion, with a modest decline over initial 17 quarters being almost exactly offset by a modest advance over the last 17 quarters.

While Florida has seen slightly below-average growth in real GSP over the life of the current expansion, note the distinctly different rates of growth posted over the two halves of this expansion. Over the initial 17 quarters of the expansion, Florida saw real GSP growth of right at 4.0 percent, with only Missouri, Mississippi, and Louisiana seeing slower growth. Over the most recent 17 quarters, however, Florida's real GSP has increased by 13.28 percent, second to only Georgia's 14.30 percent increase as the fastest of any state in the footprint. This goes to the importance of understanding the industrial composition of a given state or metropolitan area. In the early phases of the expansion, overall growth in the U.S. economy was mainly driven by manufacturing, including exported goods, and energy with some assistance from agriculture and business services. Notably lagging were construction, retail trade, personal services, and leisure & hospitality services, i.e., consumer sensitive sectors of the economy to which Florida has an above-average. Florida's housing market was reeling from a massive wave of foreclosures which held down residential construction, and with household balance sheets in disarray – nationally and within the state – travel and tourism activities were very slow to recover. Over the second half of the current expansion, however, the drivers of growth have flipped and consumers are once again a key driver and the housing market is on far sturdier ground – if anything, the issue in the housing market is that supply has been unable to keep up with demand. So, with the obvious distortions tied to Hurricane Irma, Florida's economy has posted above-average growth over the past four-plus years.

We can make similar observations across each of the in-footprint states. For instance, Georgia also saw very slow growth over the first half of the current expansion only to see growth pick up appreciably over the second half. Though to a different degree than Florida, a notably high incidence of subprime mortgage lending left Georgia with its own housing market issues to work through in the early phases of the expansion, with issues in commercial real estate also contributing to a contraction in GSP for the construction industry. At the

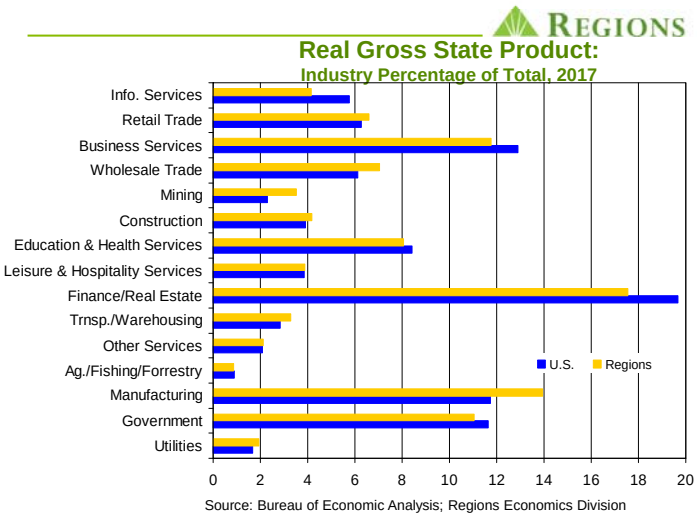
same time, government was also a drag on Georgia's economy in the early phases of the expansion, which in fact was common across the Regions footprint. Still, it was only a matter of time before Georgia's diverse industrial composition and healthy demographics prevailed and put the state economy back on a rapid growth track. Mississippi's economy was held back by contracting activity in mining/natural resources, construction, finance, personal services, and government over the first half of the expansion, and the second half of the expansion has seen either continued contraction or only modest improvement, hence slow growth over the entire expansion. Energy has long played a key role in the performance of Louisiana's economy, but keep in mind that the recovery seen in energy production has largely been driven by shale as opposed to offshore exploration and production, meaning Louisiana has not seen a recovery similar to the one Texas has seen in its energy related industries. Combined with a relative lack of industrial diversity and middling demographics, there has been little to drive growth in Louisiana's economy.



Source: Bureau of Economic Analysis; Regions Economics Division

The chart to the side cuts the full-year 2017 GSP data for each state into industry shares, allowing us to identify the main drivers of growth in each state. For instance, it is no surprise that Texas gets a larger contribution from mining/natural resources than any other in-footprint state, with this industry barely registering in Florida. As noted above, Florida gets above-average contributions from retail trade and leisure & hospitality services, as well as from construction and personal services. Indiana has gotten considerable mileage from its above-average exposure to manufacturing, which accounted for 28.57 percent of GSP in 2017. Nonetheless, below-average exposures to other industries such as finance, construction, and business services mean that Indiana was pretty much in the middle of the pack in terms of overall GSP growth in 2017.

