Rural America's Stagnant Economic Performance

WHAT'S THE ROLE OF DECLINING DYNAMISM?

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Executive Summary

Economic growth in the United States has slowed in recent decades, but the negative effects have been especially severe in rural America. Although some rural communities continue to prosper, much of rural America has faced stagnant economic conditions. One possible cause of declining economic growth is declining economic "dynamism" manifested through long-running trends such as fewer firm startups and deaths, declining entrepreneurship and innovation that leads to lower productivity growth, sclerotic labor markets, and less product market competition.

When examining key indicators of dynamism, rural America appears to have faced even greater drops dating back to the late 1970s. These include greater relative declines in migration rates, especially rural-to-urban migration that has long been a key source of upward mobility. Rural areas have also seen larger declines in new-firm creation than their urban counterparts, and there has been a greater relative shift away from small to large firms and a relative reduction in the importance of self-employment. The concern is that both small and new firms are disproportionally responsible for *net* job growth, and localities with greater shares of small firms and self-employment tend to subsequently grow faster in the long run.

When examining rural America as a whole, the eastern US experienced greater relative drops in measures of dynamism, especially in a wide swath of the northeastern region that trended toward President Donald Trump in 2016. These reductions appear to be associated with relatively worse rural economic performance, especially in the East.

Although causation of local economic dynamism and performance is not established, some cautious policy suggestions are made. First, improve tax and regulatory policies to better support small firms and new startups relative to larger firms. Second, enhance labor supply incentives such as the earned income tax credit (EITC) and geographically target such programs by need at the local level by offering enhanced incentives in depressed regions. Third, increase local labor market flexibility, enhance migration incentives, and allow migrants from lagging regions to retain benefits such as enhanced geographically targeted EITC benefits to further incentivize migration.

Finally, lessen legal and regulatory constraints that reduce labor market flexibility such as onerous state occupational licenses and noncompete legal agreements. Such place-based policies can be problematic because rent-seeking can lead to resources shifting to local elites rather than intended beneficiaries, meaning caution is needed in their application. Overall, since rural areas appear to be most hurt by declining economic dynamism, such reforms should have the most beneficial impacts for their residents.

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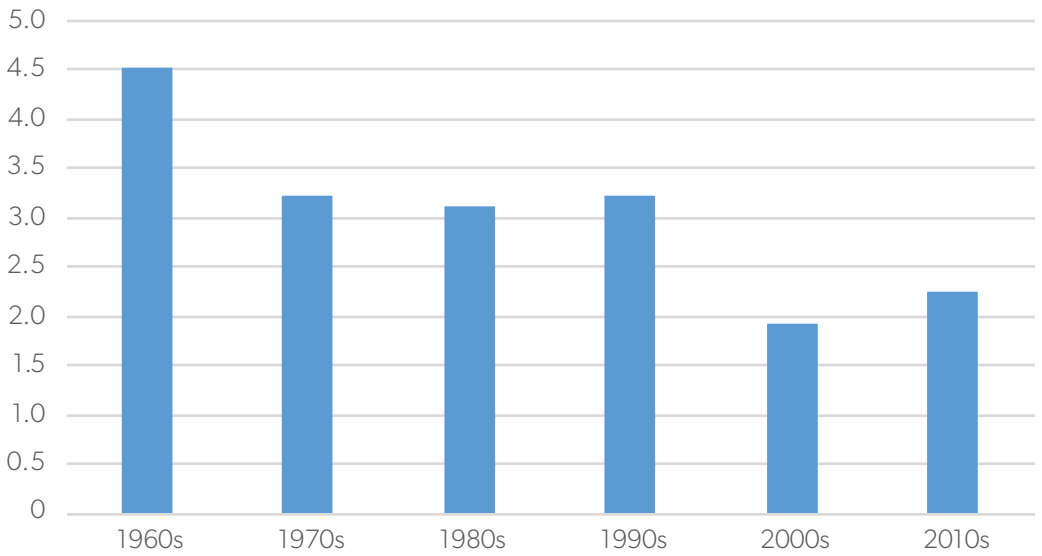
Economic growth in the United States has steadily slowed over the past few decades. Figure 1 shows average real annual gross domestic product (GDP) growth by decade dating back to the 1960s. Average annual GDP growth since 2000 has been about one-half the average of the 1960s. Even with the longest economic expansion in history, growth in the 2010s barely exceeded the previous Great Recession decade. Despite a recent growth spurt, annual GDP growth for the 2019 was only 2.3 percent, roughly equal to the decade average.

Other economic indicators also show significant long-term drops, including employment and wage growth. For instance, real usual full-time weekly wages increased only 6.3 percent between 1979 and 2018, while the corresponding change for men was a *decline* of 4.3 percent.[1] Microeconomic theory predicts that wage growth should closely mirror productivity growth, which was the case from the end of World War II until about 1973, but this changed shortly thereafter.[2] Between 1979 and 2018, productivity growth totaled 69.6 percent, much faster

Figure 1. Average Annual Percentage GDP Growth by Decade, 1960–2018



Source: US Bureau of Economic Analysis; and Federal Reserve Bank of St. Louis.

than the 11.6 percent increase in hourly compensation (compared to 93.2 percent between 1948 and 1979). With wage growth greatly trailing overall economic growth, household income inequality also increased,[3] which can further reduce economic growth and social cohesion.

A further development is the growing economic disparities between "have" and "have not" regions. Specifically, after the mid-1970s, it was no longer the case that "poor" counties and states grew faster on average than their "rich" counterparts, meaning poor places are increasingly left behind. The stories of rust belt manufacturing cities such as Youngstown, Ohio, or Flint, Michigan, are prominent examples.

After the 2016 presidential election, struggles in rural America rose to the forefront. Yet, rural America's economic performance is much more diverse than stories of dying rural towns featured in the media are, though much of rural America has struggled since the Great Recession. For example, using US Bureau of Economic Analysis (BEA) data, per capita personal income actually grew faster in nonmetro (rural) America than in metropolitan America between 1969 and 2000, which was also the case during the 2000–10 Great Recession.

However, between 2010 and 2018, per capita personal income growth in nonmetropolitan America lagged metropolitan America by 5.2 percentage points. Moreover, as indicated by numerous other measures such as higher official poverty rates, sluggish job growth, and persistent population decline, wide swaths of rural America are falling behind. Yet, national trends are not always uniform. For instance, between 2010 and 2018, nonmetro Washington State per capita personal income growth lagged its metro counterparts by 13 percentage points, while in nonmetro Iowa it grew over 6 percentage points faster.

One upshot is that with slow national growth and rising regional and personal inequality, a large share of the population has, at best, only partially benefited from long-term economic growth. It is not media hype that many people have reasons to feel left behind and forgotten, especially in lagging regions.

Causes of Slowing Growth and Economic Opportunity

One obvious cause of slower economic growth is slowing labor force growth due to the aging population. Yet, more problematic is declining productivity growth. For example, from 1948 to 1979, productivity growth equaled 2.6 percent, falling to 1.4 percent between 1979 and 2018. Even more telling, average productivity growth in the 2010–18 economic expansion period was a minuscule 0.7 percent.[4]

It is difficult to pin down all the reasons for falling productivity growth, the decoupling of wage and productivity growth, and rising regional and personal income inequality. Possibilities include declining entrepreneurship, less innovation, political-economy rent-seeking, diminishing worker bargaining power, and declining capital investment. I will not focus on all possible causes. Rather, "declining dynamism" is emphasized, especially in rural America.

Declining economic dynamism refers to many factors that potentially lead to a less entrepreneurial, less innovative, and less flexible economy.

- Labor markets have less job creation and job destruction.[5] Classic Schumpeterian creative destruction implies that this generally leads to fewer labor resources flowing to higher-valued uses. (This is not the same as saying *net* job growth has declined—though it has—but net job growth equals of job creation minus job destruction.)

- There are lower rates of firm births and deaths. In terms of firm births, new and small firms disproportionately create *net* new jobs nationally.[6] For local economies, small firms and greater shares of self-employment are linked to future economic growth.[7] For example, a more recent post–Great Recession phenomena is low-productivity "zombie" firms kept alive by low interest rates.[8] Schumpeterian disruptive forces and creative destruction are restricted, slowing the shift of low-productivity resources to higher-productivity uses.

- Migration rates are declining, implying fewer people move to higher-opportunity and higher-productivity regions.[9] Or, people remain in struggling rural areas, becoming frustrated with the lack of opportunity. Another result is reduced national GDP.

- Occupational mobility is declining due to licensing and education requirements.[10]

- Labor market fluidity is declining—that is, employment to unemployment, unemployment to employment, employment to out of the labor force, out of the labor force to employment, job-to-job changes, interstate migration, job creation, and job destruction.[11]

- Divergence in per capita income is rising across regions and counties. Using BEA data, county per capita income began to diverge in the mid-1970s, meaning economic opportunities increasingly became concentrated in high-growth places.

- Industry concentration is rising, which especially took off in the 1990s, reducing opportunities for new competition or for new business startups. Monopoly rents also appear to have increased due to increased rent-seeking and reduced competition.[12]

In what follows, first is a definition of "rural" for measuring economic performance, followed by a discussion of the current state of rural America. The latter discussion highlights what is actually happening versus the media's dreary portrayal. For one, rural America's long-run problems are largely definitional in that the fastest-growing rural areas are subsequently "promoted" to cities, leaving the remaining slower-growing places as "rural."[13]

In addition, the relative economic success of rural communities is actually a story of tremendous diversity of both fast- and slow-growing places that relate to structural factors. Understanding these factors is crucial for assessing the success of a given rural community.

