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The Sun Belt: A High-Growth Region

The sunny southern United States is becoming the "boom belt" – an analysis of a growth region's socioeconomic drivers

RESEARCH REPORT
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Rising interest rates, higher rates of inflation, and more volatile stock markets are driving demand for inflation-proof, relatively stable, and lower-risk asset classes. Real estate investments are generally well suited to fulfilling the investment goal of hedging against inflation in particular: As nominal incomes rise with inflation, the respective users of residential or commercial spaces are also able to accept nominally higher rents over the long term. From a real, inflation-adjusted perspective, the amount of rental income and therefore also the value of the real estate itself is preserved, in mathematical terms at least. However, investors have always expected more than "mere" value preservation after adjusting for inflation; even from a real perspective, the goal is to generate positive returns if possible. So, in an environment of high inflation rates, investors now seek nominal returns that are already at a considerably higher level.

Some real estate markets are currently still generating positive returns after adjusting for inflation, while also allowing access to promising long-term growth markets and limiting risk exposure. Accordingly, structurally higher property yields are possible in the United States than in most of the major European real estate markets. However, there is hardly any one single U.S. real estate market. At a more granular level, the world's largest real estate market can be broken down into numerous highly heterogeneous and, in some cases, highly unrelated submarkets. And yet how is it possible to identify – at the earliest stage possible – the most promising of these sub-markets?

Interesting and promising real estate markets are identified on the basis of more than just past trends and current indicators of the market itself. Numerous factors upstream from the real estate market, particularly those rooted in the economy, society, and socioeconomics, come into play. Rapidly growing regions offer special opportunities – not only for businesses and the population but specifically also for the accompanying real estate investments and project developments. Beforehand, however, it is necessary to define meaningful regional clusters and subsequently to conduct a more in-depth analysis of the respective sub-markets.

The so-called "Sun Belt" presents a regional definition that is intriguing, particularly in this context. Roughly speaking, this refers to the area of the U.S. south of the 37th parallel. According to this definition, the region includes 15 states (from west to east): California, Nevada, Arizona, New Mexico, Texas, Oklahoma, Louisiana, Arkansas, Mississippi, Tennessee, Alabama, Georgia, Florida, South Carolina, and North Carolina. Despite the many differences between these individual states, this region offers certain climate-related, historical, cultural, and socioeconomic commonalities. Perhaps the most interesting of these is the extraordinary growth seen in the economic and population trends. Because of the distance they cover from north to south, California and Nevada have only a small part of their area within this defined geographic region and each also feature specific structures that differentiate them from the rest of the Sun Belt. This explains why they are commonly – not only for the purposes of this study – removed from this classification, and why they have also been excluded here.

This study presents the main socioeconomic and real estate market-related indicators of the 13 states of the Sun Belt. The study also compares the major locations and capitals of the respective states to one another. This is intended to reveal the immense range of interesting investment opportunities in the Sun Belt. On one hand, this shows that the region promises real estate investors greater potential than the supercities of the East and West Coast which are often preferred by Europeans. On the other hand, the individual locations in the Sun Belt – a region home to over 110 million residents – are certainly diverse in terms of their development, which is why their opportunities and risks should be considered individually.

Steffen Metzner, Head of Research, Empira Group

Contents

1. Dynamic population growth in the Sun Belt

Population development is a key driver of the real estate market. Not only is a growing population a direct link to greater demand for residential housing, it also indirectly induces added demand for retail, office, commercial, and logistics space.

In principle, nearly the entire Sun Belt region of the U.S. is undergoing robust population growth, which is driving a corresponding rise in demand for real estate almost everywhere. And yet the individual states differ from one another, among other things due to ongoing migration within the U.S. and from other countries. Individual metropolitan areas and major cities within the states also exhibit exceptional growth.

Varying growth rates across individual states

In addition to their different sizes, the individual states of the Sun Belt also exhibit a wide range in terms of actual and forecast population development.

Texas stands out among these. At nearly 30 million residents, Texas currently not only has the highest population, but the highest growth rates are also seen there. Both retrospectively (+17.7% over 10 years) and as forecast (+17.3% by 2030), Texas is growing immensely. Texas is thus forecast to be the fastest growing federal unit in the United States after the capital of Washington, D.C. (+21.3% by 2030). Florida also recorded growth rates in excess of 15 percent in the past decade and is projected to continue growing at this rate through 2030 (ranked fifth in the state population projection). Compared to the other states, Arizona, South and North Carolina, Georgia, and Tennessee are also growing at above-average rates.

Then again, six states within the analyzed region are growing at below-average rates. New Mexico and Mississippi anticipate little population growth by 2030 and are therefore ranked 43rd and 49th of all states.

Population growth among the analyzed states is therefore fairly heterogeneous, although the large states of Texas, Florida, and Arizona along with North and South Carolina are the essential drivers of the Sun Belt's strong growth in general.

STATE	2020 POPULATION IN MILLIONS (GROWTH 2010–2020)		PROJECTED 2030 POPULATION IN MILLIONS (GROWTH 2020–2030)	
Texas	29.6	+17.7%	34.7	+17.3%
Florida	21.9	+16.4%	25.4	+16.0%
Arizona	7.3	+13.7%	8.2	+13.3%
South Carolina	5.2	+12.1%	5.8	+11.7%
North Carolina	10.6	+10.8%	11.7	+10.5%
Georgia	10.7	+10.7%	11.8	+10.3%
Tennessee	6.9	+8.1%	7.4	+7.8%
Oklahoma	4.0	+6.7%	4.3	+6.3%
Louisiana	4.7	+4.6%	4.9	+4.3%
Arkansas	3.0	+4.2%	3.2	+3.9%
Alabama	4.9	+2.8%	5.0	+2.4%
New Mexico	2.1	+1.9%	2.1	+1.6%
Mississippi	3.0	+0.8%	3.0	+0.8%
For comparison:				
United States	332.5	+7.7%	358.0	+7.7%

Figure 1: Population growth and projected population of Sun Belt states; source: University of Virginia; own calculation and presentation.

Growth driven by regional and international positive net migration

In western societies, migration is the primary driver of population growth, particularly concerning rapid increases in the short- to medium-term. In turn, migration itself is typically stimulated by economic advantages and is therefore also considered an indicator of a region's economic prosperity. Relocations over long distances are not uncommon in the U.S., particularly moves into attractive labor markets. Regions with strong economies therefore tend to report a very positive domestic migration balance, while many residents move out of economically weak states.

The state map (Figure 2) shows cumulative domestic migration from 2010 to 2019 relative to population (as of 2020). In other words, it shows the share of the current population that a state has gained or lost through internal migration over the last decade.

Many states in the Sun Belt have seen domestic migration boost their population significantly in the last

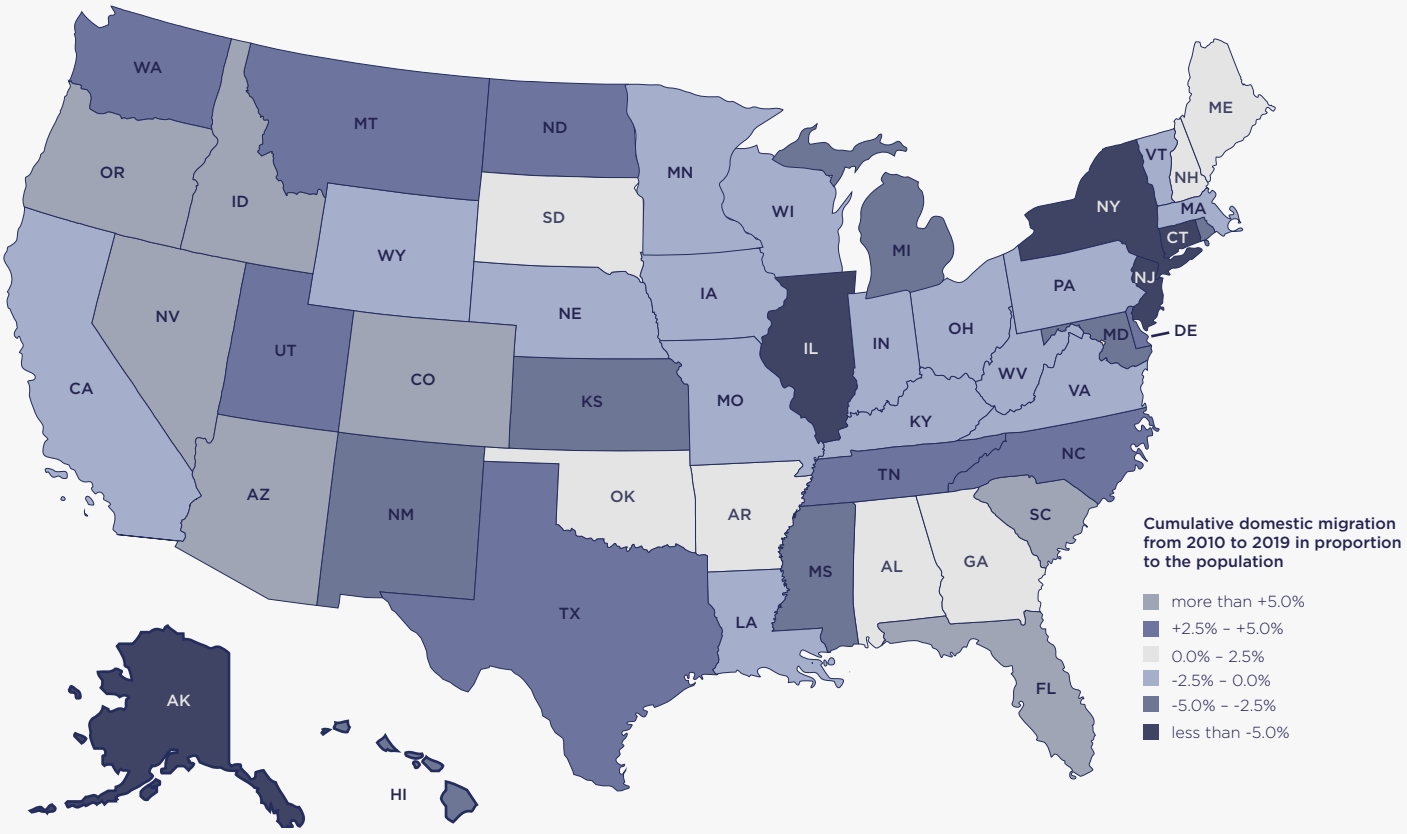

Figure 2: Domestic migration from 2010 to 2019; source: U.S. Census Bureau; own calculation and presentation, presentation created with mapchart.net.

ten years. South Carolina (+7.1%), Arizona (+6.2%), and Florida (+5.9%), for instance, grew by more than five percent due to domestic migration, while only New Mexico (-3.0%), Mississippi (-2.7%), and Louisiana (-2.2%) lost residents due to domestic migration.

Looking at the entire United States, it is clear that the state of California, heavily influenced by the tech industry, has lost more residents to domestic migration than it has gained (-2.3%). This effect is contributing to large gains in bordering states like Nevada (+7.5%), Oregon (+5.5%), and the aforementioned state of Arizona. This indicates a mass emigration from California which some are referring to as the

California Exodus. States like New York (-6.9%) and Illinois (-6.8%) report significant net domestic migration losses, and large cities like New York and Chicago currently seem to be less in demand.

It seems that the coronavirus pandemic has also permanently changed residential real estate markets, a shift admittedly not yet reflected in Figure 2. In effect, metropolitan areas like San Francisco and Chicago have permanently lost jobs to up-and-coming cities like Phoenix, Austin, and Miami. Reasons behind this could be a different COVID policy, more attractive jobs, and a higher quality of life at a lower, sometimes much lower, cost of living in conjunction with greater safety, for instance. The Sun Belt is posed to become a lasting success story, one that got an added boost from the coronavirus pandemic.

The differences in population growth rates within the Sun Belt are therefore primarily the result of certain migratory movements. The originating regions are of interest, which in this case refers to immigration from certain U.S. states (domestic migration) or from other countries (total migration). The seven most rapidly growing Sun Belt states exhibiting growth above the U.S. average over a ten-year period were selected as the basis for this examination.

There is no one "typical" emigration state supplying the Sun Belt's population growth (Figure 3 with the data for 2010 to 2019). Hence Texas is not only attracting workers from its economically weaker neighbor Louisiana but also to a large extent from more distant states like California, Illinois, and New York. Yet overall, the international effect is dominant, and the long border with Mexico plays a key role in this context. From an economic standpoint, Texas is the second strongest state in the U.S. after California. Oil production has been behind its economic strength for many decades, and even now, the oil industry is a major and essential industrial sector. Its wealth of natural resources, ample land availability, population size, and rising urbanization also contributed to an increasingly versatile economic structure. The information technology sector and aerospace currently form strong industry clusters in Texas. A growing number of corporate relocations within these industries from California to Texas has further built up these clusters in Texas.