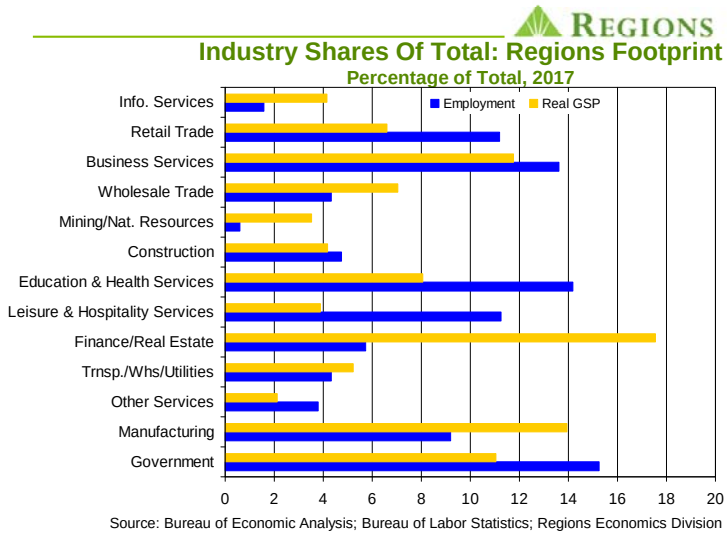
We can use the GSP data to reiterate a point we have made in our presentations of the payroll employment data. Specifically, the ongoing shift in consumer spending patterns is resulting in a lessened emphasis on physical stores – though anyone who thinks "all retail is going dark" should probably just keep quiet – and a greater emphasis on transportation/warehousing/delivery operations. As we've noted, however, within any given market this transition will not result in a simple shift between the two with no net change in employment. Looking at the above chart, one sees Alabama, Arkansas, and Mississippi have, as does Florida, an above-average exposure to retail, in this case in terms of the contribution to GSP but the same is true in the contribution to nonfarm employment. What is different between these states and Florida, however, is that Florida's vibrant demographics and highly developed transportation infrastructure make it a prime candidate to attract the logistics that go along with the growing incidence of online shopping, and indeed the state is already seeing growth in these areas. The risk to Alabama, Arkansas, and Mississippi is that they shed retail jobs with no offset from the logistics associated with online shopping.



Source: Bureau of Economic Analysis; Regions Economics Division

The chart to the side compares the industry shares of GSP for the Regions footprint as a whole and the U.S., using the annual data for 2017. As seen in the chart, manufacturing accounted for a larger share of GSP within the footprint than was the case for the U.S. as a whole, as has been the case over the life of the current expansion. The thing to keep in mind is that looking at industry splits for the footprint as a whole does not address distribution issues, i.e., not every state has an identical industry split, as the prior chart illustrated. While manufacturing exposure is fairly broad based across the Regions footprint, levels of construction activity vary significantly, as does transportation and warehousing activity. And, the higher contribution from mining/natural resources mostly reflects the significance of that industry in Texas, though Louisiana also sees an above-average contribution to GSP from this industry group.

Finally, we thought it would also be of interest to compare the industry shares of Gross State Product with the industry shares of payroll employment (note here that while we have GSP data on the agricultural sector, the payroll employment data cover only nonfarm employment, so the agricultural sector is excluded here). The chart to the side shows this comparison for the Regions footprint as a whole, though, again, we have the data for each state and can provide state-specific cuts for anyone with an interest in seeing them.



If nothing else, this comparison points to what we've long thought to be a weakness in the Gross State Product Data. As noted at the outset, the GSP data are, ultimately, derived from the data on employment and income, and what is apparent in the chart to the side is that the GSP industry splits largely mimic what are significant differences in relative earnings across industry groups. For instance, the financial sector (finance, insurance, and real estate) accounted for 5.7 percent of total nonfarm employment for the Regions footprint as a whole in 2017 (matching the share for the U.S.) but accounted for just under 18 percent of Gross State Product. Conversely, though accounting for 11.2 percent of all nonfarm employment in the footprint in 2017 (a larger share than for the U.S. as a whole) leisure & hospitality services accounted for just 3.9 percent of Gross State Product. This tells us more about relative earnings across these industry groups, i.e., earnings in finance are far higher than are earnings in leisure & hospitality services – keep in mind this accounts for the number of people working in each industry, the number of hours each person works, and what they earn for each hour worked. As such, with higher average hours and much higher hourly earnings, aggregate earnings in finance are significantly higher than are aggregate earnings in leisure & hospitality services, even though the share of nonfarm employment accounted for by the latter industry group is roughly double that of the former. Other disparities between industry shares of nonfarm employment and Gross State Product are apparent in the chart.

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 less so as the expansion has endured. Economic diversity remains a necessary, but not sufficient, condition for a state or metro area economy to outperform its peers, but vibrant demographic trends, a favorable business climate, and sufficient quantities of skilled labor are also critical. The lack of any one of these factors, let alone all of them, is simply too high of a hurdle to overcome, and this is apparent in what have for some time been vastly divergent growth paths traveled by the state and metro area economies within the Regions footprint.

Real Gross State Product, Regions Footprint

STATE	Real GSP: 2017 % change	Real GSP: % change current expansion	Q4 2017 % from prior peak
Alabama	1.24	9.36	4.08
Arkansas	1.12	14.87	5.83
Florida	2.19	17.62	4.80
Georgia	2.66	19.33	10.59
Iowa	0.54	21.26	14.14
Illinois	1.19	11.53	5.88
Indiana	2.06	20.60	9.11
Kentucky	1.81	14.34	6.83
Louisiana	(0.19)	(0.09)	(4.79)
Missouri	1.07	6.58	2.59
Mississippi	0.30	4.04	(1.44)
North Carolina	2.32	13.84	7.58
South Carolina	2.30	19.51	11.83
Tennessee	2.45	23.03	16.23
Texas	2.64	33.86	30.37
U.S.	2.06	18.50	13.46

Source: Bureau of Economic Analysis; Regions Economics Division