After describing the role of key historical drivers of rural economic success, I turn to the relative dynamism of the rural economy. What stands out is that key measures such as falling job creation rates and firm startup rates tend to be more severe in rural areas. Another feature is the tremendous regional diversity in relative economic dynamism. For example, the rural eastern US is notably less dynamic. In particular, a broad swath across the rural northeastern US tends to especially suffer from a less dynamic economy, which happens to be the region that strongly shifted toward President Trump in the 2016 election. Finally, policy options are described.

The Current State of Rural America

Before starting, it is necessary to define "rural." A popular definition—one generally used by the media—is that rural areas have lower population densities, often with a landscape dominated by farms or other primary-sector activities (e.g., forestry, fishing, and mining). Picture bucolic landscapes with farms and small towns. Yet, such a definition is not helpful for understanding rural economies because we need a definition based on how residents are economically organized, not one based on landscape.

To understand local rural economies, one must consider whether a locality's population is economically integrated with nearby cities (regardless of landscape). If these communities are integrated with urban economies, they should be treated as *urban* for economic analysis. Conversely, rural economies have relatively weak or virtually no *economic linkages* to urban areas via factors such as access to urban amenities, shopping patterns, or commuting links.

The easiest way to measure whether an outlying region has strong economic connections to an urban area is through labor market links through commuting. If a sufficiently high share of its workforce is employed in an urban area, then the local economy is interdependent (or dependent) with its urban neighbor and should be considered part of the urban economy. Fortunately, this is conceptually how the Office of Management and Budget and

Table 1. US Payroll Growth by Type, Selected Periods

	2002 to 2010	2010 to 2018	2001 to 2018	2017Q1 to 2019Q1	2018Q1 to 2019Q1
United States	–1.31	14.49	12.99	3.11	1.58
US Metro	–0.95	16.96	15.85	3.20	1.69
US Nonmetro	–3.19	0.85	–2.38	2.50	0.86

Source: US Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

the Census Bureau define metropolitan statistical areas (MSAs).

An official MSA includes "outlying" counties with at least 25 percent of their workforce either commuting to the MSA's core or cross-commuting from the core to the outlying region. One could quibble with the exact government thresholds, but the conceptual definition reflects differences between rural (i.e., nonmetropolitan) and urban (i.e., MSAs) regions based on economic linkages.[14] In what follows, I use the terms "urban," "metropolitan," and "MSA" interchangeably, as well as "rural" and "nonmetropolitan."

Rural America's Economic Performance. Rural America has typically lagged in most economic outcomes, but this pattern strengthened after 2000. Even the longest economic expansion on record after the Great Recession has barely registered in much of rural America. Table 1 shows this pattern by reporting overall rural or nonmetropolitan payroll job growth compared to MSA job growth for selected periods. It is remarkable that rural job growth was –2.4 percent over 2001–18, lagging metropolitan job growth by 18.3 percentage points. More specifically, job growth from 2001 to 2010 shows that both rural and urban America struggled. Yet, for 2010–18, rural areas especially lagged their MSA counterparts.

Examining the period since the 2016 election, Table 1 shows job growth from the first quarter of 2017 to the first quarter of 2019 and from the first quarter of 2018 to the first quarter of 2019.[15] These results display a dramatic improvement in relative rural performance. Overall, representing a dramatic reversal, average rural job growth was positive in 2017–19, averaging just over 1 percent per year and lagging MSA job growth by about only 0.7 percentage points, although 2018–19 had slower rural job growth. To be sure, while overall rural growth has lagged the MSA average since the Great Recession, surprising rural pockets have fared relatively well; for example, rural Ohio's performance is better than the national rural average.

Diversity of Rural America Economic Outcomes. The popular notion is that rural America is flyover country that has been left behind by booming coastal cities. Yet, this dreary picture exaggerates and does not reflect rural America's diversity. For example, since the Great Recession, rural manufacturing has had a stronger recovery than it did in urban areas, and many rural communities have fared relatively well.[16]

The story that rural America has significantly lagged is somewhat a statistical illusion in how "rural" is typically defined. Specifically, a major factor depressing rural or nonmetropolitan growth rates is when a particular rural county crosses the threshold to be redefined as an MSA county through having either (1) a principal city that grows above the 50,000 MSA population threshold, making it a metropolitan area, or (2) commuting rates that cross the 25 percent threshold with an existing MSA. Given that these counties are prone to be the fastest-growing rural counties, their promotion to MSA status leaves an ever-increasing share of rural counties that are slow growing. Thus, if one were to evaluate long-run rural economic performance, it would appear much stronger using historic definitions rather than the current definition.

Figure A1 illustrates how simple official reclassification of nonmetro counties to MSA status can tangibly alter how relative rural success is judged. In Figure A1, values are benchmarked to zero in 1970, so the line represents the percentage change in employment growth since 1970. The figure shows that when using 1973 rural and MSA definitions, "small" metropolitan areas with a 1970 metropolitan population of less than one million and rural America *both* grew faster than large metropolitan areas. Indeed, the current ruling assumption that large metropolitan areas have economically dominated is far from clear when using historical definitions.

Figure A2 shows relative growth rates between 1970 and 2017 for metropolitan areas using the 1973 definition, nonmetropolitan counties using the 2013 definition, and counties that were nonmetropolitan in 1973 but *changed status* to metropolitan in 1973–2013 (i.e., counties that were promoted to MSA status). Again, results are benchmarked to zero in 1970. The results show that nonmetro counties that were redefined as metro grew roughly four times faster over 1970–2017 than rural counties as defined in 2013. Even more impressive is that redefined nonmetro-to-metro counties grew about 40 percentage points faster than metropolitan areas as defined in 1973, showing how redefinitions greatly affect the measurement of rural performance.

Figures A3–A7 illustrate the diversity of rural economic performance. They respectively report employment growth rates for MSAs and various nonmetropolitan groupings based on natural amenities, proximity to urban areas, and dominant industry in the nonmetropolitan county. Considering natural amenities first, Figure A3 shows the nonmetro job growth rates for low-, medium-, and high-natural amenity counties using US Department of Agriculture (USDA) rankings.[17] High-amenity nonmetropolitan counties as defined in 1974 have fared quite well, with a population growth rate of nearly 170 percent since 1970, whereas medium- and low-amenity groupings had growth of about only 40 percent. Although not exactly the same as high-amenity counties, USDA-classified recreation-dependent rural counties grew well over two-and-a-half times faster than their other rural counterparts, further supporting the notion that amenities are important. Overall, natural amenities and recreational opportunities are a key component of rural economic success.

Table A1 shows wage and salary employment growth rates for the amenity groupings since the Great Recession using Quarterly Census of Employment and Wages data (i.e., from the first quarter of 2010 to the first quarter of 2019). Table A2 reports corresponding data from the first quarter of 2017 to the first quarter of 2019. (Table A3 has variable definitions and sources.)[18] These tables use 2013 MSA definitions. Tables A1 and A2 show that the large advantage high-amenity rural counties have in economic development continues after the Great Recession, even using 2013 rural definitions with slower-growing counties.

Proximity to urban areas is another key factor explaining rural growth. Proximity provides a host of advantages for rural communities such as access to urban consumer amenities (e.g., shopping, cultural venues, etc.), urban markets and business services, and, perhaps most importantly, job opportunities via rural-to-urban commuting.[19] Illustrating the importance of rural proximity to urban areas, Figure A4 shows the relative growth rates of nonmetropolitan counties adjacent to an MSA versus those that are not (using 1974 MSA definitions). The results show that adjacent rural counties fared significantly better. In fact, adjacent rural counties over 1970–2017 fared as well as MSAs in terms of population growth. By comparison, remote rural counties grew almost 20 percentage points less.

Industry Composition and Rural Economic Growth. Nonmetro counties are typically reliant on specific industries or characterized by certain key economic features. Tables A1 and A2 provide many examples. I will take a few cases from key industries that have historically been predominant in rural counties. Probably the most prominent case in the public mind is farming. Farming's relative role as a rural employer has steadily declined since the 1920s due to labor-saving technological change. For example, using BEA data with 2018 nonmetropolitan definitions,

agriculture's share of nonmetro employment (including proprietors, self-employed, and wage and salary workers) fell from 14.7 percent in 1969 to 6.9 percent in 2000, further falling to 5.5 percent by 2018.

Indeed, Figure A4 shows that nonmetro, farm-dependent counties as defined by the USDA have grown much slower than other nonmetro counties with farm-dependent county population barely budging since 1970. Tables A1 and A2 show that in terms of job growth over 2010–19, rural, farm-dependent counties continue to lag.

Mining and manufacturing are two other industries of special importance to many rural areas. Using 2018 BEA data, the respective mining (including coal, oil, and natural gas extraction) and total manufacturing employment shares were 2 percent and 10.8 percent (versus only 0.5 percent and 6.2 percent in MSAs).[20] Figures A6 and A7 respectively report the relative performance of nonmetro counties most dependent on mining and manufacturing as defined by the USDA. On average, mining-dependent counties slightly lag their non-mining-dependent counterparts, whereas manufacturing-dependent counties have generally lagged their nonmanufacturing counterparts since the mid-1990s.

After the Great Recession, despite an oil and gas energy boom and a modest resurgence in manufacturing, mining- and manufacturing-dependent rural counties have only fared about as well as their other rural county counterparts. Overall, this suggests that strategies that solely rely on rural mainstays such as energy extraction, agriculture, and manufacturing are not necessarily going to be successful because (1) they are not sufficiently large parts of a typical rural county's economy and (2) their respective long-term job growth rates tend to lag other industries.

Despite the dreary stereotype, scores of rural counties are faring relatively well, though a disproportionate share of rural counties lag urban areas in economic activity. The overall conclusion is that when considering the relative performance of rural areas, one should take into account factors such as natural amenities, proximity to urban areas, and local industry composition. For example, government policy can do little to turn around a declining remote, low-amenity, and farm-dependent community because its long-term structural factors are so negative. Yet, many others have the ingredients to respond well to policy changes. Other factors also play a role in affecting long-term local prosperity. In particular, one possible feature is changing economic dynamism.