Despite its net migration loss to Texas, the rapidly growing state of Florida is attracting residents from its more northerly East Coast states of the U.S., and while neighboring Georgia stands to reason, New York and Pennsylvania are somewhat more surprising. Retirees moving into the state for Florida's

	Origin states (Net balance of respective migratory movements)			**International (Net balance)**
Destination state:	**Rank 1**	**Rank 2**	**Rank 3**	**Total**
Texas	California +302,978	Illinois +96,790	New York +91,109	+818,757
Florida	New York +333,255	New Jersey +169,337	Pennsylvania +114,362	+1,107,039
Arizona	California +217,006	Illinois +57,605	Washington +42,247	+142,125
South Carolina	New York +49,853	New Jersey +39,505	Pennsylvania +37,759	+50,964
North Carolina	New York +122,683	New Jersey +72,812	California +52,034	+163,662
Georgia	New York +73,884	Florida +59,656	New Jersey +31,686	+252,948
Tennessee	Florida +36,951	Illinois +34,102	New York +24,711	+259,342

Figure 3: Origin regions for migration to the Sun Belt states growing at an above-average rate from 2010 to 2019; source: U.S. Census Bureau; own calculation and presentation.

pleasing climate are one potential explanation. Arizona, the third fastest-growing state in the Sun Belt, is fueling its growth from within the region and also from distant Washington state. Sean both absolutely and relatively, the international effect is significantly smaller in this case than in Texas and Florida.

When it comes to the differing migratory movements, economic differences certainly play a role, as do industry-related similarities. It goes without saying that the absolute size of the respective state of origin is also relevant since this determines the theoretical migration potential.

Trends in individual cities and metropolitan areas

Trends in individual cities and metropolitan areas are in part highly specific and in some cases also differ from those of their respective states. This therefore calls for a differentiated view. In addition to the Sun Belt's 13 states, the study also includes 27 individual locations within the Sun Belt. These are either cities with at least 500,000 residents or the capitals of the respective states.

The following compares socioeconomic indicators and indicators pertaining to the real estate industry for Montgomery in Alabama; Phoenix, Tucson, and Mesa in Arizona; Little Rock in Arkansas; Jacksonville, Miami, Tampa, and Tallahassee in Florida; Atlanta in Georgia; Baton Rouge in Louisiana; Jackson in Mississippi; Albuquerque and Santa Fe in New Mexico; Charlotte and Raleigh in North Carolina; Oklahoma City and Tulsa in Oklahoma; Columbia in South Carolina; Memphis in Tennessee; and these seven cities in Texas: Houston, San Antonio, Dallas, Austin, Fort Worth, El Paso, and Arlington.

The number of residents and the population growth of the locations are even more scattered than for the previous analysis of the states as a whole (Figure 4 with data from 2010 to 2021). The cities in Texas, Florida, Georgia, and North Carolina saw very

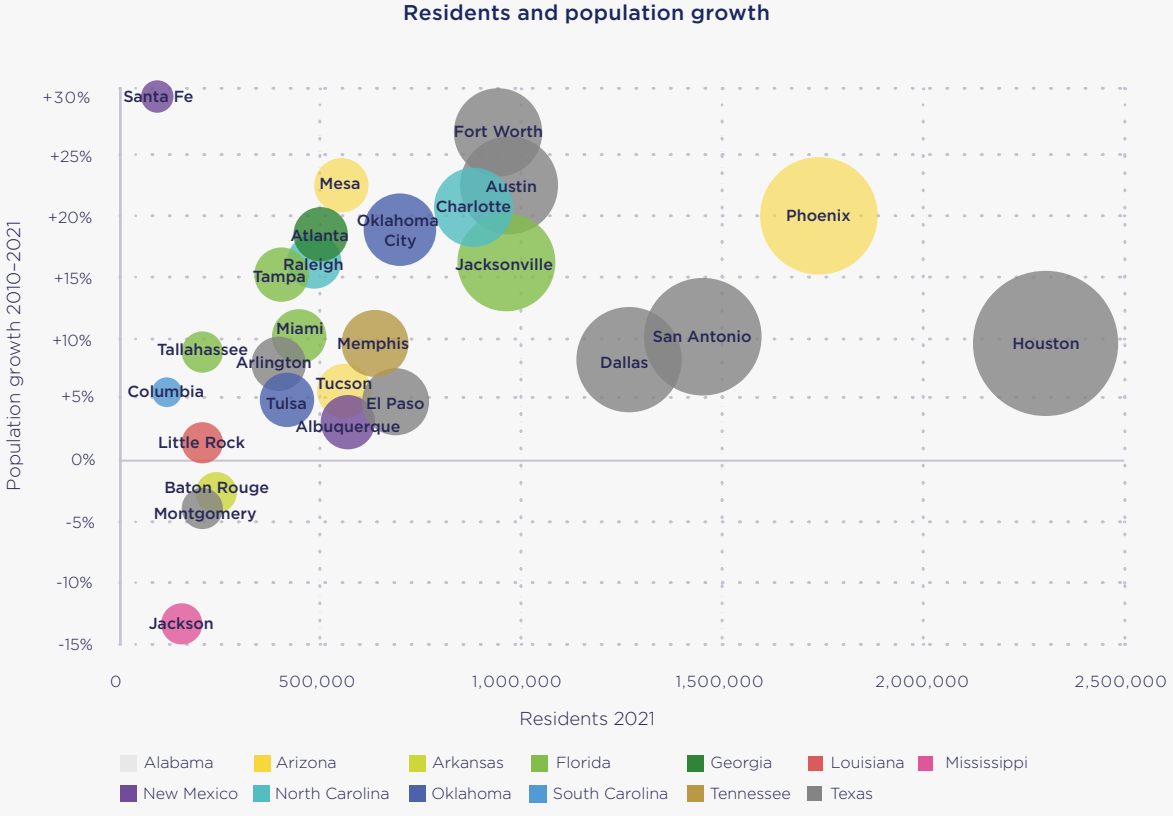

Figure 4: Residents and population growth of the analyzed locations; coloring by state; radius by population size; source: U.S. Census Bureau; own calculation and presentation.

strong growth. Especially Fort Worth (+26.2%), Austin (+22.0%), Charlotte (+20.3%), Atlanta (+18.2%), Raleigh (+16.2%), and Jacksonville (+16.0%) grew immensely, each achieving over 15 percent population growth.

The capitals of the overall somewhat weaker states of Oklahoma and New Mexico also saw very positive trends. At a growth rate of around 29.8%, Santa Fe is now the fastest growing city in this sample, though this is also attributable to its low population of some 87,500 residents.

The locations in Mississippi, Louisiana, and Alabama saw a decrease in population. The loss was particularly dramatic in Jackson (-13.7%). The locations in Arkansas and South Carolina remained relatively stable with singledigit population growth.

2. Economic conditions as growth stimuli

Immigration-induced population growth typically occurs in cities and in regions with attractive labor markets. Other factors that can play a role include a low cost of living, a good living environment and certain government measures such as taxes and subsidies. Likewise, attractive work opportunities help to prevent emigration of those groups of the population already living there and who may also contribute to natural population growth (birth surplus).

Throughout history, patterns of population growth driven by immigration are found in the growth trends seen in cities around the world during industrialization or even in special regional situations like the U.S. gold rush. Economic growth in general is also linked to the labor market. Accordingly, income, tax revenue, and buying power are generated, strengthening the region and its markets across the board. Behind the scenes, factors like education level, innovative strength, and tax rate also play a role in growth. In the following, some key factors from this area are analyzed for the Sun Belt states.

Economic strength

Labor market growth and the income flows it generates are one result of economic growth in general. The economic performance of a national economy or one of its subsets – in this case, the states – is usually depicted by means of gross domestic product (GDP).

Texas is the economically strongest state in the Sun Belt with per capita GDP of USD 58,994 in 2020. Figure 5 shows this in relation to a few sets of comparison data. In the United States as a whole, per capita GDP amounted to USD 63,038. From this, it follows that all of the states in the region are below the average for the U.S. In a national ranking, Texas is only at 24th place and with this result is also the only Sun Belt state to be ranked among the top half of all U.S. states. Georgia (29th place) and North Carolina (32nd place) are ranked further down the list. At USD 38,441, Mississippi has the lowest economic performance per resident of the U.S. (51st place). Arkansas (50th place), South Carolina (47th place), Alabama (46th place), and New Mexico (45th place) are in the lowest group nationwide.

It is therefore clear that its absolute level of economic performance is not the aspect that makes the Sun Belt so interesting as a location for business and investment. Rather, it is its dynamic growth, especially over the last ten years, that makes this area remarkably interesting. In particular, Georgia (+48.9%) and Arizona (+48.8%) showed extraordinary growth; comparing growth among the different states, these two are ranked in sixth and seventh place. South Carolina (+47.6%; 11th place), Tennessee (+43.4%; 14th place), and Texas (+42.5%; 15th place) were also able to report respectable growth rates.

However, the Sun Belt also includes some states growing at a slower pace. Examples of this include Louisiana (+4.5%; 49th place), New Mexico (+16.4%; 47th

place), Mississippi (+21.2%; 45th place), and Oklahoma (+21.9%; 44th place). These states have relatively low productivity paired with slow economic growth, which means that they are likely to be less attractive to businesses and workers alike.

The following Figure 6 shows per capita GDP in the respective metropolitan areas. It is worth noting that Fort Worth and Arlington are part of the Dallas metropolitan area and Mesa belongs to Phoenix, so that these three cities are not listed separately. This figure depicts a similar situation as the analysis at state level. Some locations – Austin, Dallas, Atlanta, Charlotte, Houston, and Raleigh – exceed the U.S. average and have already achieved a high economic level. Atlanta, in particular, is striking: with a per capita GDP of

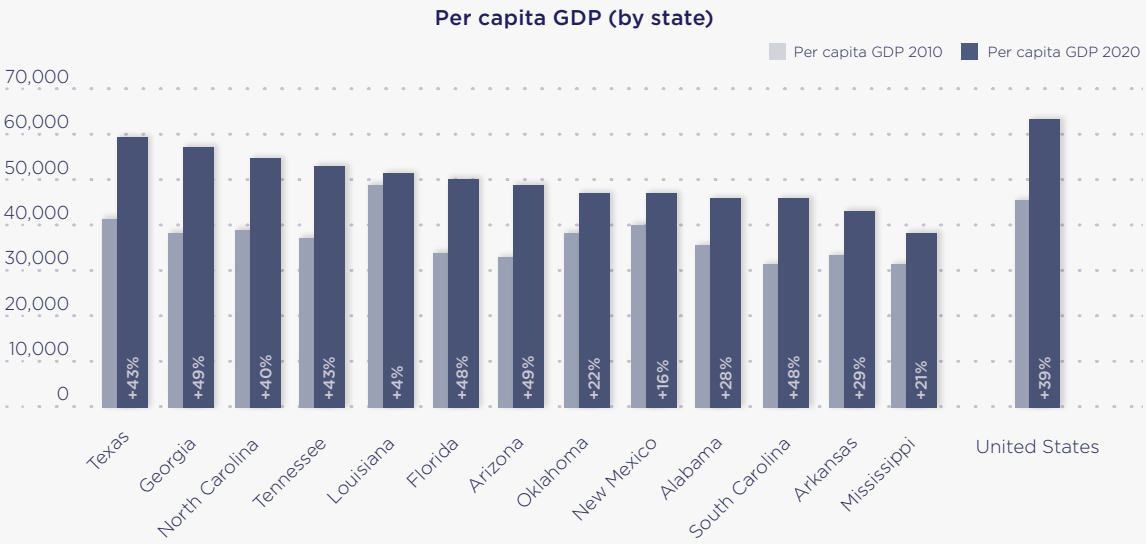

Figure 5: Per capita GDP in 2020 and growth since 2010; source: U.S. Bureau of Economic Analysis; own calculation and presentation.

