

Special Commentary

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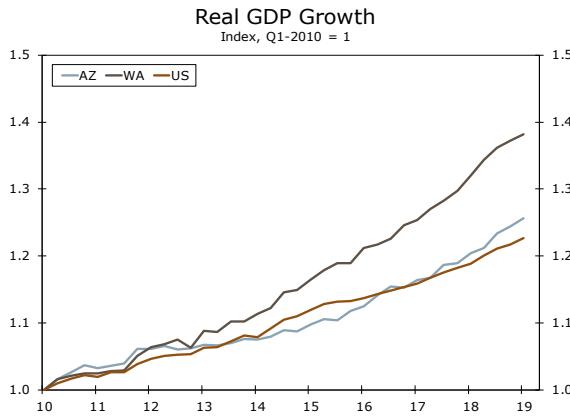
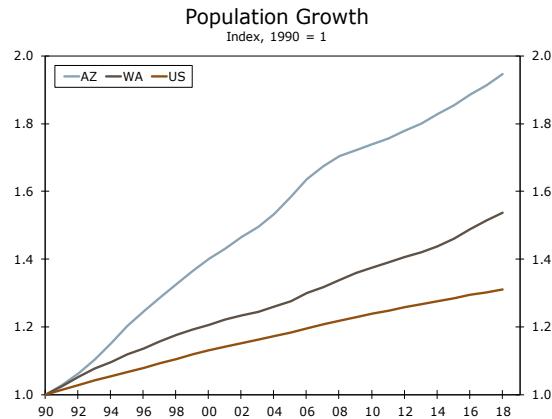
matthew.honnold@wellsfargo.com • (704) 410-3059**Washington and Arizona Face Off****Washington's Two Largest Universities Head to Arizona**

This weekend the University of Washington travels to face the University of Arizona and Washington State heads south to take on Arizona State. The state of Washington's two premier programs have been quite solid the past few years—this week marks the first time since 2015 that both have been unranked. Washington is 4-2, but dropped out of the rankings after losing to Stanford last weekend. Washington State is 3-2 after losing their last two games against UCLA and Utah. The defeat versus UCLA will live on in college football infamy. Washington State was up 49-17 in the third quarter, but lost 67-63 in a stunning UCLA comeback that saw 1,377 combined yards and a quarterback—Washington State's Anthony Gordon—who threw for nine touchdowns and still lost. Defensive coordinator Tracy Claeys resigned two weeks later.

Washington State began play in 1894 and has accumulated over 550 victories and four conference titles—in 1917, 1930, 1997 and 2002. The program has produced some notable signal-callers, including #1 overall NFL Draft pick Drew Bledsoe, #2 overall pick—and infamous draft bust—Ryan Leaf and current NFL starting quarterback Gardner Minshew II. Washington has the edge on program accolades, however, with over 730 victories since 1889, including 17 conference championships, seven Rose Bowls and two national titles. The Huskies hold the second longest win streak in FBS history, after Oklahoma, winning 40 straight from 1908 to 1914. They also hold the longest *unbeaten* streak, a record 64 games from 1907-1917 (they tied four times in this stretch).

Arizona State is #18, with a 4-1 record, with crucial wins against #18 Michigan State and #15 Cal. They have amassed over 600 victories and 17 conference titles since 1897. Currently coached by former NFL head coach Herm Edwards, the program produced seven-time NFL Pro Bowler Terrell Suggs and Pat Tillman, who was killed in combat after leaving the NFL to enlist in the U.S. Army following 9/11. Arizona is also 4-1 and sitting in first place in the Pac-12 South. They have over 600 victories and six conference titles since their first season in 1899.

All four schools have played football since the 1800s.

Figure 1**Figure 2**

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

Together we'll go far



Washington and Arizona have both experienced rapid economic growth in recent years. Washington's first quarter real GDP growth of 4.7% year-over-year was the fourth highest among all the states, trailing only North Dakota, West Virginia and Texas, all in the energy patch. Arizona was not far behind, with real GDP growing 4.3%, the seventh highest rate.