Dynamism and Rural America's Lagging Performance

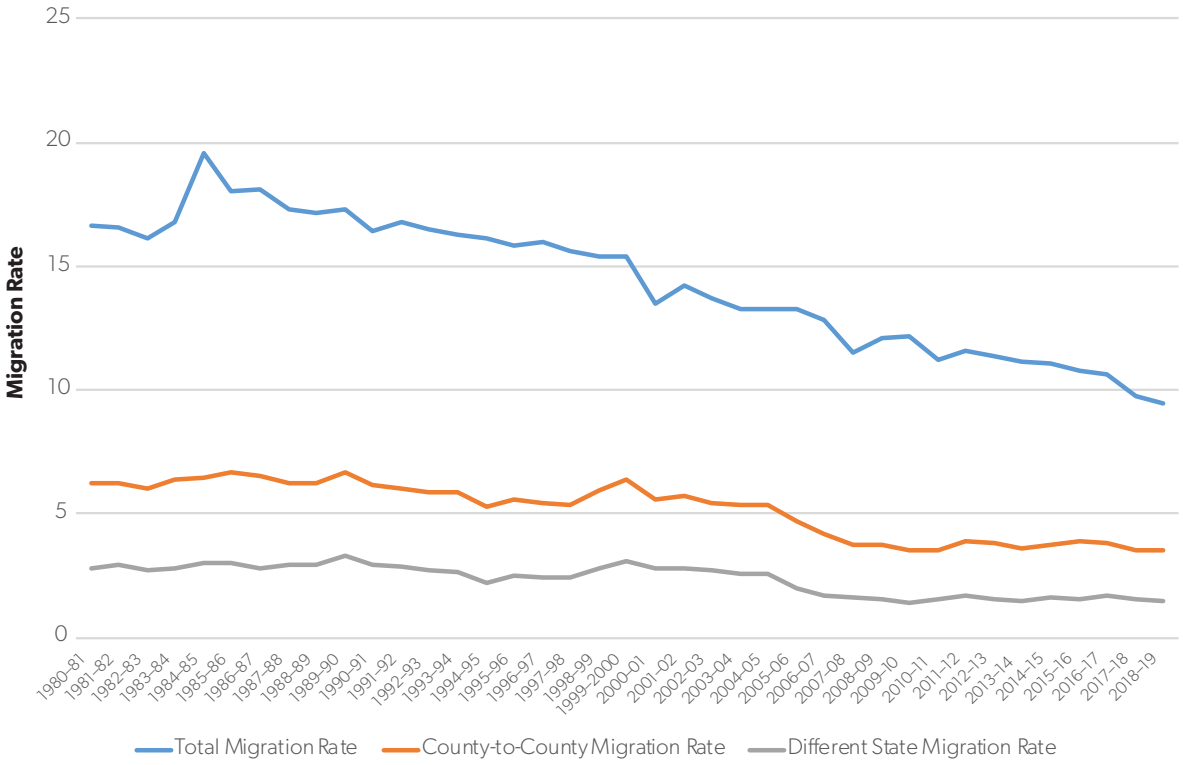
The US economy appears to be considerably less dynamic than it was in the 1970s. These shifts, however, are heterogeneous across regions with rural-urban differences. In particular, a swath of rural America ranging roughly from rural Minnesota to Maine appears to have experienced a larger decline in dynamism, which is also the part of the country that most dramatically shifted from voting for Obama to Trump. (See Figure A8.)

Declining Job Creation, Job Destruction, and Worker Mobility

One key area that declining dynamism has manifested itself in is through a sclerotic labor market. Opportunities for individual advancement are typically obtained by moving from one job opportunity to another and moving from one region (often a declining region) to another (often a prospering region).

Rural Migration. Figure 2 shows that overall US migration rates have declined by almost one-half since the late 1980s.[21] All categories of moves have experienced similar relative declines (i.e., in the same county, intercounty, and interstate). Other US Census Bureau data indicate no clear temporal shift in the share of migrants moving for job-related reasons or in the distance they migrate, implying that migration's downward trend is rather uniform across all groups. To be sure, low migration rates generally reduce overall economic activity because less-productive or unemployed workers are not reallocated to regions where they could be more effectively used.

Figure 2. US Internal Migration, 1947–2019



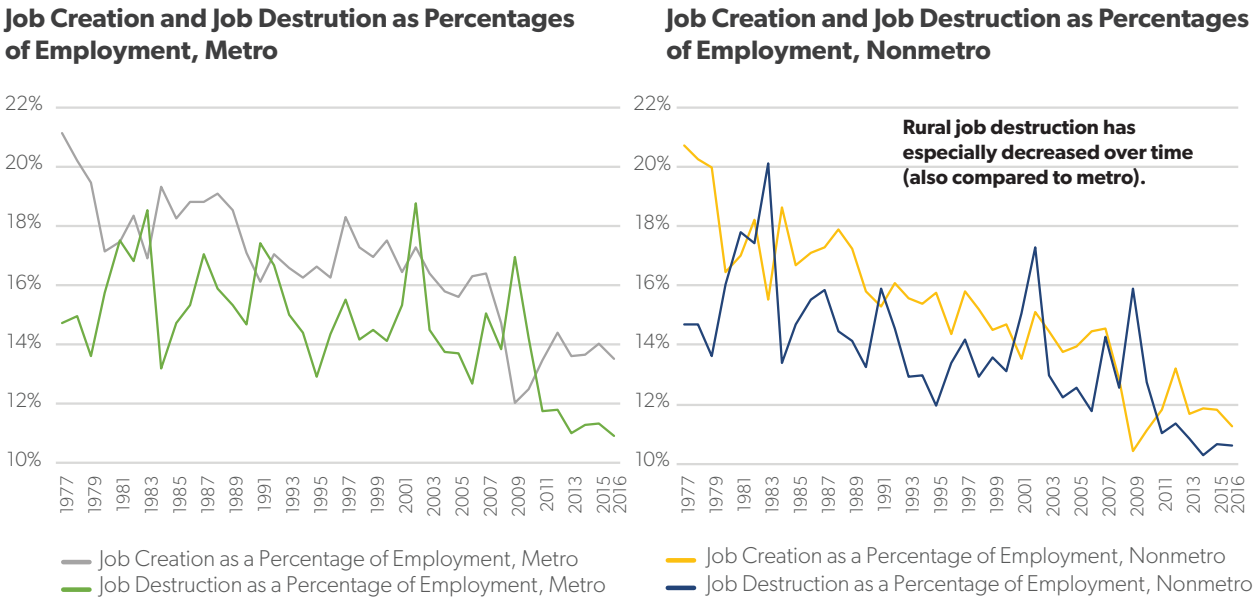
Source: US Census Bureau.

For those in struggling rural areas, historically one of the best avenues to economically advance was to migrate to urban areas for better job opportunities. However, rural-urban migration has precipitously declined since the 1970s, even more so than overall migration. Although not directly comparable across time, nonmetropolitan to metropolitan migration was 2.1 million in 1975–76, 1.9 million in 1989–90, 1.5 million in 1998–99, 1.3 million in 2006–07, and only 978,000 between 2018 and 2019.[22] Given that rural areas generally lack job opportunities and have lower wages, long-term declines in rural-to-urban migration leaves many rural households "trapped" with few opportunities.

Job Creation and Job Destruction. Having higher job creation than job destruction is desirable because the difference between the two equals net job growth. It may also stand to reason that job destruction rates should be low. However, that is not necessarily the case because job destruction can occur when people move to a better job at a different employer or when workers move on from less-productive firms or firms with obsolete technologies and uncompetitive business practices. This reallocation frees workers and resources to shift to higher-valued uses. In sum, a dynamic, innovative, and healthy economy also needs job destruction.

Figure 3 shows MSA (left panel) and nonmetropolitan (right panel) job creation and job destruction (measured as a share of total employment) since the late 1970s. Job creation and job destruction rates fell in both urban and rural America. Yet, the rural job creation rate has fallen by almost one-half, while the urban job creation rate fell considerably less over the period. Job destruction rates for rural and urban areas follow almost identical downward trends. Thus, the rural-urban story is that rural job creation declined at a faster rate, suggesting fewer rural worker opportunities for advancement and a relative decline in rural net job growth.

Figure 3. US Metro and Nonmetro Job Creation and Job Destruction, 1977–2018



Source: US Census Bureau, Longitudinal Employer-Household Dynamics program; and Quarterly Workforces Indications.