USD 69,732 in 2020, the city has already reached an above-average level and is located in the very rapidly growing state of Georgia. In contrast, the metropolitan areas in equally fast-growing Arizona – Phoenix (including Mesa) and Tucson – are still below average and therefore also show great development potential for the future. And yet this analysis once again highlights the fact that these locations have not yet managed to reach the U.S.'s established centers, and their potential for growth has yet to be exhausted, an aspect made clear by the analysis of San Francisco (USD 124,131/resident), Seattle (USD 106,079/resident), and New York (USD 90,032/resident), for instance.

Location	Per capita GDP in USD 2020	Location	Per capita GDP in USD 2020	Location	Per capita GDP in USD 2020
Austin	73,261	**Memphis**	57,784	**San Antonio**	51,474
Dallas	69,797	**Phoenix**	57,726	**Albuquerque**	49,124
Atlanta	69,732	**Jacksonville**	56,488	**Montgomery**	48,032
Charlotte	69,229	**Columbia**	53,395	**Tallahassee**	47,676
Houston	68,392	**Tampa**	53,173	**Jackson**	47,564
Raleigh	67,119	**Tulsa**	52,817	**Santa Fe**	44,354
Baton Rouge	60,663	**Oklahoma City**	52,074	**Tucson**	43,200
Miami	59,586	**Little Rock**	51,549	**El Paso**	39,244

Figure 6: Per capita GDP in 2020 in the metropolitan areas; source: U.S. Bureau of Economic Analysis; own calculation and presentation.

Labor market

An attractive labor market is the foundation for income and prosperity. In this context, the quantity and quality of the jobs should be considered. The unemployment rate is a key quantitative measure in this regard. Unemployment levels are therefore first compared for the states and the locations. Characteristics describing the quality of the job supply available must then of course be highlighted in each respective case. This in part highly differentiated analysis is not yet part of the current study, but it should be carried out no later than during the specific selection of target markets.

A comparison of the current unemployment rates of the 13 Sun Belt states is provided in Figure 7. The chart also shows the ten-year trend. It clearly illustrates the extremely positive development across the board compared to the base level. The labor market has prospered in all of the Sun Belt states. Only one state still records an unemployment rate above 5.0 percent and, in effect, many states can boast full employment.

The highest declines in unemployment were experienced in North Carolina, which reports a decrease of 6.2 percentage points, and Florida, with an improvement of 6.0 percentage points. Compared to these, the decreases in New Mexico of 1.5 percentage points and in Texas, at 2.5 percentage points, seem rather moderate. It should, however, be noted that in Texas, the labor market has managed to absorb the state's concurrent high population gains. Unemployment levels dropped despite this heavy immigration, representing an enormous increase in employment in the overall context.

Oklahoma exhibits a very robust labor market. This state had the lowest unemployment rate in 2012 as well as in 2022. Excluding New Mexico, Texas, Mississippi, and Louisiana, unemployment rates in the analyzed region are below the average for the U.S. of 3.8 percent. In a national ranking of all states, Oklahoma leads the Sun Belt at ninth place. Nebraska (2.0%), Utah (2.0%), and Indiana (2.2%) are at the top of this ranking. The gap to this group of leaders is therefore very small. Bringing up the rear, New Mexico only manages to reach 49th place in the national comparison. At an unemployment rate of 6.0 percent, only the capital Washington, D.C., has a higher percentage of out-of-work residents. To this extent, although the Sun Belt states present a certain spectrum, the labor market can still be regarded as highly positive.

The analysis of individual locations within the Sun Belt paints a similar picture. The two cities in the state of Oklahoma have the lowest unemployment rates: Oklahoma City with 3.4 percent and Tulsa with 3.7 percent. The highest rates are recorded in Memphis with 7.6 percent and Santa Fe with 6.8 percent. Generally speaking, unemployment rates are higher in the metropolitan areas than the average for the Sun Belt and the respective states. There are differences between the individual cities of a state. For example, Austin has the lowest unemployment rate in

Texas at 4.0 percent, whereas El Paso is significantly higher at 6.1 percent (+2.1 percentage points). Florida also shows differences with Jacksonville on the lower end at 4.6 percent and Miami on the opposite end of the scale with 6.1 percent, creating a range of 1.5 percentage points.

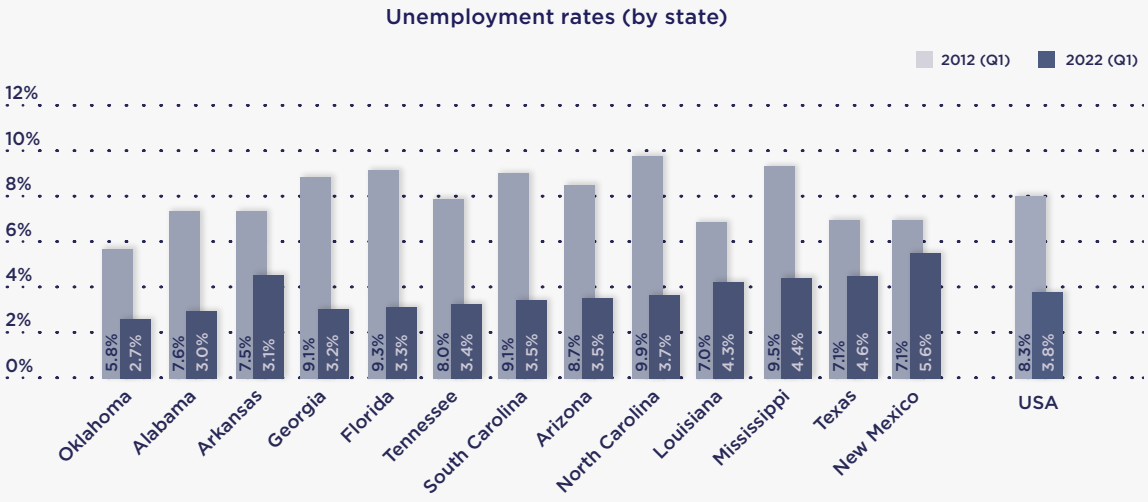

Figure 7: Unemployment rates by state in the first quarter of 2012 and in the first quarter of 2022; source: U.S. Bureau of Labor Statistics; own calculation and presentation.

Innovative strength

Beyond sheer quantity effects, economic growth is frequently fueled by the innovative strength of a region. Patent registrations and company start-ups are suitable indicators of innovative strength. The table in Figure 8 shows the average number of patents registered in the years from 2016 to 2021 per 1,000 residents and the average number of company start-ups from 2016 to 2020 per 1,000 residents. The chart shows the ranking of the Sun Belt states as well as the top three states nationwide.

One striking feature is the relatively poor performance of the Sun Belt in terms of patent registrations. One possible explanation for this is the underrepresentation of top-notch, research-driven universities here compared to other regions within the U.S., mainly in New England, New York, and California. Duke University in North Carolina is the only Sun Belt representative among the top ten U.S. universities. Furthermore, many major IT companies are not headquartered in the Sun Belt but in places like Silicon Valley in California, where most of the corresponding patents are then registered. Other heavily industrial centers like the aerospace and defense industry are located for instance in Virginia or in the capital of Washington, D.C. At least Texas, Arizona, and North Carolina managed to rank among the top half of the U.S. states.

When it comes to company start-ups, the Sun Belt performs much better. Three of the region's states are in the top ten of this category: Florida, Georgia, and Louisiana. Here, too, there is a large disparity among the states. Especially states like New Mexico, Tennessee, and Arkansas rank at the bottom of the list. This indicator only provides an initial impression since it treats all company start-ups the same regardless of their size or industry. For example, a sole proprietor and a business with several thousand employees are considered of equal value as a start-up. This can, for instance, explain the strong performance of the mostly rural state of Wyoming. Delaware's good performance is mainly due to tax reasons.

Patent registrations per 1,000 residents (national rank)		Company start-ups per 1,000 residents (national rank)	
Texas	0.65 (20)	Florida	17.85 (3)
Arizona	0.64 (21)	Georgia	16.05 (5)
North Carolina	0.60 (25)	Louisiana	12.70 (9)
Georgia	0.47 (30)	Mississippi	11.13 (14)
Florida	0.40 (33)	Texas	10.10 (18)
New Mexico	0.40 (34)	Oklahoma	9.69 (21)
South Carolina	0.36 (36)	South Carolina	9.65 (22)
Tennessee	0.33 (37)	Arizona	9.64 (23)
Oklahoma	0.27 (43)	North Carolina	9.41 (26)
Arkansas	0.27 (44)	Alabama	8.59 (33)
Alabama	0.20 (46)	Arkansas	8.33 (35)
Louisiana	0.18 (48)	Tennessee	8.22 (36)
Mississippi	0.11 (50)	New Mexico	7.83 (43)
For comparison			
Massachusetts	2.07 (1)	Wyoming	32.27 (1)
Washington	1.72 (2)	Delaware	25.13 (2)
California	1.54 (3)		

Figure 8: Patent registration and company start-ups per 1,000 residents; source: U.S. Patent and Trademark Of-fice; U.S. Census Bureau; own calculation and presentation.

Education level

Every successful economy is built upon a strong education system that ensures a high level of education for the population. Especially in this era of digitalization, education – in part earned at the topmost level and also backed by formal degrees – is becoming increasingly essential for economic growth. A well-educated population creates greater value and thus also greater prosperity. Furthermore, a location with a large supply of well-educated skilled workers is attractive for business settlements and offers far greater potential for new company start-ups. California's Silicon Valley with its world-renowned robust IT cluster is one example of this.

In contrast, locations with inadequate education levels will face difficulties in keeping up with technological and economic developments and in staying competitive. In the medium term, prosperity will decline, and the location will become even less attractive as a business location. A lack of top-notch universities is another problem as students often remain in the area where they earned their degrees after graduating and start a family there. Therefore, the 13 Sun Belt states and the 27 locations examined for this study are analyzed below in relation to their education level.

A higher level of formal education is often associated with greater activity in certain industries and working fields. Figure 9 illustrates this correlation between education and knowledge-intensive employment relationships. The starting point is the share of the population with at least a bachelor's degree. Locations considered to be highly educated that boast a share of university graduates comprising greater than 40 percent of the population include Atlanta

(51.8%) in Georgia; Austin (51.7%) in Texas; the cities of Raleigh (50.9%) and Charlotte (44.3%) in North Carolina; Tallahassee (48.2%) in Florida; Columbia, South Carolina; Little Rock (41.8%) in Arkansas; and Santa Fe (41.7%), the capital of New Mexico. Of these, Austin, Atlanta, Raleigh, Charlotte, and Santa Fe are among the higher income locations of the sample with an average household income of more than USD 55,000, while Little Rock, Columbia, and Tallahassee are among the lower income cities despite their high proportion of university graduates.

With a share of university graduates of less than 30 percent, the residents of the locations Fort Worth (29.7%), San Antonio (26.0%) and El Paso (25.1%) in Texas; Miami (29.6%) and Jacksonville (28.6%) in Florida; Phoenix (28.6%), Mesa (27.4%) and Tucson (27.4%) in Arizona; Jackson (27.2%) in Mississippi; and Memphis (26.2%) in Tennessee are among the least educated populations (measured by formal degrees).

Figure 9 shows the relationship between the share of university graduates and employment in knowledge-intensive services. For this report, knowledge-intensive employment includes all jobs classified as "professional, scientific, management, administrative..." by the U.S. Census Bureau. There are a few phenomena that this brings to light.