Seattle Leading Washington Forward

Washington's economy has boomed for much of this cycle, but has endured some turbulence recently from the trade war. Exports to China, which include lots of commercial airliners, were equivalent to roughly 21% of state GDP in 2018. The BEA methodology likely overstates the exposure of states with large port complexes that export goods produced elsewhere, but the Port of Seattle nevertheless supports an array of logistics and distribution jobs across the state. Since the Great Recession, Washington's economy overall has been incredibly strong, expanding almost 40% on a real basis since 2010.

Much of Washington's growth has been concentrated in Seattle, which is home to the University of Washington. The Seattle metro area is home to just over half of Washington's population and tends to account for the bulk of the state's growth. Home to corporate behemoths such as Microsoft, Amazon and Starbucks, as well as the largest production base for Boeing, Seattle's rapid growth has pushed into the central part of the state, as businesses and individuals seek less expensive and less congested locations. Seattle's growth has reverberated throughout many of the Pacific Northwest's mid-sized cities, including Spokane, Boise, Reno, Coeur d'Alene and Missoula.

The University of Washington has almost 50,000 students, and received over \$1.3 billion in research funding in 2018. Since 1972, it has received more federal research funding than any other public university, with major achievements in physics, medicine and computer science to show for it. Close ties to Amazon, Boeing and Microsoft—Bill Gates and Paul Allen spent some time working in the university's computer labs—have certainly benefited the university and the greater Seattle business community. Husky Stadium overlooks Lake Washington, and many fans will "sailgate" on the water before or during the game. It is also one of the loudest stadiums in college football. Its open end zones and metal roofs trap sound, similar to the Seattle Seahawks stadium, and a reading of 133.6 decibels was once recorded at a 1992 night game against Nebraska, which reportedly is the highest ever recorded at a college football game. Slightly more dubious is the claim that "the Wave" was invented at Husky Stadium, but it was certainly popularized there.

Figure 3

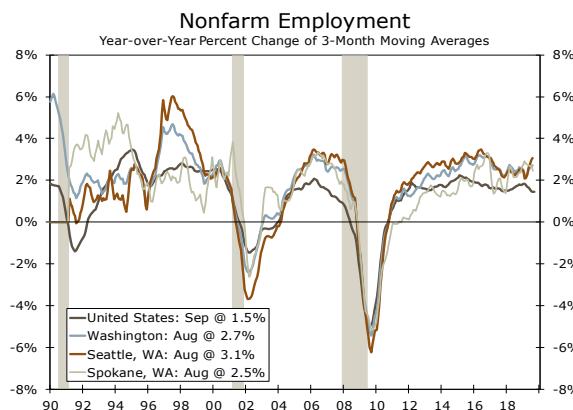
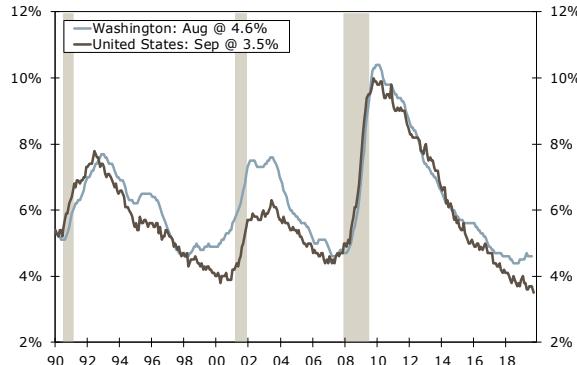


Figure 4

Washington vs. U.S. Unemployment Rate
Seasonally Adjusted



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

Pullman, which is 300 miles east of Seattle, close to the border with Idaho and home to Washington State, is hoping to capture some of Seattle's mojo. Eastern Washington is mostly rural, with an economy built on agriculture, forestry, education and tourism. Economic growth in the region has tended to not be anywhere near as strong as in Seattle, but has been solid nonetheless. The University of Idaho is located just a few miles away across the border in Moscow, while Eastern

Washington's economy has boomed.

Eastern Washington has lagged Seattle.