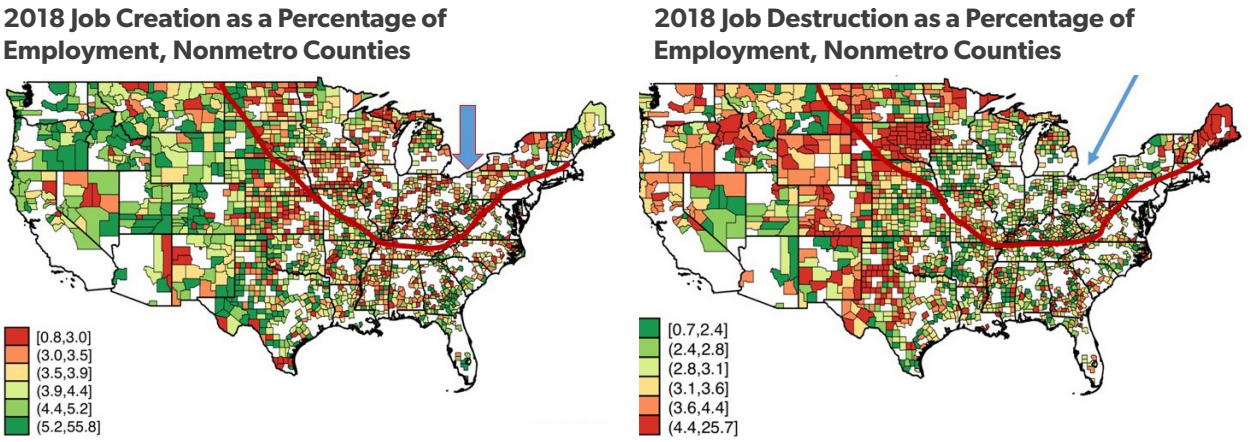
There is considerable geographical variation in job creation and job destruction. Figure 4 shows the 2018 nonmetropolitan job creation rate (right panel) and job destruction rate (left panel). Although there is *within*-region variation, rural job creation rates tend to be lowest in the "northeast pro-Trump" quadrant, along with low rates in the Great Plains and parts of the Deep South (e.g., southern Mississippi and Alabama). Conversely, the strongest 2018 nonmetro job creation rates were typically in the West.

Job destruction rates have almost the exact opposite pattern with lower job death rates in the northeast pro-Trump quadrant, southern states, and the southern plains region. The West tends to have the highest job destruction rates. The overall picture is that western rural counties tend to have high job creation and job destruction rates, while the opposite tends to apply in the East.

In terms of the *net* job growth rate (i.e., job creation rate minus job destruction rate), it is not a priori clear whether the rural West or East has greater overall growth; namely, high job destruction rates in the West are offset by low job creation rates in the East. To appraise this issue, Figure 4 shows the 2010–18 nonmetropolitan job growth rate. The Great Plains and western foothills of the Rockies did not fare so well. Likewise, parts of the Deep South had weak job growth, as did New England and northern New York. Yet, the Far West and much of the Midwest actually fared *relatively* well in job growth. In the Midwest, the manufacturing-intensive east-north-central region had *relatively* fast job growth (perhaps surprisingly given the public narrative), which illustrates a relatively strong rebound in rural manufacturing after the Great Recession.

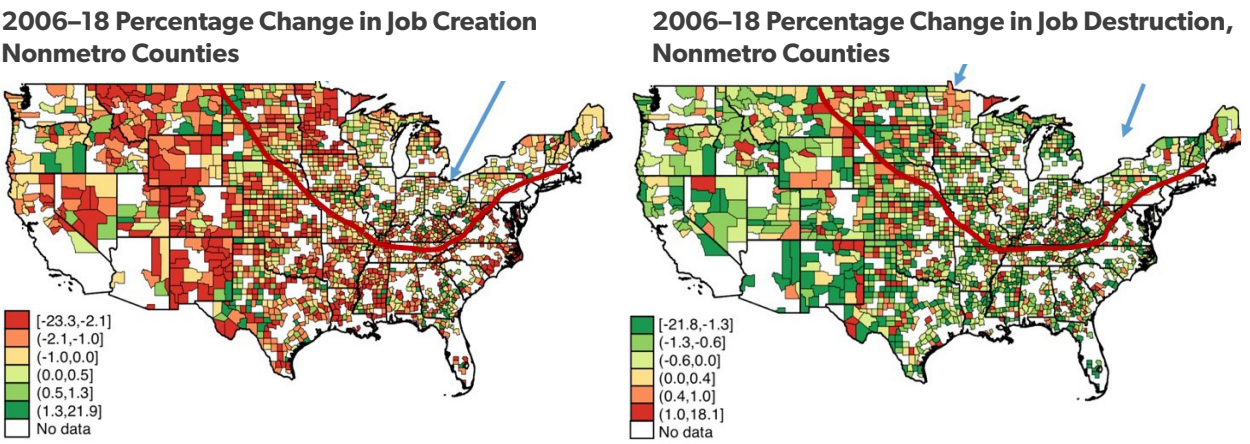
These results further suggest that while much of the historic rural manufacturing belt has had *relatively* strong job growth post–Great Recession, these rural economies tend to be mired in the scoliotic state of few jobs being created to offer better opportunities, while many low-productivity, low-wage firms remain in business, retaining their workforce. In the west-north-central Midwest, the region has not only low dynamism but also below-average job growth, whereas similar conditions generally apply to much of the East. It is not hard to see why workers in these

Figure 4. Rural Job Destruction and Job Creation Rates



Note: Q1 2018 used for all states but Massachusetts, Maine, and South Dakota. Q2 2018 used for Massachusetts, Q4 2017 used for Maine, and Q4 2016 used for South Dakota.
Source: US Census Bureau, Longitudinal Employer-Household Dynamic program; and Quarterly Workforces Indications.

Figure 5. Change in Job Creation and Job Destruction Rates, 2006–18



Note: Q1 2006 and Q1 2018 used for all states but Maine and South Dakota. Q4 2006 and Q4 2017 used for Maine. Q4 2006 and Q4 2016 used for South Dakota. No 2006 data for Massachusetts.
Source: US Census Bureau, Longitudinal Employer-Household Dynamics program; and Quarterly Workforces Indications.

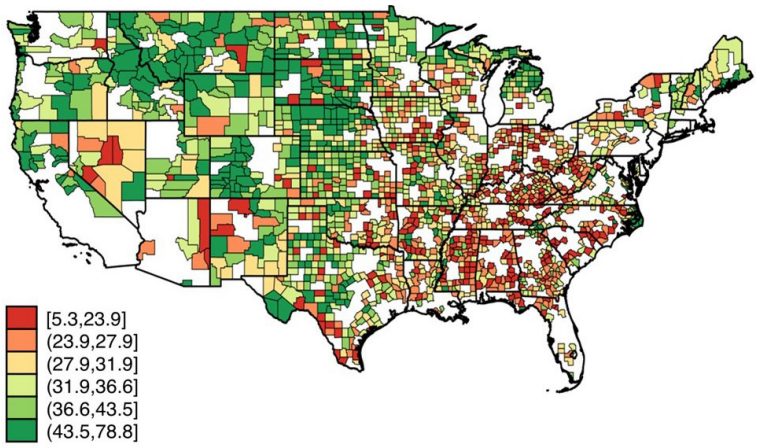
regions may be frustrated by the lack of good job opportunities and upward mobility. Conversely, there appears to be more rural opportunity in the Rocky Mountains and points further west.

One question is whether these trends are becoming stronger over time. As already shown, the answer is yes in that, on average, both job creation and job destruction rates have been declining since the 1970s. However, have the identified patterns deepened over time? To assess this issue, Figure 5 respectively shows the changes in job creation and job destruction rates between 2006 (approximately the business cycle peak before the Great Recession) and 2018. The right-hand panel shows that nonmetropolitan job creation rates have actually declined the most in the West, even as these regions have higher job creation rates. Elsewhere, there does not appear to be as many clear changes in geographical patterns over time.

Firm Dynamics and Geographical Differences Across Rural America

The frozen rural labor markets described above would be exacerbated if firm dynamics also froze. I appraise this issue by considering differing dimensions of firm dynamics.

Figure 6. Small-Firm Employment as a Share of Total Employment, 2017



Note: Q4 2017 used for all states but South Dakota. Q4 2016 used for South Dakota. Small firms have 50 or fewer employees.
Source: US Census Bureau, Longitudinal Employer-Household Dynamics program; and Quarterly Workforces Indications.

Trends in New Firms. Figure A9 shows the 1986–2018 share of total establishments that employed fewer than 50 employees for metropolitan and nonmetropolitan areas and the US average. "Small" firms are defined as having under 50 employees. The figure shows the relative decline of small firms in both rural and urban America. In 1986, the respective rural and urban small-firm shares were 96.7 percent and 95.0 percent, or, alternatively, the medium- and large-firm shares were respectively 3.3 percent and 5.0 percent.

By 2018, the respective rural and urban small-firm shares had declined to 96.0 percent and 94.3 percent, or the medium- and large-firm share of total establishments respectively increased to 4.0 percent and 5.7 percent. While this may seem small, in *relative* percentage change, the 1986–2017 percentage change in the relative medium- and large-firm share in rural America is about 21 percent and 14 percent in metropolitan America (i.e., typical establishments are becoming larger over time). As noted above, because small firms are associated with a disproportionate share of *net job creation*, this trend is likely associated with less job growth, especially in rural America.

The declining relative importance of small and new firms is shown in Figure A10. New firms are defined as being under four years old with the importance of new and small firms being measured by their shares of total employment between 1993 and 2017. The small-firm employment share fell from about 34 percent to 28 percent over the period or about an 18 percent decline in the relative importance of small-firm employment. Likewise, the new-firm employment share respectively declined from 11.1 percent in 1993 to 7.4 percent in 2017—or a relative decline of about one-third over the period. Given the positive roles of small and new firms to local and national economies, such trends are worrisome.

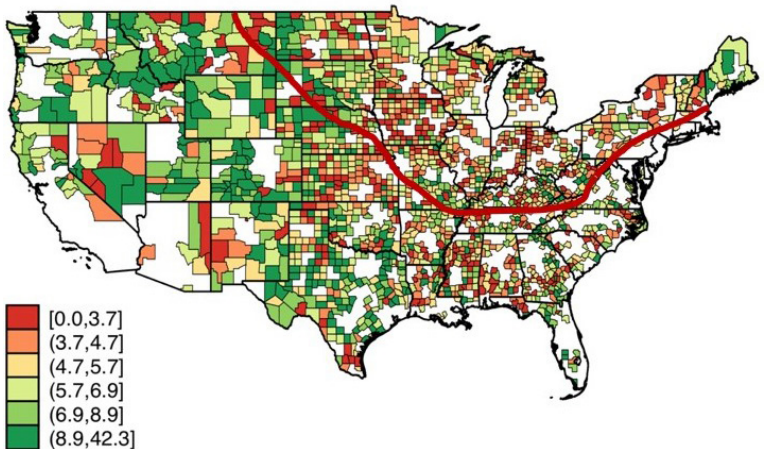
Figure 6 reports the 2017 small-firm share of total employment. Not surprising is manufacturing-intensive regions in the rural Midwest have lower shares employed in small firms, especially in Indiana and Ohio. Another general pattern is that rural small-firm employment shares tend to be lower in the East and higher in the West.