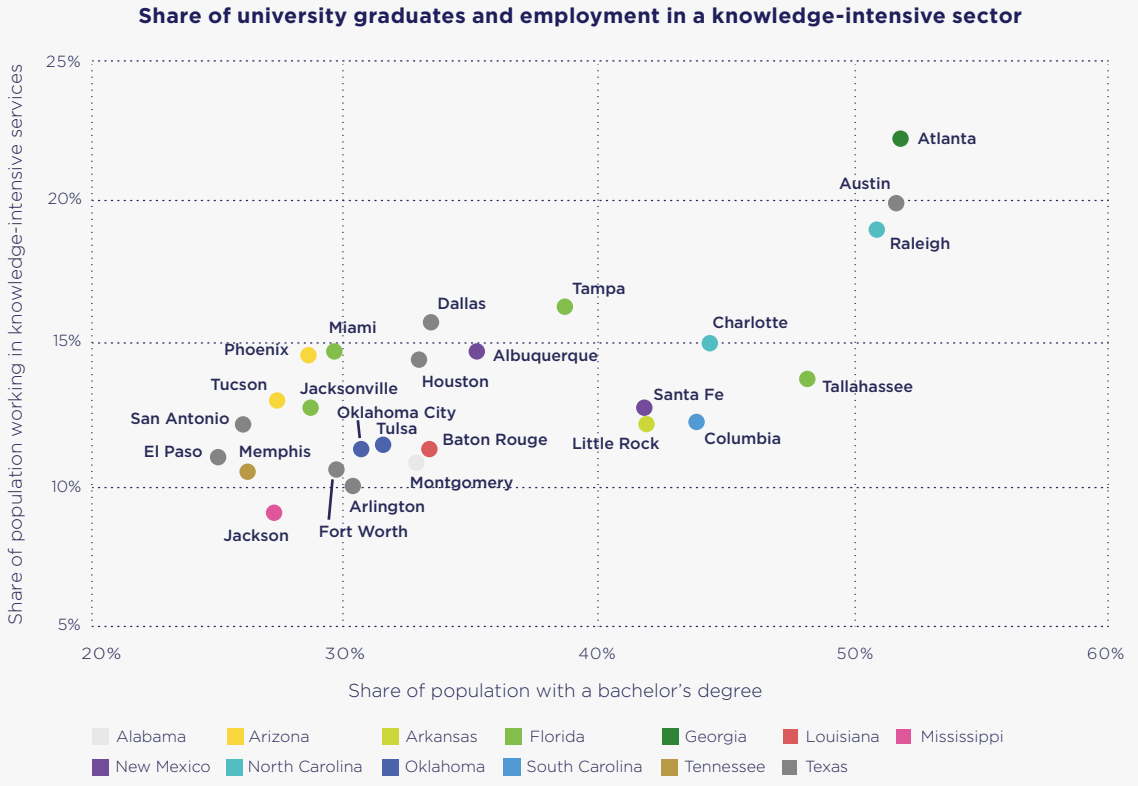

Figure 9: Share of university graduates and share of the population working in a knowledge-intensive sector in 2021; source: U.S. Census Bureau; own calculation and presentation.

For locations with a share of university graduates of up to 40 percent, there does not seem to be a recognizable correlation to employment in a knowledge-intensive sector. These cities show fairly widely diversified results between 9.0 percent (Jackson, Mississippi) and 16.3 percent (Tampa, Florida). However, the locations with a share of university graduates of at least 40 percent do exhibit a clear relationship. In those, there does seem to be a positive correlation between the share of university graduates and knowledge-intensive employment.

So, while the group of 18 locations with a share of university graduates below 40 percent has only two locations showing employment in a knowledge-intensive area of over 15 percent (Dallas with 15.8% and Tampa with 16.3%), there are significantly more in the group of locations with more highly educated

residents, a group of only eight representatives. Four locations show structures with a high level of employment in a knowledge-intensive area. These are Charlotte (15.0%), Raleigh (19.0%), Austin (19.9%), and Atlanta (22.2%).

Household income

In addition to generally available jobs, higher earning potential is another primary pull factor for immigration and therefore often a trigger for population growth. In the U.S. in particular, major differences exist not only between the states but also within the regions.

There are a number of ways to measure equal distribution or inequality. The Gini coefficient is relatively well known and often used. This is a number between 0 and 1. The higher the number, the greater the inequality of a measured value, such as the income of a population group. A Gini coefficient of 0 would indicate that everyone has the same income. For example, the Gini coefficient of income for Switzerland is 0.32 and for Germany, 0.31, while the U.S. differs significantly at 0.42. In a comparison of wealth, the German value moves somewhat closer to the U.S. (CH: 0.70; D: 0.82; U.S.: 0.85).

These indicators – and more in-depth location and labor market comparisons – indicate relatively heterogeneous income structures in the U.S. Effective incentives are created for domestic migration because the income situation can be significantly better at another location.

Poverty and the criminal issues that frequently accompany it are another factor for many U.S. cities. A higher crime rate, in particular, usually results in the location being less attractive for capable and flexible workers and their families. They tend to also emigrate for this reason. This ultimately leads to a self-accelerating downward spiral.

Figure 10 shows the range for the current poverty rate and median income in the 27 Sun Belt cities examined for this study. The relationship described between these two indicators becomes apparent. Atlanta is an outlier with a fairly high median household income of just under USD 65,000 and a simultaneously high poverty rate of approximately 21 percent.

The poorest cities of this analysis with a median household income of less than USD 45,000 and a poverty rate of greater than 20 percent are Jackson in Mississippi, the metropolitan area of Miami in Florida, Memphis in Tennessee, and Baton Rouge in Louisiana. With a median household income of USD 40,064, Jackson has the lowest value in this analysis, and it also has the second-highest poverty rate at 25.4 percent, offering one potential reason for its rapid population loss over the last ten years. Tallahassee, Florida, has the highest poverty level at 26.4 percent.

Miami's relatively poor performance in terms of measured values is due to statistical reasons. One approach to explaining the low median income is the relatively high poverty rate in the specific data collection area which, in addition to the city center, also includes large communities of poorer strata. Over one in five residents of the city of Miami lives in poverty, which shifts the median income significantly lower. This assumption is also supported by the comparison of median and average values. Although the median household income in Miami only amounts to USD 44,268, the average household income is USD 74,731. This indicates that the distribution of household income is negatively skewed. Some wealthier areas of greater Miami belong to other municipalities, such as the independent city of Miami Beach, which shows much better values with a median household income of USD 57,211 and an average household income of USD 109,466. Miami-Dade County (income of approximately USD 54,000, below-average poverty level of 15%), which includes the typical suburban neighborhoods, provides a more realistic overall picture of the regional real estate market than the city of Miami's data. The chart therefore also provides the data for Miami-Dade County and Miami Beach for information purposes. Generally speaking, the spectrum within the region is very wide.

The wealthiest cities with a median household income of at least USD 60,000 and a poverty level of below 15 percent include the three Texan cities of Austin, Fort Worth, and Arlington; the two cities Raleigh and Charlotte in North Carolina; Mesa in Arizona; and Jacksonville in Florida. As the wealthiest city of this analysis, Austin has a median household income of USD 75,752 along with a relatively low poverty level of 13.2 percent. The lowest poverty level of this analysis is Mesa, Arizona, with 11.1 percent.

A striking feature is that, when it comes to these two indicators, different cities in one and the same state

often vary considerably and are dispersed in this diagram, which indicates a major disparity between prospering and failing cities even within a single state. Examples of this include Jacksonville and Miami in Florida; Mesa and Tucson in Arizona; and Austin and El Paso in Texas.

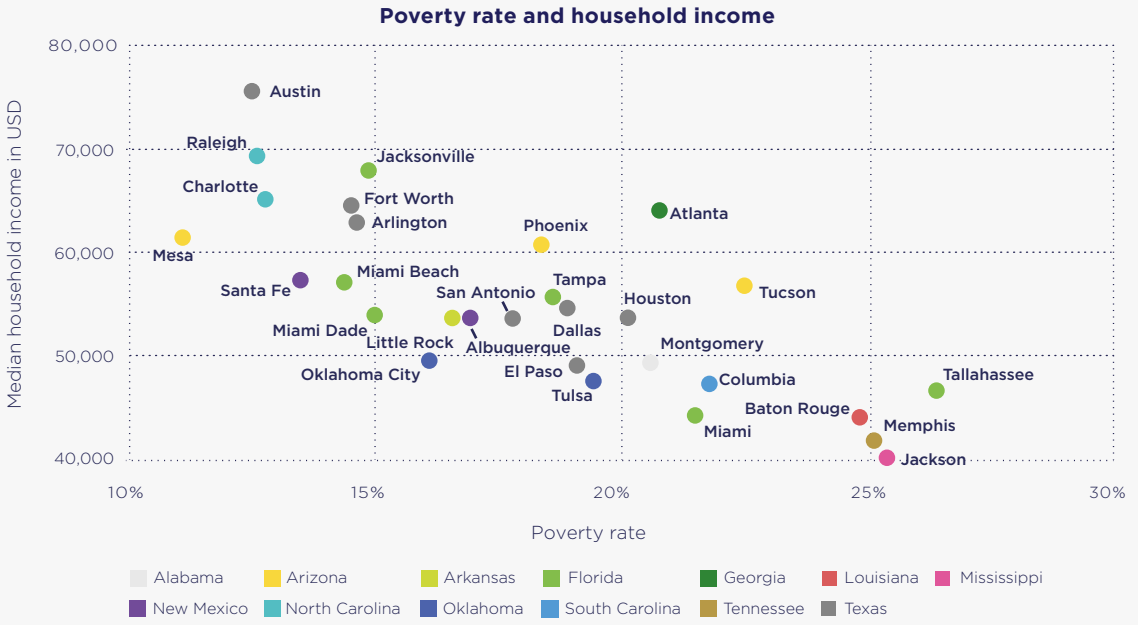

Figure 10: Poverty rate and median household income in 2020; source: U.S. Census Bureau; own calculation and presentation.

Cost of living

Regional price levels are meaningful in comparison to income. For such an analysis, it is certainly feasible that the residents of a state may have a lower amount of available income than in a comparison state, however, despite that, they may still on balance have relatively strong buying power, measured by the goods and services to be acquired – including housing costs – due to a lower price level.

Strikingly, nearly every state in the Sun Belt has a below-average cost of living. Particularly in the economically weak locations of Mississippi, Arkansas, and Alabama, the price level is over ten percent lower than the average for the nation.

But even the Sun Belt's economically stronger states like Texas (99.5), Georgia (94.5), and North Carolina (91.8) have below-average costs of living.

At 100.7, only Florida is slightly higher than the U.S. average. On the whole, this region can be considered to be quite affordable compared to other U.S. regions like California (110.4) and New York (110.2). This can provide motives to relocate, especially when working at some other location of the country is not required or the respective net incomes are comparable.

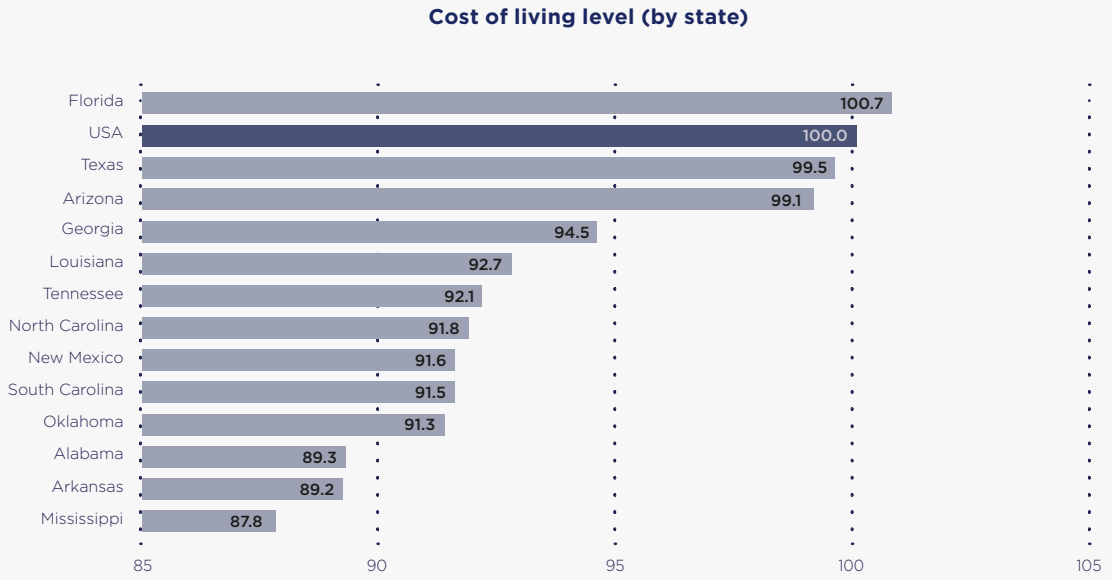

Figure 11: Cost of living levels by U.S. states in 2021; source: FRED St. Louis; own calculation and presentation.

Taxes

After income and cost of living, a household's prosperity is also determined by the amounts of taxes and social security contributions paid. The more that income, wealth, and consumption is taxed, the smaller the resulting leeway the household has available for consumption behavior, its investments as well as savings and emergency funds.

The tax and social security system in the United States is influenced to a lesser extent by the national budget than in most of the European countries. Under this heavily federal approach, a number of additional tax types are due at the state and even municipal level in addition to the traditional taxes at the national level. Significant here are the state income tax, state property tax, and state sales tax.

It is certainly also possible that, despite lower income, a household in a state with a lower tax and social security burden effectively has more consumption opportunities than a household with higher income in a different state that is taxed more heavily.

There are some major differences between the states in terms of the collection of taxes. Some states do not collect certain taxes at all. In this sense, all U.S. states compete with each other through their taxes. Companies and people alike consider the local tax and social security burden when choosing locations for business and residence. This, too, encourages domestic immigration.