Washington University, a perennial Football Championship Division power, is located 70 miles north in Cheney, creating a sizeable cluster of higher education and research facilities that should stoke entrepreneurship and encourage businesses to locate in the area. Unlike the University of Washington, Washington State is a land grant university, originally intended to spur research and knowledge into “agriculture and the mechanic arts.” Today it offers a wide range of majors and the second public medical school in the state, which was intended to address the physician shortage in the rural, eastern portion of Washington.

Arizona Heating Up

Arizona's economy has expanded nearly 26% on a real basis since 2010, and employers have added 558,000 jobs, a pace well ahead of the nation. While job growth has been robust, Arizona had the third highest unemployment rate of any state in August, at 5.0%. The higher rate is not something to be concerned about. While pockets of persistent unemployment exist, the state's diverse economy is creating an abundance of job opportunities across nearly every skill set. The persistent strength in job growth is pulling in job-seekers from other states, effectively importing unemployment from other parts of the country.

A community's unemployment rate rises when labor force growth is stronger than employment growth, and vice versa. Arizona is a case of the former—employment growth is strong, but its labor force, bolstered by very strong in-migration, is growing even faster. A strong job market can therefore be so attractive to migrants that the subsequent swelling of the labor force puts upward pressure on the unemployment rate. The opposite is true across much of the Midwest, which sends a large number of residents to Arizona each year, and the Northeast. Unemployment rates are very low in both regions, but that is due to anemic labor force growth rather than strong job growth. Vermont's unemployment rate in August was 2.1%, but payrolls rose only 0.2% over the year. Arizona's 5.0% unemployment rate, on the other hand, was accompanied by a 2.5% jump in payrolls.

Much of Arizona's growth has been concentrated in the Phoenix area, which has seen very strong population growth, as job-seekers and retirees seeking a more favorable climate move to the Grand Canyon State. Arizona State is located just ten miles west of downtown Phoenix in Tempe, which is part of the massive Phoenix-Mesa-Scottsdale MSA, whose 4.9 million residents comprise almost 70% of Arizona's population. Phoenix's economy has been one of the nation's strongest in recent years, benefitting from an inflow of businesses and residents from Southern California.

Figure 5

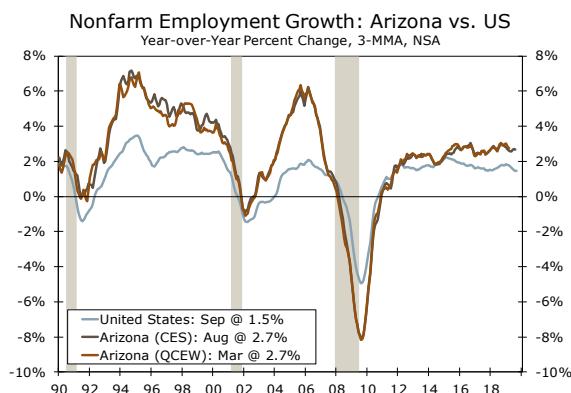
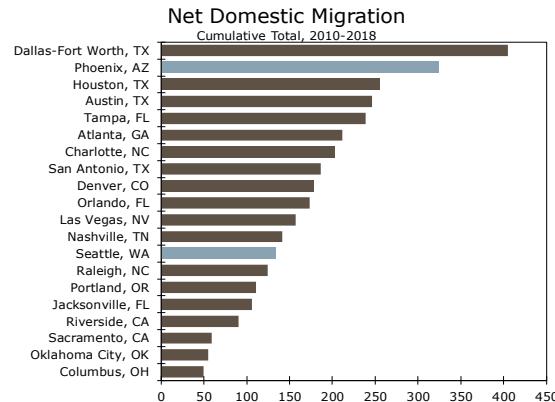


Figure 6



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

Arizona State is one of the largest schools in the country, with over 50,000 students in Tempe, 11,000 students in downtown Phoenix and more than 30,000 students online. The rapid build-out of the Phoenix campus spurred a dramatic revitalization of the metro area's downtown area, while

Arizona job growth is very strong, but the unemployment rate remains stubbornly high.