Geographical Trends in Nonmetropolitan Employment from New Firms and Firm Deaths. There are spatial differences in how new firms and firm deaths affect employment.[23] Figure 7 shows 2017 total employment share in new firms (less than four years old). The general pattern is that in the "Trump" northeast quadrant, the share of rural employment in new firms is among the lowest in the country, despite pockets of growth in areas such as the eastern Dakotas and Maine. The general story for the Trump northeast quadrant continues to be a lack of dynamism,

especially in manufacturing-intensive areas. The general pattern of the West being more dynamic than the East also continues to hold.

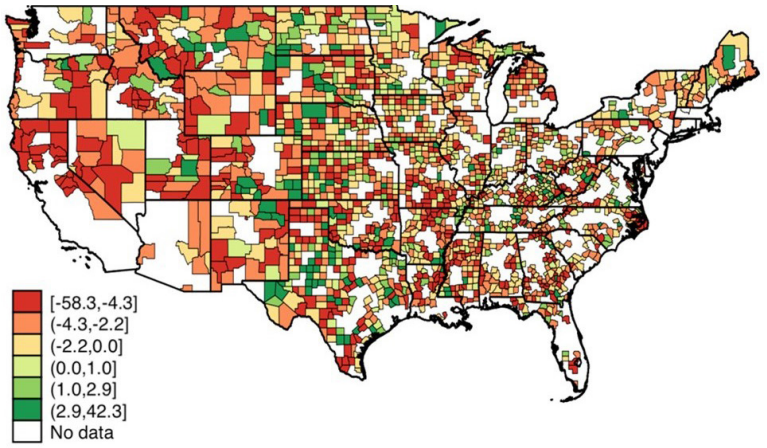
Figure 8 shows the 2006–17 percentage change in rural, new-firm employment as a share of total employment. The general pattern is declining employment shares due to new-firm employment compared to prerecession. Yet, there are some pockets of relative increases in new-firm employment in the Great Plains region and surprising pockets such as in eastern Kentucky, much of which is coal country. On the positive side, these new firms are evidence of green shoots that may help mitigate the fallout from declines in coal mining.

Figure 7. 2017 New-Firm Employment Share, Nonmetro Counties



Note: Q4 2017 used for all states but South Dakota. Q4 2016 used for South Dakota. New firms are less than or equal to three years old.
Source: US Census Bureau, Longitudinal Employer-Household Dynamics program; and Quarterly Workforces Indications.

Figure 8. Percentage Change in New-Firm Employment Share, Nonmetro Countries, 2006–17



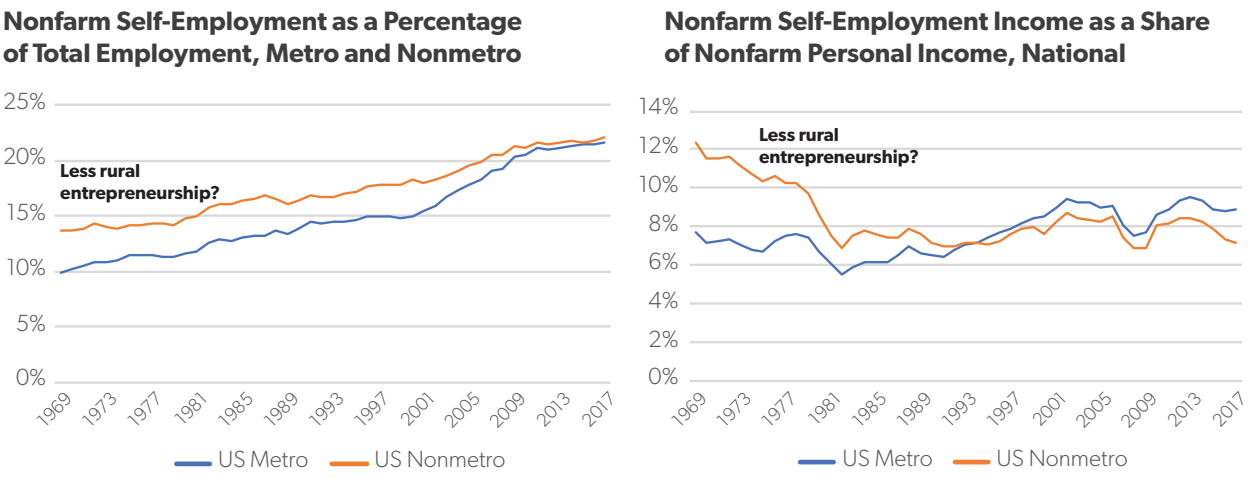
Note: Q4 2006 and Q4 2017 used for all states but South Dakota. Q4 2006 and Q4 2016 used for South Dakota. No 2006 data for Massachusetts. New firms are less than three years old.
Source: US Census Bureau, Longitudinal Employer-Household Dynamics program; and Quarterly Workforces Indications.

National and Regional Trends in Nonmetropolitan Self-Employment. Self-employment is often used as another indicator of local entrepreneurial activity, especially in terms of risk-taking to begin small businesses. Even "mundane" small businesses entail some risk beyond wage and salary employment. Officially, self-employment represents someone who owns a firm as a sole owner, partnership, or pass-through LLC. Such firms may have no wage and salary employees (not counting the owner) or can employ additional employees.

To be sure, the BEA defines self-employment to include anyone with Schedule C business income, which includes any individual with ad hoc income such as honorariums. Thus, the intensity of self-employment is measured in terms of its share of total employment and its income share of personal income. The income share measure should better reflect self-employment's importance in more formal businesses. To eliminate idiosyncrasies due to farming, only nonfarm self-employment is considered.

Figure 9 shows the 1969–2017 urban and rural self-employment share of total employment in the left panel and self-employment's income share in the right. Historically, the panels show how self-employment

Figure 9. Metropolitan and Nonmetropolitan, Nonfarm Self-Employment Shares for Employment and Income, 1969–2017

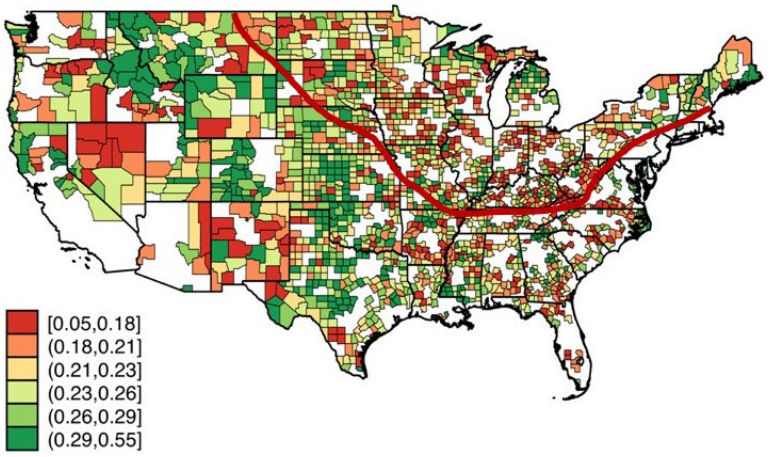


Source: US Bureau of Economic Analysis.

has been more important for rural America, mainly because of basic scale effects. For example, a plumbing company in a large city is likely incorporated with dozens of employees, while it is much more likely to be a pass-through LLC or partnership in a small rural community. Overall, for both metropolitan and nonmetropolitan America, self-employment's employment share rose over the entire period.

Yet, there are clear differences between rural and urban America. In 1969, the nonmetropolitan, nonfarm self-employment share rose from 13.7 percent to 22.0 percent in 2017, whereas the corresponding increase for metro America is more significant, rising from 9.9 percent to 20.7 percent. In the right panel, the pattern is even stronger with self-employment's income share rising for urban areas but falling in rural areas. Specifically, between 1969 and 2017, the rural, nonfarm self-employment share of personal income fell from 12.3 percent to 7.2 percent, whereas the corresponding shares for urban America rose from 7.7 percent to 8.9 percent. Overall, the relative importance of self-employment fell in rural areas relative to urban areas, again suggesting a greater relative decline in rural dynamism.

Figure 10. 2017 Self-Employment Share, Nonmetro Counties



Source: US Bureau of Economic Analysis.

The self-employment share of total employment is also heterogeneous across rural America. To illustrate this point, Figure 10 shows the nonmetropolitan self-employment share of total employment for 2017. The figure again indicates that the Trump northeast quadrant had below-average self-employment shares,

consistent with the general story that the region is generally less dynamic.

Again, the rural East has less self-employment intensity than the West does, though the pattern is not as strong as for the other cases. The rural Great Plains region has higher self-employment shares, though that is likely related to sparse populations leading to small firms. The rest of the West appears to be generally dominated by relatively larger shares of self-employment, although the pattern is not universal.

Summary and Concluding Thoughts

The US economy has slowed considerably over the past 40-plus years. A primary cause is falling productivity rates. Further exacerbating declining aggregate growth is growing economic gaps between rich and poor regions and a related hardening of the rural-urban economic divide. In understanding these trends, this report focused on the role of declining dynamism and its differential effects across regions, especially for rural areas.