The chart below presents taxes at the state level: state income tax, state property tax, and state sales tax. Figure 12 presents the maximum marginal tax rate of state income tax, state property tax, and state sales tax for base cases (without consideration of any exemptions also possible here). The last column adds the statistically calculated average amount of taxes and social security contributions that a person had to pay to the state in 2021. The nationwide ranking is presented in the respective parentheses. The key states contributing significantly to immigration to the Sun Belt, California and New York, are also listed for comparison.

The analysis of the maximum marginal tax rate for state income tax indicates that state taxes on income are low in the Sun Belt. This tax rate exceeds five percent in only South Carolina, New Mexico, and Arkansas. In three states – Florida, Tennessee, and Texas – there is no state income tax at all. In a national ranking, these states are thus all at the top spot in terms of tax burden (in other words, the most "affordable" states in terms of taxation) along with all of the other states without a state income tax (including Alaska, Nevada, New Hampshire, South Dakota, Washington, and Wyoming). The other Sun Belt states are at least all in the top half of the national ranking, differentiating the region vastly from "high-tax states" like Cali-

fornia (13.3%), Hawaii (11.0%), and New York (10.9%). For state property tax, there is a broad distribution among the Sun Belt states. While Texas claims the sixth highest rate compared with the other states in the U.S. at 1.6 percent, Alabama (0.37%) and Louisiana (0.51%) are at places two and three of the national ranking. Only Hawaii at 0.31 percent has an even lower state property tax. The other Sun Belt states have set a tax rate of below 0.9 percent and all are among the top half in the national ranking.

On the other hand, the state sales tax is in the higher range in all of the Sun Belt states. Louisiana, Tennessee, Arkansas, Alabama, and Oklahoma are in the top group among all U.S. states, while Louisiana and Tennessee charge the highest rate in the nation at 9.55 percent. In contrast, Florida, North Carolina, and Mississippi are moderate examples with a tax rate of around seven percent, placing them in the national midfield.

The table's fourth column indicates the average amount a person paid in state taxes in 2021. When interpreting this information, it is important to note that the tax amount is determined by both the tax base as well as by the tax rate. This means that a high amount of taxes can be caused by high income of the residents as well as by high tax rates.

The table shows that the absolute tax burden from state taxes in the Sun Belt is among the lowest in the U.S. In absolute terms, Florida and Texas in particular charge only very low taxes of less than USD 2,100. Outside of the Sun Belt, such low amounts are found otherwise only in Alaska (USD 1,797), Missouri (USD 2,016), and New Hampshire (USD 2,075). The other Sun Belt states are also very competitive in terms of their tax and social security burden. The average state tax and social security burden exceeds USD

State	Maximum state income tax (national ranking)	State property tax (national ranking)	State sales tax (national ranking)	Average tax charges at state level per person in USD (national ranking)	Percentage of median household income going to taxes at the state level (national ranking)
Alabama	5.00% (16)	0.37% (2)	9.24% (47)	2,397 (9)	4.61% (18)
Arizona	4.50% (8)	0.60% (12)	8.40% (41)	2,487 (12)	4.04% (10)
Arkansas	5.50% (18)	0.61% (13)	9.47% (49)	3,405 (35)	6.88% (48)
Florida	0.00% (1)	0.86% (25)	7.01% (29)	2,002 (2)	3.47% (4)
Georgia	5.75% (22)	0.87% (26)	7.35% (33)	2,218 (6)	3.62% (8)
Louisiana	4.25% (7)	0.51% (3)	9.55% (51)	2,443 (11)	4.81% (23)
Mississippi	5.00% (16)	0.63% (14)	7.07% (30)	2,735 (18)	5.88% (39)
New Mexico	5.90% (23)	0.59% (11)	7.84% (37)	3,377 (33)	6.59% (46)
North Carolina	4.99% (12)	0.78% (19)	6.98% (26)	2,711 (17)	4.79% (21)
Oklahoma	4.75% (10)	0.83% (22)	8.97% (46)	2,590 (13)	4.81% (24)
South Carolina	7.00% (31)	0.53% (7)	7.44% (34)	2,304 (8)	4.20% (11)
Tennessee	0.00% (1)	0.63% (15)	9.55% (51)	2,427 (10)	4.43% (13)
Texas	0.00% (1)	1.60% (45)	8.20% (38)	2,093 (5)	3.28% (3)
For comparison:					
California	13.30% (42)	0.70% (17)	8.82% (45)	4,349 (42)	5.53% (36)
New York	10.90% (40)	1.30% (37)	8.52% (42)	4,590 (44)	6.45% (45)

Figure 12: Tax burden from state income tax, state property tax, and state sales tax, average state tax burden per capita and median household income in 2020; source: Tax Foundation and U.S. Census Bureau; own calculation and presentation.

3,000 in only Arkansas (USD 3,405) and New Mexico (USD 3,377), which is still significantly lower than in states like California and New York.

3. Resulting real estate market indicators

As shown, numerous factors upstream from the real estate market, particularly those rooted in the economy, society, and socioeconomics, come into play. Correspondingly, rapidly growing countries and regions offer special opportunities – not only for businesses and the population but specifically also for the accompanying real estate investments and project developments. There is a wide range of the respective indicators within the U.S. and also among the states and cities of the Sun Belt.

This section of the report examines the extent to which the corresponding real estate markets are impacted by the level and trend of the respective conditions. The analysis focuses primarily on rents and purchase prices along with a few other parameters such as vacancy and housing construction.

Rent level and growth (by state)

Figure 13 shows the growth of rents in the Sun Belt from 2015 to 2020. States with the highest growth are Texas (+22.7%), Florida (+21.6%), and Arizona (+20.2%). The picture across the Sun Belt is certainly quite heterogeneous: While the aforementioned states are seeing a clear rise in rents, rent growth remains slower than average in states like Mississippi (+10.0%), New Mexico (+10.3%), and Louisiana (+11.2%). Georgia (+18.5%), Tennessee (+17.4%), North Carolina (+16.9%), and South Carolina (+16.2%) make up the midfield.

Merely average or even lower growth in rents does not necessarily arise due to an area's lack of attractiveness and thus from reduced demand for residential space. It is also conceivable that rents which are already at a high level restrain further growth for economic reasons. To this extent, the differing initial levels and the corresponding basis effects are certainly of interest. In Figure 14, the analysis focuses on median rents with statements on the level, growth rate, and ranking of each state in the Sun Belt. As stable data for 2021 is not yet available, the analysis covers the period from 2015 to 2020.

The overview clearly shows that, generally speaking, the Sun Belt is a region with relatively affordable rents. Only four states – Florida, Arizona, Texas, and Georgia – report median rents of greater than USD 1,000. Even the most expensive state in the Sun Belt, Florida, only reaches the twelfth place in a national

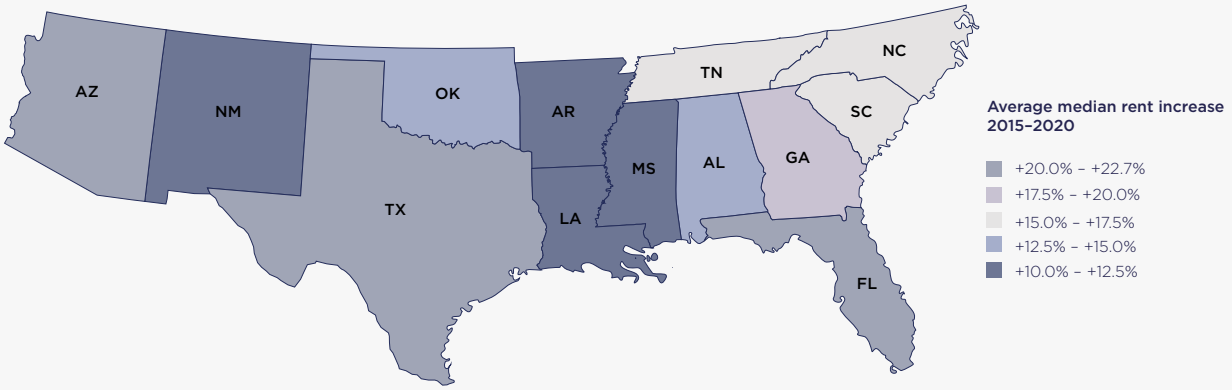

Figure 13: Growth in median rents by U.S. state from 2015 to 2020; source: U.S. Census Bureau; own calculation and presentation, created with mapchart.net.

ranking at USD 1,218 and is vastly dissimilar to the country's most expensive spots in Hawaii (USD 1,651), Washington, D.C. (USD 1,607), and California (USD 1,586).

Another four Sun Belt states are in the lowest group of U.S. states and are among the ten states with the lowest rent levels. Those are Arkansas, Mississippi, Alabama, and Oklahoma. Arkansas reports the second-lowest median level of the entire United States,

State	Median rent 2020	Median rent national ranking	Growth 2015–2020	Growth national ranking
Alabama	USD 811	45	+13.1%	35
Arizona	USD 1,097	18	+20.2%	10
Arkansas	USD 760	50	+12.3%	43
Florida	USD 1,218	12	+21.6%	7
Georgia	USD 1,042	21	+18.5%	14
Louisiana	USD 876	32	+11.2%	47
Mississippi	USD 789	47	+10.0%	49
New Mexico	USD 857	36	+10.3%	48
North Carolina	USD 932	27	+16.9%	18
Oklahoma	USD 818	44	+12.5%	40
South Carolina	USD 918	28	+16.2%	20
Tennessee	USD 897	29	+17.4%	16
Texas	USD 1,082	20	+22.7%	6
For comparison:				
California	USD 1,586	3	+26.4%	4
New York	USD 1,315	9	+16.2%	22

Figure 14: Median rent and rent growth by state; source: U.S. Census Bureau; own calculation and presentation.

and the level is only lower in West Virginia (USD 732).

In contrast, the rent level in the Sun Belt is growing at disparate rates and in comparison to the average trend in the U.S. requires a differentiated assessment. Texas, Florida, and Arizona are extremely fast growing states and are among the top ten of all states with the most rapidly growing rent levels. By expanding the analysis of this leading group to include the top 20, Georgia, Tennessee, North Carolina, and South Carolina can also be classified as especially fast growing. After all, from 2015 to 2020, these states experienced increases in median rents in excess of 15 percent.

On the other hand, there is also a group of states in the Sun Belt growing at rates far below average. Thus, five of the region's states are ranked at 40th place or below in the national ranking. These are Mississippi, New Mexico, Louisiana, Arkansas, and Oklahoma.

In terms of rent level, the Sun Belt region can be classified overall as affordable while exhibiting highly dynamic growth in large areas. It is highly likely that the stronger states will remain in the top group among all U.S. states in the next decade as well. This concerns mainly Florida, Texas, and Arizona. Georgia and North Carolina also continue to have growth potential. These states are also in demand among wealthy newcomers who would like to spend their retirement years there. In contrast, highly granular analyses at the level of metropolitan area, city, and micro-location are required for investments in Mississippi, Louisiana, Arkansas, and Oklahoma, which are growing slowly on a state-wide level.

Rent level and growth (locations)

As initially determined, individual locations within a state can be highly diverse in terms of their economic power, their demographics, and other parameters. Examples of highly disparate locations include, for instance, Tampa and Miami in Florida; Mesa and Tucson in Arizona; and Austin and El Paso in Texas. This also impacts the residential real estate markets. Acknowledging the state data analyzed in the previous section, the individual locations should therefore also be examined. In doing so, the respective level and the growth rate play a role once again.
In Figure 15, the relative median rents (as a percentage value in relation to the list average) is compared to rent growth over five years for the locations examined. The range of level and growth evident here, too, confirms the findings of other indicators, namely the heterogeneous nature of the locations and residential real estate markets within the Sun Belt as well as the differences compared to other states and to the average for the United States as a whole.