Arizona State is one of the largest schools in the country.

surging online enrollment pushed overall enrollment above 100,000. It is also one of the fastest growing universities—mirroring the rapid growth of Phoenix and Tempe—yet graduation and retention rates have actually improved as the school’s size has swelled. University President Michael Crow has taken major strides since 2002 to change its reputation from a party school to one of top-tier research and innovation. Research funding has doubled in just the last 10 years, enrollment doubled between 2002 and 2018 and Arizona State was named the most innovative school in the nation by U.S. News and World Report the past four years in a row.

Tucson has a lot of high-tech industries.

Arizona’s other major metro areas—Tucson, Lake Havasu City, Prescott, Yuma, Flagstaff and Sierra Vista—are much smaller than Phoenix. The University of Arizona is located in Tucson, the second largest MSA in the state, with just over one million residents. Tucson is about 115 miles southeast of Phoenix, and is part of the “Arizona Sun Corridor,” a megaregion projected to continue growing rapidly as the Sunbelt gains residents at the expense of the Snow Belt. Tucson’s economy is centered around the state’s flagship university, while the Davis-Monthan Air Force Base and Fort Huachuca in Sierra Vista have spurred the development of high-tech industries, including Raytheon, Texas Instruments, Bombardier, IBM and dozens of optics manufacturers and designers that have earned the area the nickname “The Optics Valley.”

The University of Arizona was founded in 1885 as a land grant university—unlike Arizona State—and today has over 45,000 students. The intrastate rivalry, known as the “Duel in the Desert,” grew contentious in the 1950s as Arizona State College won its bid to become a full university, over the opposition of some at the University of Arizona. Today Arizona ranks 23rd out of all public universities for research funding, benefitting from its close ties to NASA and astronomy research.

Football Outlook

Arizona State are favored by three over Washington State. The Sun Devils are coached by former NFL head coach Herm Edwards, famous for his postgame insistence that, “You play to win the game!” Washington State is coached by offensive guru Mike Leach, the innovator behind the prolific “air raid” offense. The Cougars should have no problem putting up points, but it will be up to new defensive coordinator Alex Grinch to slow down Arizona State.

Washington are seven-point favorites over Arizona, and the Huskies are likely barking to get back into the top-25 following last week’s disappointing loss to Stanford. Arizona is eager to maintain its lead in the Pac-12 South, before their schedule gets tougher, with the final three games of the season against #13 Oregon, #15 Utah and #18 Arizona State. The game will not kick off until 11 PM Eastern Time, meaning football fans who are so inclined can watch football uninterrupted for over 14 hours this Saturday.

Figure 7

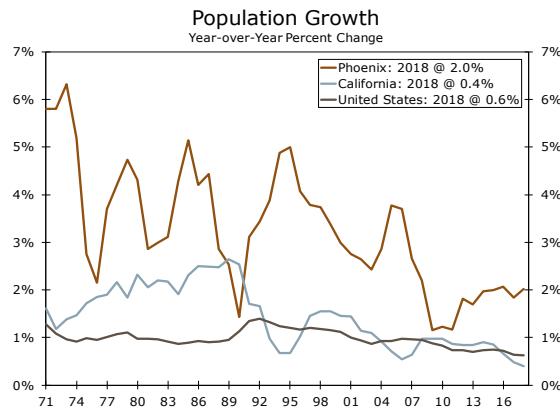
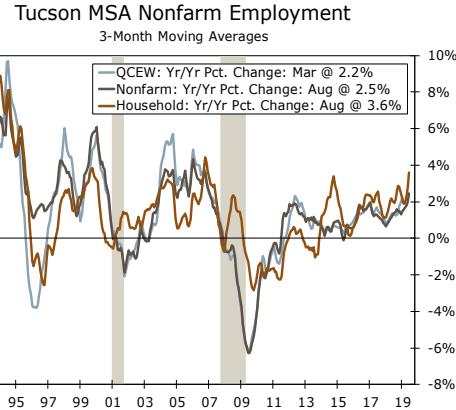


Figure 8



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

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