The ill effects of declining dynamism manifest themselves in many ways, but the main path is that forces associated with Schumpeterian creative destruction are less effective in cleansing the economy of unproductive firms to allow resources to shift to productive endeavors. The consequences include not only lower overall productivity but also less product market competition, fewer business startups, fewer firm deaths, and possibly lower rates of innovation. For example, firm startups are an important source of future *net* job growth and new innovation—implying that fewer firm births has long-run growth consequences.[24] All this contributes to sclerotic labor markets with workers stuck in bad jobs with few positive opportunities to change occupations and industries or relocate for work. To the extent that such factors underlie "places left behind," it can lead to further frustration and a sharpening of the rural-urban divide.

This report documented growing labor market inflexibilities over time, including declining migration rates but, in particular, less migration from rural to urban areas, suggesting fewer opportunities for rural household advancement. Likewise, relative to urban America, rural areas experienced significantly larger decreases in firm creation rates, increasing shares of large firms, and a relative decline in the importance of self-employment, all suggesting a relatively greater decrease in overall rural dynamism.

When examining whether dynamism has had differing effects across rural America, key patterns emerged. Foremost, the western third of the rural US appears to be relatively more dynamic, and, not surprisingly, those rural areas have also tended to perform well. The eastern US appears to have experienced greater declines in rural dynamism, especially in a northeastern quadrant that especially shifted toward President Trump in 2016. While it is premature to assess causality, it appears that dynamism helps shape the relative economic performance of rural areas.

While policy recommendations should be made with caution, a general goal that would apply regardless of the effects of dynamism is to encourage more firm startups through changes in tax and regulatory policies that disproportionately favor large and existing firms. For example, Mark Partridge et al. find that widely used state and local tax incentives to specific firms broadly reduce business startups in that locality.[25] Given the key nature of new firms to local economies, it is important to have enough firm births to increase the odds of more highly successful new firms. Further, Minghao Li et al. find that the fastest-growing US firms are widely distributed across industries (including quite mature industries such as agriculture) and are not just in "high tech," illustrating the folly of "picking winners."[26] Moreover, they add that the fastest-growing firms are located across the country (i.e., in rural, urban, flyover country and certainly not all on the coasts).

Unfreezing labor markets will likely require a host of policies. On the labor supply side, policies aimed at raising worker skill levels can help equip people with marketable skills that would also allow them to be more geographically mobile. Likewise, wage subsidies or an enhanced earned income tax credit (EITC) will further incentivize more people into the labor market. As described by Partridge and Dan Rickman

and Benjamin Austin, Edward Glaser, and Lawrence Summer, these subsidies can vary by location, such as being more generous in depressed areas.[27]

Such supply-side policies, however, are likely insufficient. Thus, more targeted supply-side policies to incentivize household migration (e.g., migration subsidies) are likely necessary. Unfortunately, the 2017 federal tax cut was a step in the wrong direction by eliminating deductions for work-related migration. Given the relatively low likelihood of finding suitable work in many depressed rural areas, attaching place-based wage subsidies and enhanced EITC to migrants when they leave depressed rural areas seems more promising than hoping suitable work opportunities will suddenly appear in long-declining locales.

Indeed, if high-growth areas are labor supply short, having such inducements makes sense on the aggregate level as well. Furthermore, there should be closer examination of state and local occupational license requirements. At the very least, states should be encouraged to recognize each other's occupational licenses.

On the labor demand side, given the general ineffectiveness of efforts to stimulate private-sector employment in persistently declining regions, that leaves public service employment (PSE) programs as one possibility. PSE programs were often in use from the New Deal to the early 1980s, but they have fallen out of favor. However, if specifically targeted to declining regions, they could provide bridge employment for many families and tighten local labor markets to lift wages.[28]

In declining areas that lack infrastructure and services, there ought to be many worthy projects. Timothy Bartik and the Government Accounting Office note the Comprehensive Employment Training Act that existed from 1974 to 1982 (the last major PSE program) generally had positive long-term effects on enrollees.[29] Yet, place-based policies generally can be problematic because rent-seeking can lead to resources shifting to local elites rather than intended beneficiaries, meaning caution is needed in their application.

Another way to facilitate labor mobility is to limit the scope of noncompete and nondisclosure agreements, such as in California. For example, Michael Lipsetz and Evan Starr find that the state of Oregon's efforts to limit the scale of noncompetes for low-wage workers led to 2–3 percent higher wages as firms lost monopsonistic bargaining power.[30] Partridge et al. also find indirect evidence that suggests that allowing more worker mobility across sectors is positively linked to more firm startups.[31]

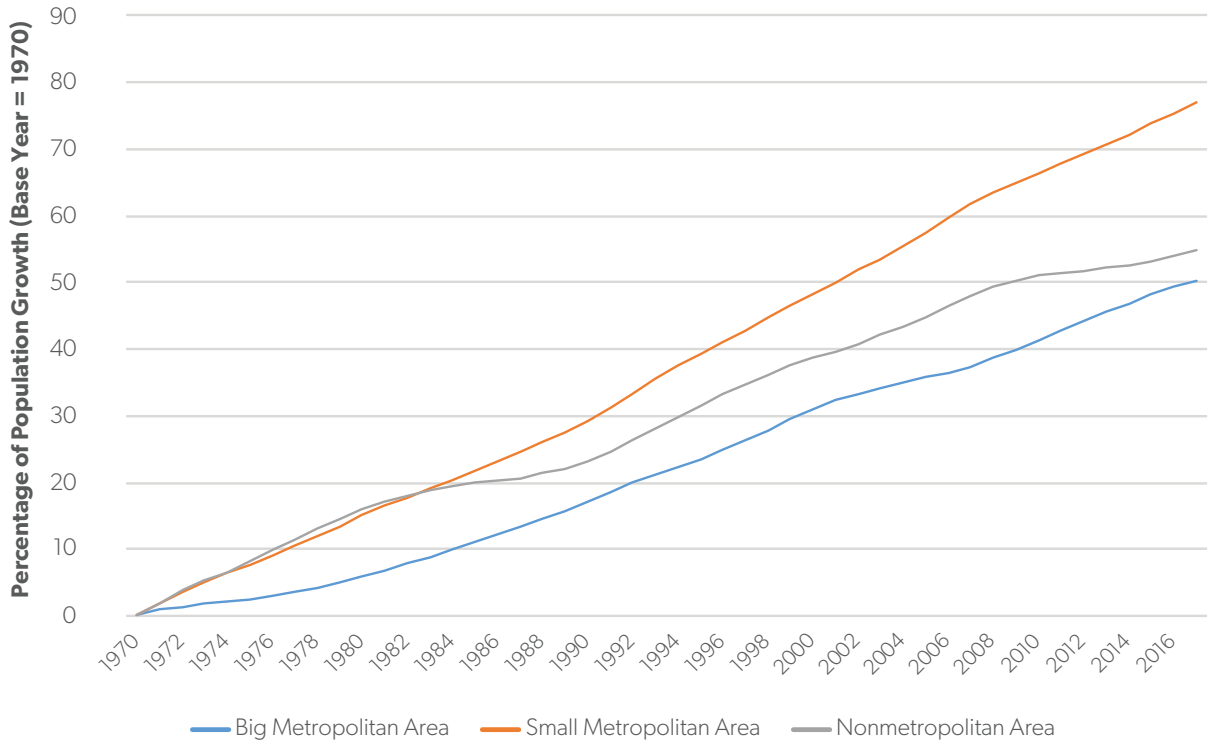
Declining dynamism weakens the ability of market forces to reallocate resources to high-valued uses. Because rural America appears to be most hurt, especially in the East, efforts to remove constraints on dynamism would appear to have the most positive effects in rural areas. Of course, as for most public policy changes, current beneficiaries of the status quo would vigorously fight any reforms, which may actually reflect the overriding problem of the American economy—that is, that the relative returns to rent-seeking are often higher than those for developing successful business practices, innovation, and entrepreneurship.

About the Author

Mark Partridge is the C. William Swank Chair in Rural-Urban Policy at the Ohio State University and a professor of Agricultural, Environmental, and Development Economics. He is an expert in rural policy and regional economic growth, and he has widely published academic articles and consulted with multiple government and nongovernmental organizations around the world.