What is initially striking here is that there is a positive correlation between median rents and rent growth. This means that the rents in locations which tend to be more affordable also grow more slowly than those in relatively more expensive locations. If this kind of trend continues over a longer period of time, it will result in a widening gap between expensive (and rapidly growing) and affordable (and more slowly growing) locations. This results in certain deficits among

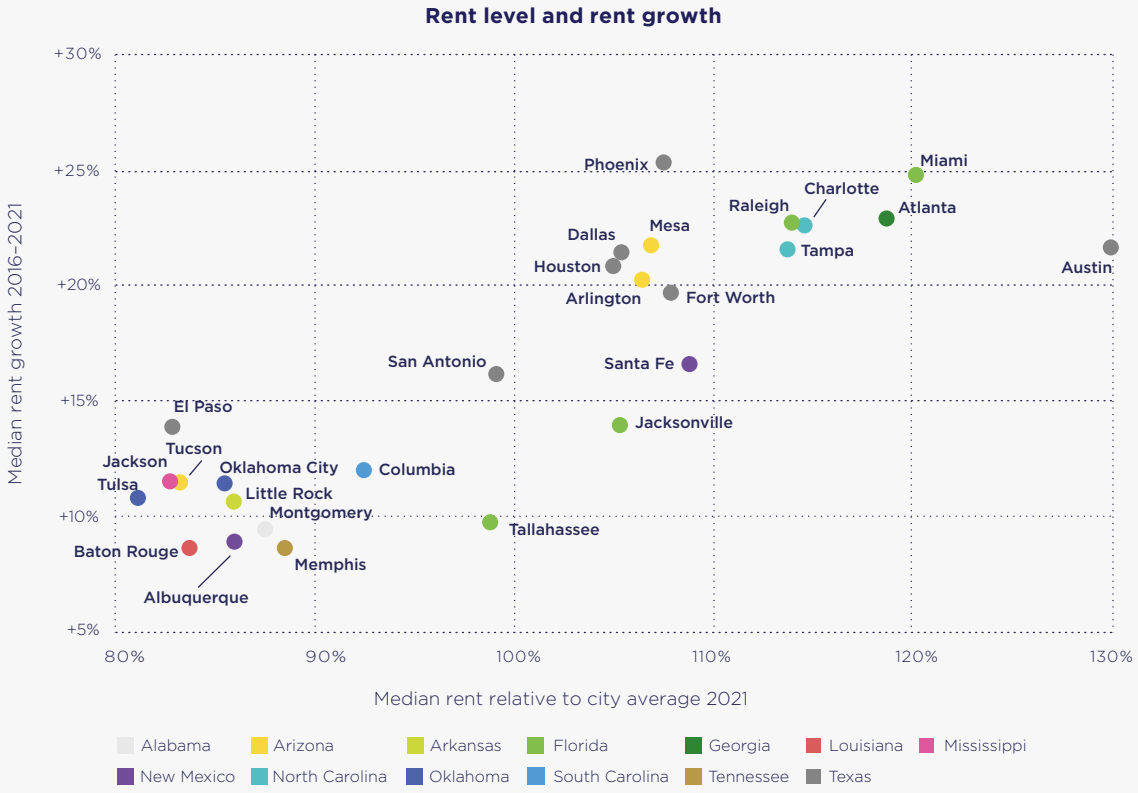

Figure 15: Median rent 2021 as well as rent growth from 2016 to 2021; source: U.S. Census Bureau; own calculation and presentation.

the locations belonging to the more slowly growing group in Alabama, Arkansas, Mississippi, Oklahoma, and Tennessee.

On the other hand, this is benefitting many of the real estate markets in the Sun Belt including Charlotte and Raleigh in North Carolina; Miami and Tampa in Florida; Mesa and Phoenix in Arizona; Santa Fe in New Mexico; Austin, Dallas, and Fort Worth in Texas; and Atlanta in Georgia. These locations have achieved above-average median rent levels and have grown by over 15 percent in the five years between 2016 and 2021. Houston and Arlington in Texas are also considered to be equally rapidly growing and at a higher level.

Moreover, this diagram clearly shows the disparity of the individual locations. Accordingly, the capital of Texas, Austin, has a median rent of 130 percent, which is the maximum of this sample. Furthermore, with rent growth of 21.7 percent, Austin is one of the fastest growing cities in this analysis. These values stand in contradiction to the border city of El Paso, also located in Texas, which has the lowest value of this sample at a median rent level of 83. That location's growth of 11.3 percent is also below average.

The values for Miami are noticeably high. Residential real estate market data reveals that Miami is the second most expensive location, with a rent level of 120 percent in relation to the list average. At a growth rate of 24.8 percent since 2015, the city is also growing very rapidly in terms of its rent and is significantly stronger than other locations in Florida such as Tallahassee (level: 99%; growth: +9.8%).

Divergent trends can also be identified in other states. In Arizona, Phoenix (level: 106%; growth: +21.8%), for instance, is stronger than Tucson (83%; +11.5%). Elsewhere, too, capital cities often have stronger and faster growing real estate markets than the state's other cities. Besides Austin and Phoenix, this also holds true for Santa Fe in New Mexico. For example, its values (109%; +16.7%) are significantly higher than those of another of the state's metropolitan areas, Albuquerque (86%; +8.9%).

Purchase price level and development (locations)

The market for condominiums and single-family homes is even more differentiated than that of rents, as shown in Figure 16 for the price level and price growth of the 27 Sun Belt locations. There is a significantly greater spread than with regard to the median rents covered in the previous section. The median value of single-family homes begins at USD 91,400 in Jackson, Mississippi, and ends at USD 358,600 in Austin, Texas. A wide spectrum was also found for price development, shown here as the rise in value from 2015 to 2020. The rates of change range from plus 2.1 percent in Jackson, Mississippi, to plus 58.8 percent in Tampa, Florida.

Roughly speaking, the matrix can be divided into four areas. In the lower left-hand corner, there are locations with neither a high price level nor high rate of change. Among others, this group includes Jackson in Mississippi with its minimal prices, and also Memphis (USD 107,100; +14.3%) in Tennessee; Montgomery (USD 121,100; +3.9%) in Alabama; El Paso (USD 132,800; +11.3%) in Texas; Tulsa (USD 143,400; +13.6%) and Oklahoma City (USD 161,800; +13.4%) in Oklahoma; Little Rock (USD 167,600; +9.2%) in Arkansas; Baton Rouge (USD 185,000; +16.8%) in Louisiana; and Columbia (USD 186,000; +13.3%) in South Carolina. Though these cities are presently very affordable, to date they have also not seen any interesting price trend either.

In contrast, the upper left-hand corner includes the locations that are also still affordable but that have shown a positive trend in prices over past years. Representatives of these are a few cities in Texas, such as San Antonio (USD 156,700; +29.4%); Houston (USD 186,800; +33.1%); Arlington (USD 188,100; +36.4%); and Fort Worth (USD 190,400; +45.2%); plus Jacksonville (USD 187,700; +34.1%) in Florida. These locations are presumed to have potential for further price increases and can offer real estate investors interesting investment opportunities.

Another smaller group of cities is located in the lower right-hand section of this graph. These are locations that established themselves earlier and at that time already achieved a higher level of property values. It can be assumed in this case that these locations reached a certain plateau with low price growth. This sample includes Raleigh in North Carolina (USD 266,900; +22.3%) and Santa Fe in New Mexico (USD 290,800; +12.0%). Each of these cities is the capital of its respective state. It therefore can be concluded that these cities are established administrative centers.

The final group of locations is in the upper right-hand side of the matrix. These are locations that are already relatively expensive and yet still continue to show strong growth. Representatives are Phoenix (USD 250,800; +40.7%) in Arizona; Tampa (USD 254,600; +58.8%) and Miami (USD 344,300; +42.7%) in Florida; Atlanta (USD 314,400; +41.4%) in Georgia; and Austin (USD 358,600; +39.1%) in Texas. Because of their quality and concurrent strong growth, these cities remain generally of interest for real estate investments. Yet, signs that the real estate market is overheating can be observed. Patterns for later phases of slower growth, combined in some cases with the danger of rising poverty and crime, can be seen in some locations in California and Oregon, for example. As the cities in the Sun Belt are currently undergoing strong growth in terms of the economy and population, the rise in real estate values certainly seems to be justified (a price bubble is not discernible).

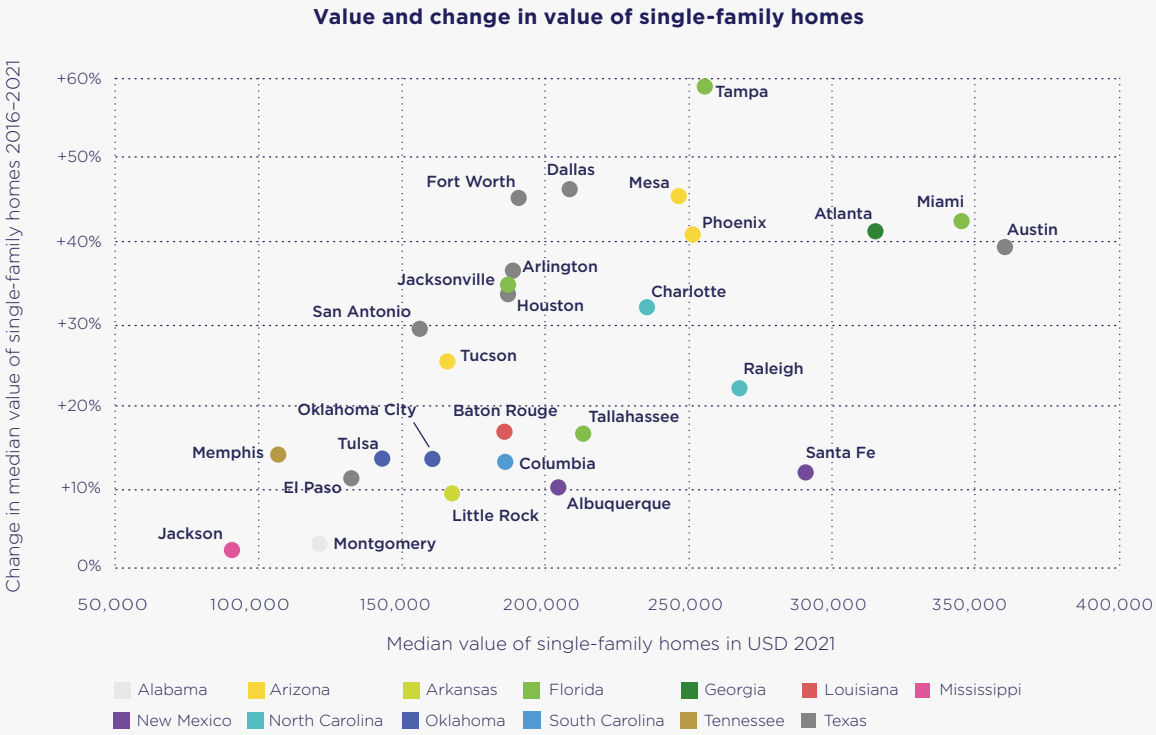

Figure 16: Purchase prices in 2021 and change from 2016 to 2021 for single-family homes; source: U.S. Census Bureau; own calculation and presentation.

Vacancy (location)

Besides rents and purchase prices, the analysis should also examine available supply. Particularly a significant number of vacancies would indicate limited price potential and also generally more difficult marketing of new properties and properties to be rented out to new tenants or resold. Even the previously indicated positive trends could initiate project developments and cause an oversupply. For those reasons, vacancy trends are a key indicator for the real estate market.

Unfortunately, there is far less statistically reliable data on vacancy rates for rental apartments than on prices and construction activities, for instance. The data reported for the cities is not always plausible because of jumps between the years for individual periods. The presentation of locations in Figure 17 therefore uses a smoothing approach for the comparison of vacancy data. For each of the locations, the presentation shows the average values for the years 2013 to 2017 and the average values for the years 2018 to 2022. The data is only available for metropolitan regions, which is why Mesa is included under Phoenix and Fort Worth and Arlington are included under Dallas. No data is available for El Paso, Jackson, Montgomery, Santa Fe, and Tallahassee. Despite the difficult data situation, at least a fundamental trend is ascertainable.

To begin with, vacancies in most of the metropolitan areas examined are declining. This supports the assumption of rising demand and a stable real estate market. The strongest declines were reported in Atlanta (-4.2 percentage points) in Georgia; Tucson (-3.6 percentage points) in Arizona; Dallas (-3.5 percentage points) in Texas; and Memphis (-3.0 percentage points) in Tennessee.

Generally speaking, vacancies are lowest in the metropolitan regions of Arizona and North Carolina, further highlighting the strength of these regions. Little Rock, Houston, Tampa, Oklahoma City, and Austin have higher vacancy rates of over nine percent. The high vacancy rates in Little Rock and Oklahoma City are not surprising due to the previously discussed conditions. In contrast, the metropolitan areas in Texas, Houston and Austin, are economically quite well positioned, so the large increase of 3.3 percentage

points in Austin was actually not to be anticipated. One possible explanation could be the construction activity that will be discussed in the next section. Driven by increased interest in the region, a corresponding construction boom in the city and the surrounding suburbs could have generated an abundance of new housing units which have yet to be completely rented or sold.

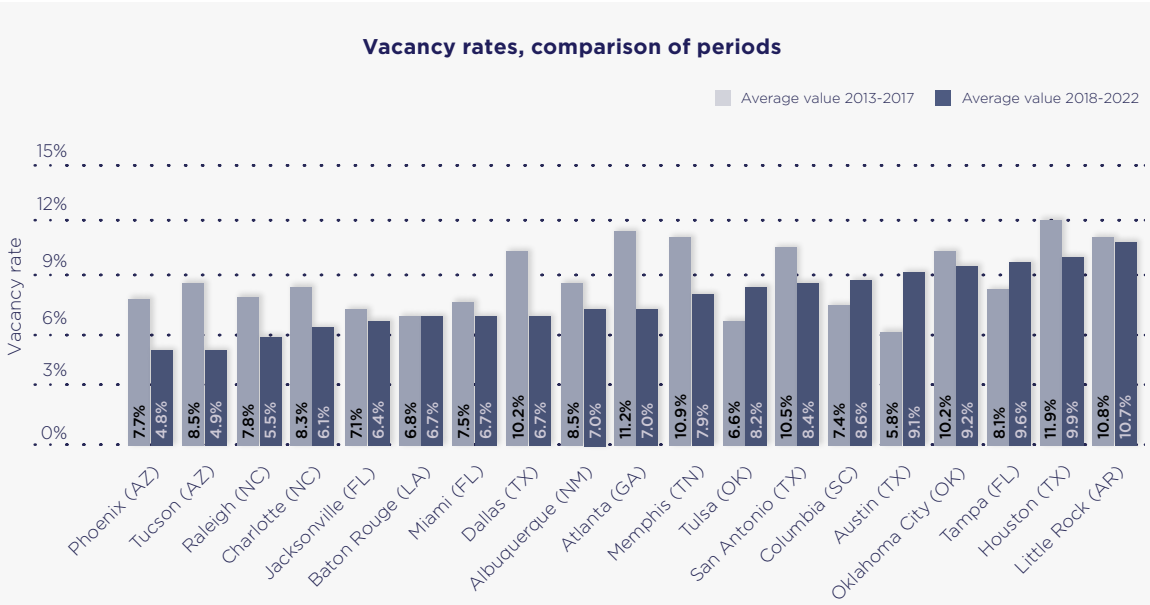

Figure 17: Comparison of the vacancy rates of locations in the periods from 2013 to 2017 and 2018 to 2022; source: U.S. Census Bureau; own calculation and presentation.

Housing demand and housing construction (locations)

Population gains in many states and metropolitan areas of the Sun Belt generate corresponding demand for residential properties. Potential for positive market developments in the real estate industry are mainly expected in areas where the housing supply is not simultaneously growing significantly, resulting in a relative housing shortage.

A comparison of new housing construction to recent additions to the population therefore provides interesting insights. Looking further into the details, other changes in the inventory such as repurposing and deconstruction also play a role, although these have not been considered here for the time being due to their lesser relevance and the lack of a uniform data foundation.

If the percentage rate of population growth (ratio of net immigrants to population level) is higher than that of new construction (ratio of new construction to housing inventory), the market situation would shift toward expanding surplus demand. The United States Census reports comprehensive data on the latter value for the construction years 2014 to 2020. Population data can also be collected per city for the same period.

The analysis at the level of the Sun Belt cities indicates a suitable level of new construction activity at only a few locations such as Albuquerque, Little Rock, El Paso, and Dallas. In contrast, most of the other cities are not seeing enough new construction to keep up with immigration. This more rapidly growing demand is particularly evident in cities like Fort Worth, Atlanta, Phoenix, or Tallahassee.
Ultimately, all of the cities situated to the right of the equilibrium line in the graph can be assumed to have potential for further housing construction (Figure 18). Even further potential on a site-specific basis may arise as a result of shorter construction-related usage cycles and corresponding deconstruction figures. More detailed analyses are required on a case-by-case basis; if so, these must include factors such as construction quality typical for the area, age of construction, as well as qualitative characteristics of the buildings and user requirements.

Building permits issued can be used as another, more future-oriented indicator of construction activity. Sta-

tistics exist, for instance, on building permits issued for houses or single-family homes. This category reflects at least a large part of the U.S. housing market and is suitable as a proxy variable for construction activity in general. In order to be able to make a relative statement depending on the location size, building permits are related to the number of residents. Even if this masks further references to demand, for example due to household size, it at least allows a fundamental differentiation to be made regarding the construction intensity of the individual locations.

The building permits for single-family homes per 1,000 residents shown in Figure 19 are calculated as an average of the years 2017 to 2021. Raw data is only available for metropolitan areas. Therefore – similar

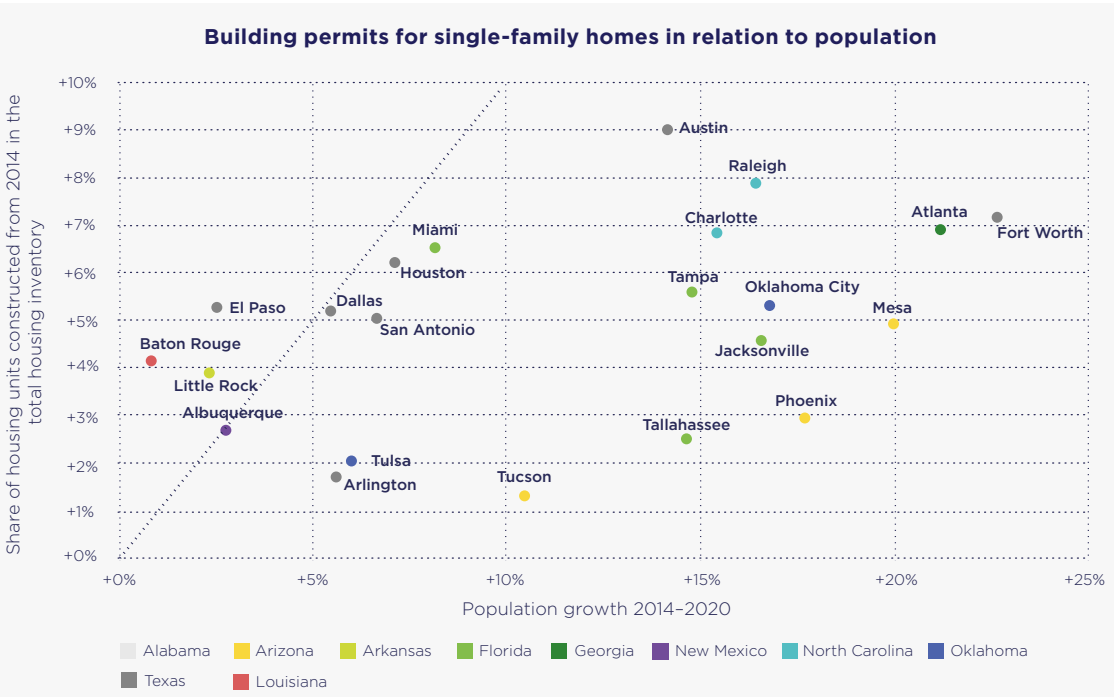

Figure 18: Percentage population growth from 2014 to 2020 and share of housing units constructed from 2014 to 2020 as a percentage of total housing inventory (excluding Jackson, Memphis, Columbia, and Santa Fe due to a lack of data); source: U.S. Census Bureau; own calculation and presentation.

to the methodology in the section on vacancy – this regional definition categorizes Mesa as part of Phoenix and Arlington and Fort Worth as part of Dallas.

As previously seen for the rents and purchase prices and to some extent for vacancies, significant diversity among the locations becomes evident. The most intensive construction activity by far is occurring in the capital of Texas, Austin, where an average of the past years found that 15.5 building permits were issued per 1,000 residents. This underscores the high regard specifically for this location in the Sun Belt. A high number of building permits were also issued in the locations in North Carolina, in Jacksonville, Florida, and in other centers in Texas such as Dallas and Houston (each issuing at least eight permits per 1,000 residents per year).

Those cities already ranked among the weaker performers in the previous sections both in terms of their real estate industry as well as their sociodemographic indicators can be found at the lower end of building permits awarded. These are locations in Alabama, Mississippi, New Mexico, Tennessee, and the border town of El Paso, Texas, where fewer than four building permits were issued per 1,000 residents.

The poor performance of Miami (3.5), a city boasting an established and also dynamic real estate market, is somewhat surprising. One possible explanation is that there are now only relatively few available and affordable lots for single-family homes because of the city's previous real estate boom and the size that the city has already grown to. At the same time, the de facto implication is a continuing decline in vacancies together with stable to rising prices.

Identified correlations

By connecting the different rankings from the areas of population, economy, and real estate market, it is possible to gain an impression of the key correlations. At this juncture, the respective ranking correlations were calculated and categorized into four degrees of impact, depending on the correlation coefficient.

Even though this procedure was kept relatively simple and more precise assertions will be attainable by referencing additional time series, it still provides an initial picture of the relevance of various location factors. Topping the list is certainly population growth,

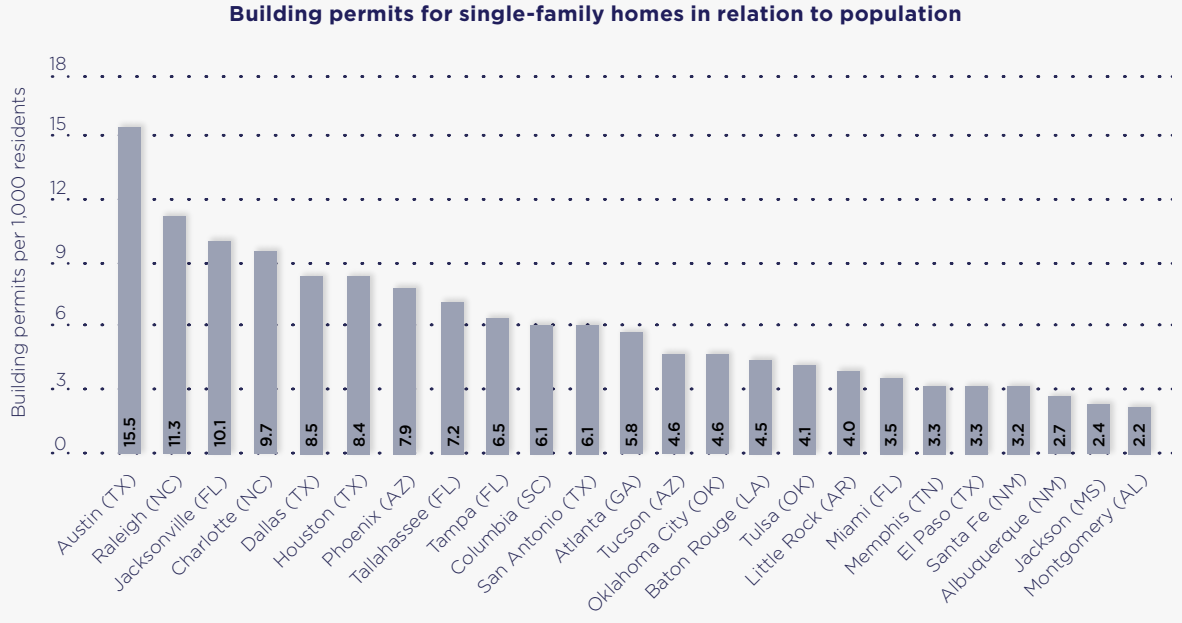

Figure 19: Building permits for single-family homes per 1,000 residents shown; average of the years 2017 to 2021; source: U.S. Census Bureau; own calculation and presentation.

which has a significant effect on real estate market data. At least this holds true for the compared rankings on rents, single-family home prices, and housing construction. Only the vacancy aspect does not indicate a clear correlation, which could be attributable to the compensating effect of the rise in demand through increasing construction activity.
Household income, domestic migration, share of university graduates, GDP, and the general price level are further major factors impacting the real estate market. In contrast, the respective ranking regarding the unemployment rate over the data collection period seems to have been less relevant. One reason for this could be that, even in the weaker locations, employment levels are still relatively high and, as a result, it is not possible to deduce a significant assessment of the location in terms of the real estate market from the rate alone.