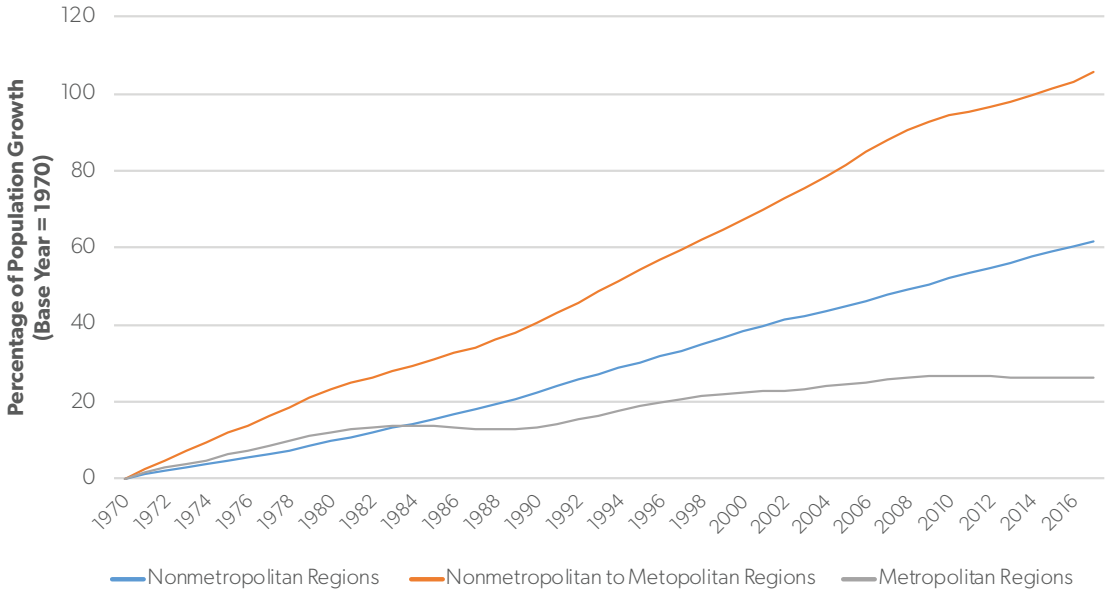
Appendix

Figure A1. County Population Growth by Metro and Nonmetro Status, 1970–2017



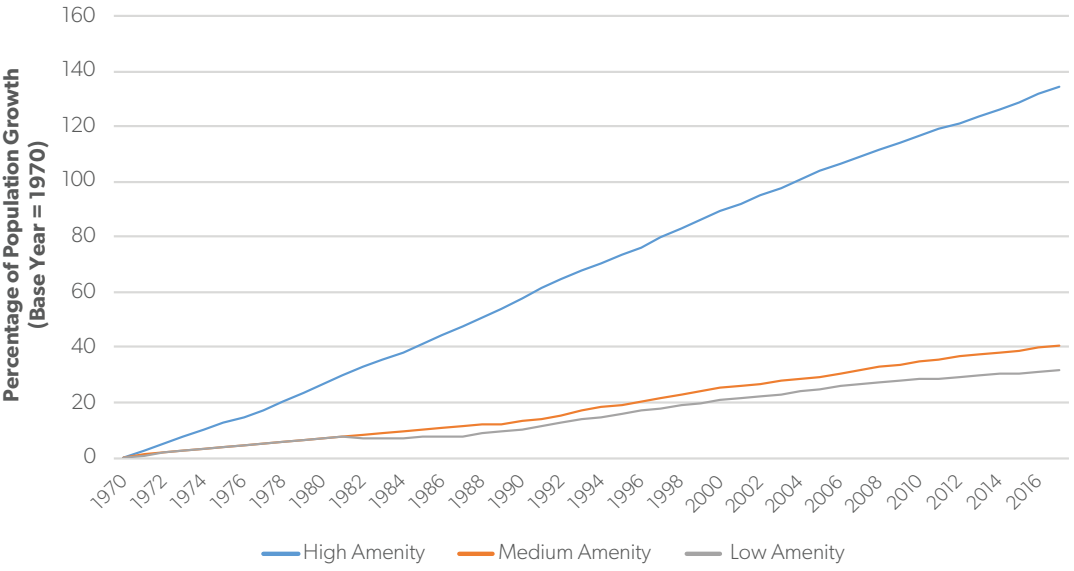
Note: Classification of metro-nonmetropolitan area definitions are based on the 1973 Census definitions. Big metropolitan areas are those counties in metropolitan areas with at least one million population in 1970 population. Small metropolitan areas are the remaining metropolitan areas.
Source: Population data are from the US Bureau of Economic Analysis.

Figure A2. Nonmetropolitan and Metropolitan Counties and Counties Redefined as Metropolitan Between 1973 and 2013



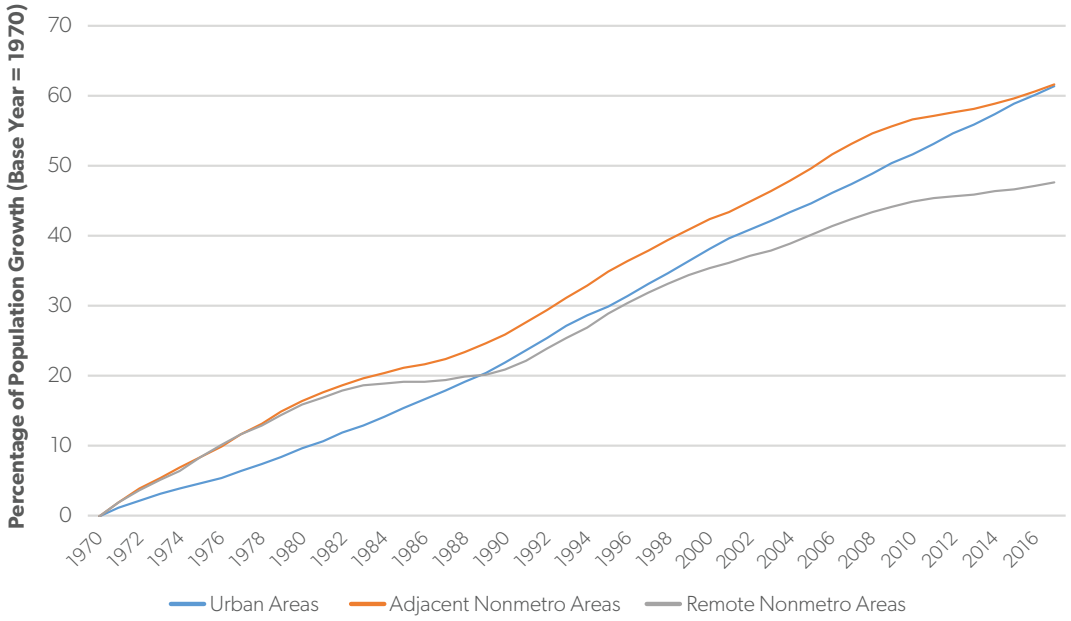
Note: Classification of metro-nonmetropolitcan definitions are based on the 1973 and 2013 censuses. Metropolitan regions are counties that belong to MSA in 1973. Nonmetro-to-metropolitan regions are 1973 nonmetro countries that belong to MSA in 2013. Nonmetropolitan regions are the remaining nonmetro counties.
Source: Population data are from the US Bureau of Economic Analysis.

Figure A3. Nonmetropolitan Growth by Natural Amenity Ranking



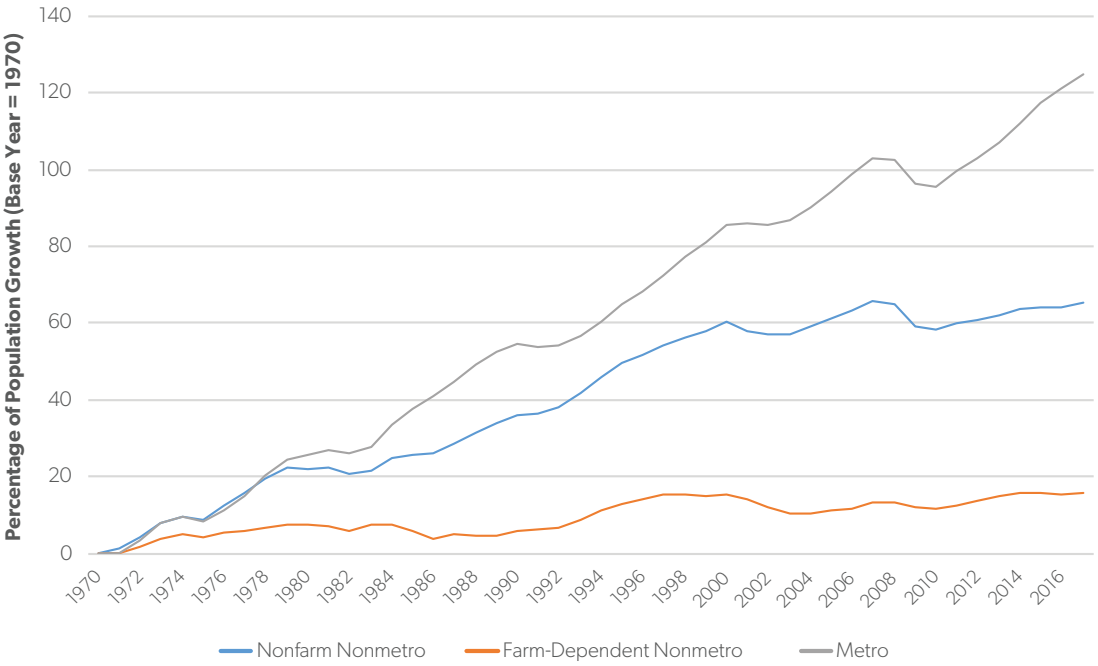
Note: The classification of natural amenity is based on the 1999 US Department of Agriculture amenities scale (low amenity ≤ two; three ≤ medium amenity ≤ four; high amenity ≥ five).
Source: Population data are from the US Bureau of Economic Analysis.