	Median rent	Single-family home median value	Building permits	Vacancy
Population growth	+++	++	++	.
Domestic migration	+	+	++	+
Household income	++	++	++	.
Unemployment rate	.	.	.	.
Poverty rate	+	+	+	.
Share of university graduates	+	++	+	.
Per capita GDP, level	+	.	++	.
Per capita GDP, growth	+	.	+	.
Tax burden	+	.	+	.
Price level	+	+	++	.
Patent registrations	+	.	++	.
Company start-ups	.	.	+	.

Figure 20: Correlations between socioeconomic conditions and indicators pertaining to the real estate industry for the 27 locations; simplified calculation using ranking correlation; own calculation and presentation.

4. Variety of potential investment locations

In conclusion, the conditions and real estate market data of the Sun Belt locations analyzed for this study are presented in aggregate form below. This is shown, on one hand, as a comparison of real estate market data and framework data and then, on the other hand, as a comparison of indicator levels and indicator changes. The focus here is on the classification of the locations in the sense of an ordinal scale or ranking. In other words, a low result does not necessarily indicate an absolute poor value for the location, but only for a lower ranking in the group of Sun Belt locations compared in this study. Basically, the following applies: The higher the value on the X- or Y-axis, the better the location's position is in terms of all indicators in the set of reference data.

The first matrix (Figure 21) shows a fundamentally positive correlation between the results of the framework data on one hand and of the real estate market on the other. Austin, Texas, is ranked highest in both categories and thus is considered to have the best real estate market and the best framework data in the sample. Tampa, Atlanta, and Raleigh also score very well in both categories.

Besides, there are cities that only perform very well in one of the dimensions. Accordingly, there are cities with very good framework data but which still have room for improvement in terms of the real estate market; in other words, they could be of interest to real estate investors. This applies mainly to Jacksonville and Fort Worth. On the other hand, there are cities with well developed real estate markets but deficiencies in the socioeconomic and economic framework data. In this sample, this applies to Miami, Charlotte, and Phoenix. Mesa and Dallas are two other good cities achieving solid results in both categories.

Miami is particularly interesting especially in this analysis as it, along with Austin, has the strongest real estate market in this sample, but it has significantly weaker framework data compared to Austin. It seems that typical major city phenomena are playing a role there, such as specific communities of socially

weaker population strata.
The relatively smaller city of Charlotte, for example, has very solid framework data and a highly ranked real estate market. That is also due to the fact that Charlotte is a prominent financial city in the U.S., since companies such as Bank of America are headquartered there.

Cities with low positions in both categories are located at the other end of the ranking. These are Jackson, Albuquerque, Memphis, Montgomery, and Little Rock. They achieved low positions in both rankings and currently appear to be somewhat less interesting, based on their poor basic data and their underdeveloped real estate market. Particularly Jackson, which is ranked last in terms of the basic data, and Montgomery, which has the worst results of the sample in terms of the real estate market, would have to be analyzed with great attention to detail in the event of any investment considerations.
Investments in locations attaining decent results in at least one of the two dimensions are often easier to endorse. El Paso, for example, is placed in the middle range for socioeconomic framework data while it has the study's second-worst results for its real estate market. This could also indicate a certain potential for catching up. The capital of New Mexico, Santa Fe, is an opposite example. It achieved a decent placement for its real estate market, but it has below-average results for its framework data, which could be attributable to the city's small size, among other things. To provide another perspective, the section below

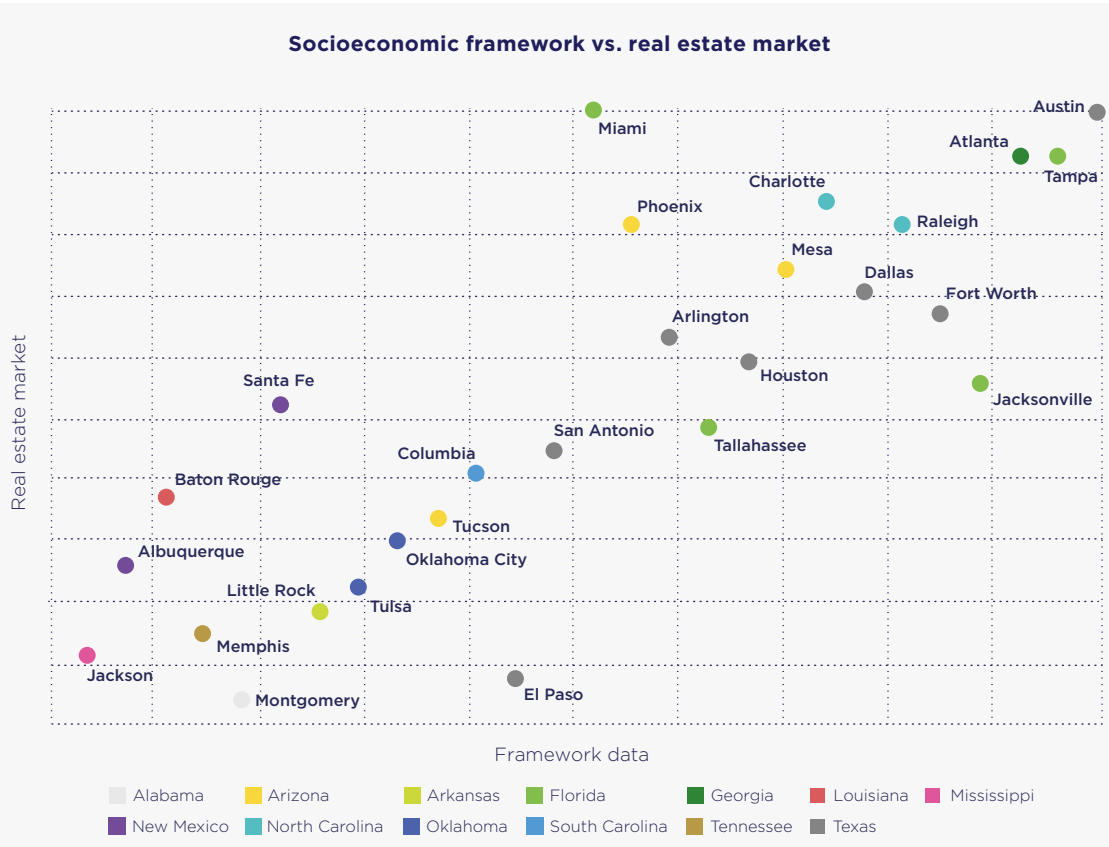

Figure 21: Comparison of socioeconomic framework data and real estate markets, based on various indicator rankings; own calculation and presentation.

applies the dimensions "level" and "growth rate" to compare the locations. The status that the location has already achieved (= level) would be, for instance, per capita GDP or monthly rent. The future development (= growth rate) is derived from the respective rates of change, such as GDP growth or changes in rent, for example.

Accordingly, this perspective serves to identify locations already at a high and stable level, but which may only be growing at a below-average rate (perhaps within the scope of a core strategy). On the ot-

her hand, locations beginning from a lower starting level but which have recently shown strong growth may also be in demand. Here, too, the rankings from the analysis are used to allow a relative comparison of the locations among each other (Figure 22).

In the "level" dimension, Atlanta seems to be the strongest in this sample. In contrast, the best result in the "growth rate" dimension can be seen in Miami. However, both locations differ only marginally in this analysis; they each have good results in both categories. Austin, Tampa, Charlotte, and Fort Worth also achieve very good results in relation to both indicators.

The lower places in both rankings are held by Jackson, Albuquerque, Little Rock, Tulsa, and Montgomery. Aggregated over the indicators observed, Jackson has the worst level values and Albuquerque has the lowest growth rate values.

Locations receiving poor results for only one of the dimensions and achieving significantly better results on the other should be considered selectively. Santa Fe is one example of a city achieving a solid level but presenting virtually no growth. In Arizona, Tucson shows strong growth, but it is ranked at a below-average level for the indicators related to the comparison group in the Sun Belt. Here, too, one could presume that a certain degree of catch-up potential exists.

Generally speaking, Arizona's cities appear to be growing at very high rates: In this study, Mesa and Phoenix are ranked at second and third place in terms of growth rate, and attain at least average results in the level dimension.

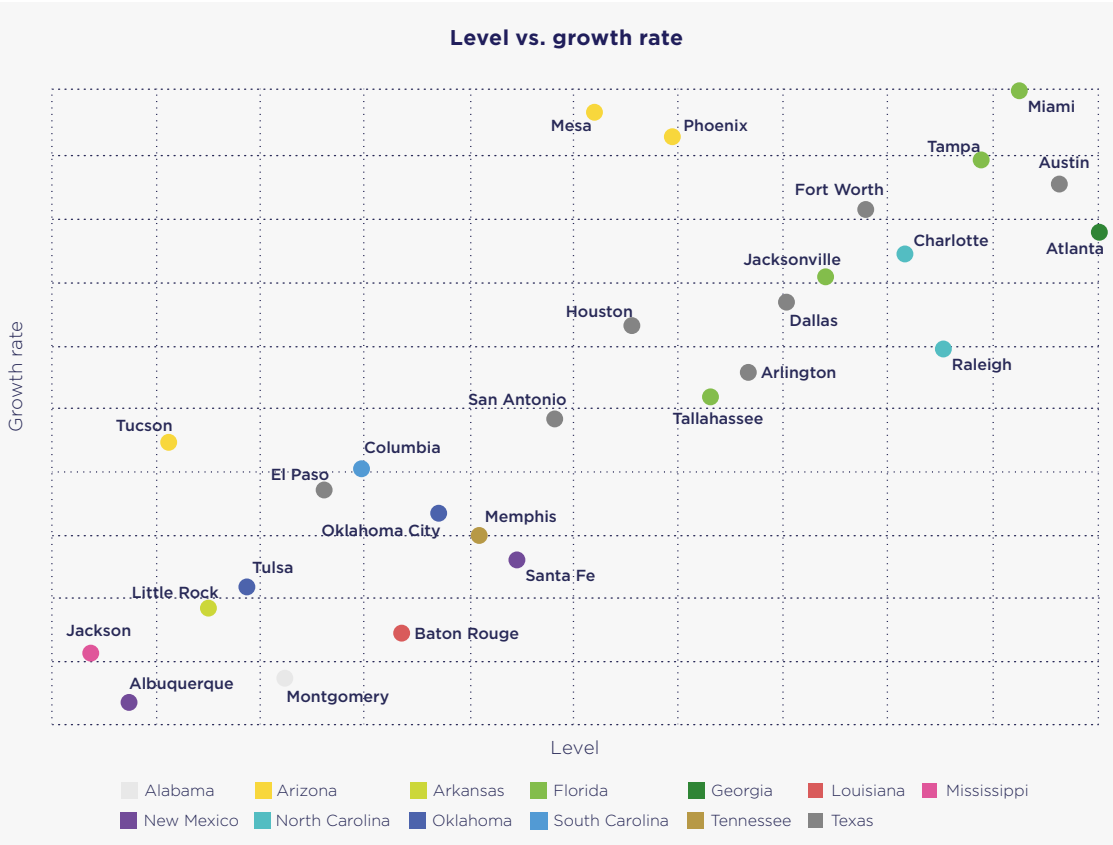

Figure 22: Comparison of level and growth rate, based on various indicator rankings; own calculation and presentation.

5. Conclusion

The data on the population, the economy, and the real estate market analyzed in this study show the Sun Belt to be a highly dynamic region in the southern United States. Particularly in recent years, the region has grown considerably in terms of its population and economic strength. This growth has also driven up most of the region's real estate markets.

At the same time, there are still further opportunities for real estate investments even today. Using the traditional growth centers of the United States such as California, New York, or – going further back in time - the industrial centers in the North (the Manufacturing Belt or Rust Belt) as a pattern, it is safe to assume that a growth phase will last longer than just a few years. Once initiated, a trend will often continue over decades. Only when the economy's growth potential is finally depleted will stagnation occur and perhaps even a loss of workers through emigration to other locations. Migration is already occurring toward the Sun Belt, for instance from California.

The Sun Belt currently includes numerous locations with strong growth potential, attractive job opportunities, and low costs of living. Locations in Arizona, Georgia, Florida, North Carolina, and Texas are some examples of this. It is interesting to note that these states still remain below the U.S. average in terms of their economic strength while they are seeing above-average growth rates. Furthermore, they have relatively low tax burdens in common. On the other hand, attractive locations can even be found in the Sun Belt's relatively weaker states like Mississippi or New Mexico.

The success of real estate investments is closely linked to the general development of the respective location, particularly in terms of their socioeconomic conditions. In this sense, the Sun Belt even provides international real estate investors with a wide variety of potentially successful investment locations.

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