Figure A4. Nonmetropolitan Population Growth Based on Adjacency to Metro Statistical Areas



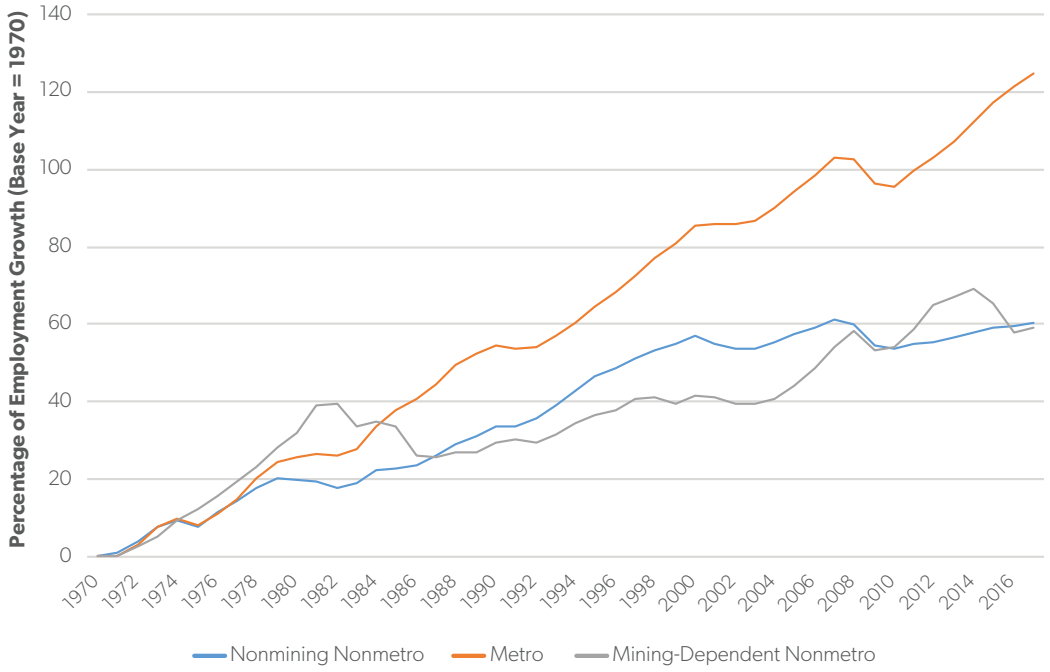
Note: Nonmetropolitan counties, 1974 definitions. Classification of metro-nonmetropolitan counties is based on 1974 US Department of Agriculture Rural-Urban Coninuum Code (metro ≤ three; four ≤ adjacent nonmetro ≤ six; remote nonmetro ≥ seven).
Source: Population data are from the US Bureau of Economic Analysis.

Figure A5. US Department of Agriculture Farm-Dependent County Job Growth, 1970–2017



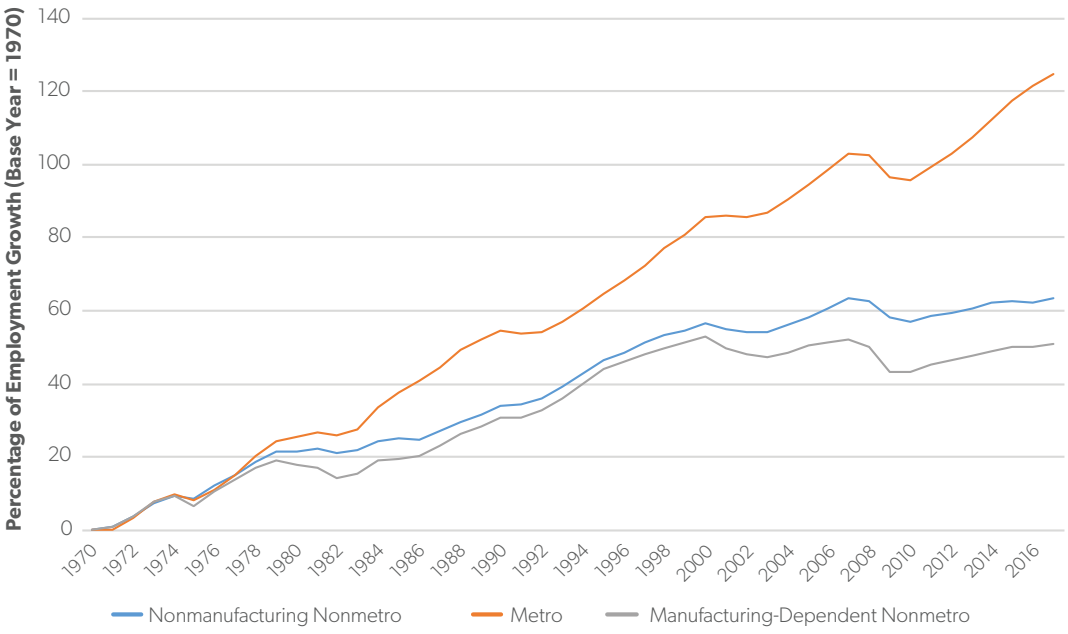
Source: US Bureau of Economic Analysis Total Employment.

Figure A6. US Department of Agriculture Mining-Dependent County Job Growth, 1970–2017



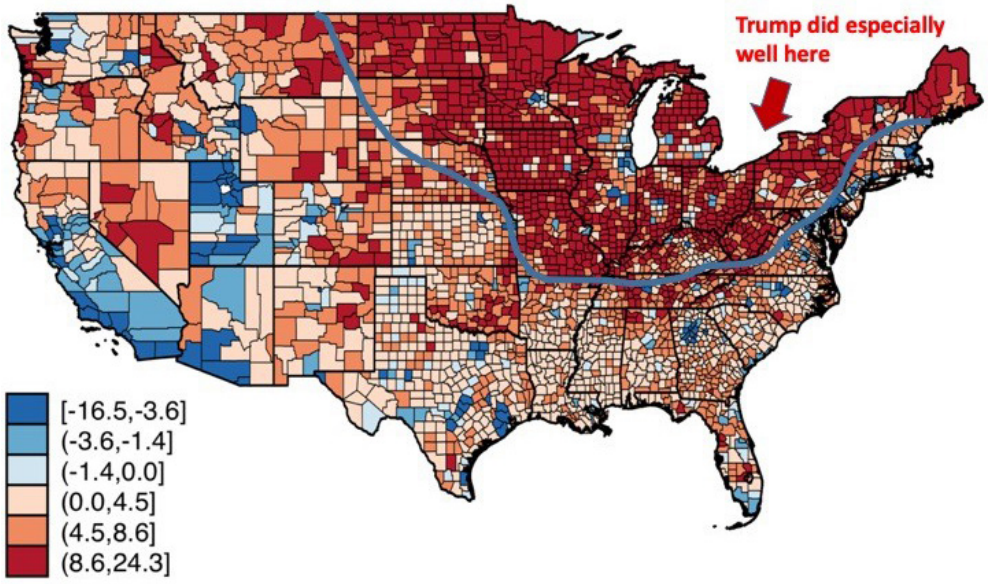
Note: Classifications of counties are based on 2015 ERS County Typology Codes. A mining-dependent county had mining account for 13 percent or more of the county's earning or 8 percent of employment averaged over 2010–12.
Source: Employment data are from the US Bureau of Economic Analysis.

Figure A7. Manufacturing-Dependent County Job Growth, 1970–2017



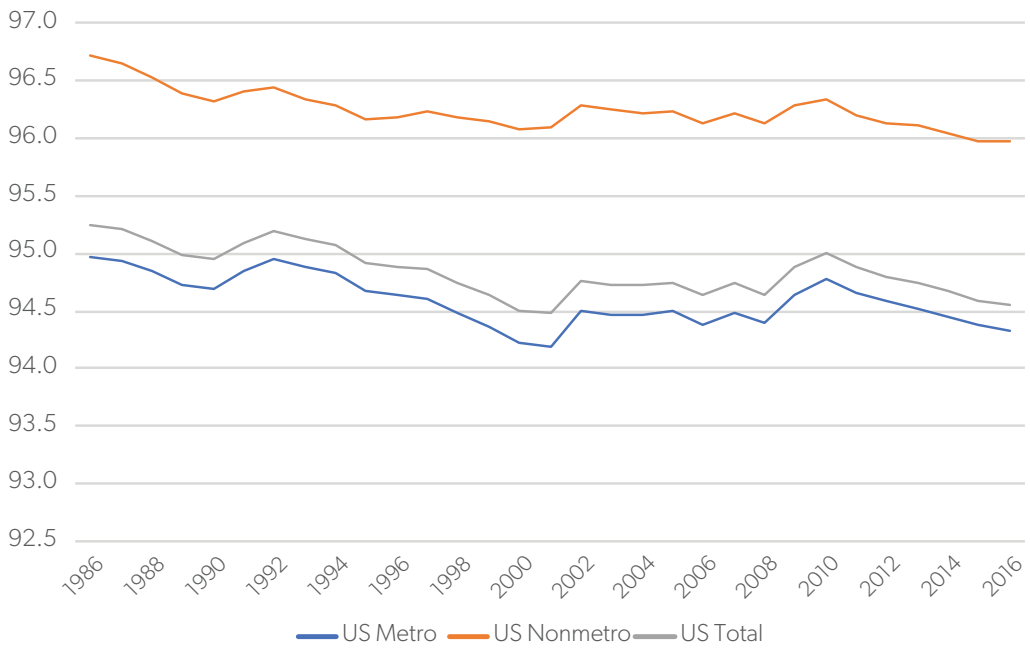
Note: Classifications of counties are based on 2015 ERS County Typology Codes. A manufacturing-dependent county had manufacturing account for 23 percent or more of the county's earnings or 16 percent of the employment averaged over 2010–12.
Source: Employment data are from the US Bureau of Economic Analysis.

Figure A8. 2016 Trump Presidential Election Share Minus 2012 Mitt Romney Presidential Election Share, Nonmetro Counties



Note: Figure contains Romney's share of Romney's and Obama's votes only and Trump's share of Trump's and Clinton's votes only.
Source: Massachusetts Institute of Technology Election Data and Science Lab.

Figure A9. Share of Total Establishments with Under 50 Employees, Metro and Nonmetro



Source: US Census Bureau, Longitudinal Employer-Household Dynamics program; and Quarterly Workforces Indications.

Figure A10. New- and Small-Firm Employment Percentages, National

Source: US Census Bureau, Longitudinal Employer-Household Dynamics program; and Quarterly Workforces Indications.

Table A1. Percentage of Employment Growth, First-Quarter 2010 Through First-Quarter 2019

	Growth	Growth of Remaining Nonmetropolitan
Metro (1973 Census Definitions) **(662)**	17.1	N/A
Nonmetro to Metro (1973 and 2013 Census Definitions) **(544)**	15.3	N/A
Remaining Nonmetropolitan (2013 Census Definitions) **(1,951)**		6.1
High Amenity **(269)**		11.3
Medium Amenity **(1,379)**		5.1
Low Amenity **(303)**		6.0
Adjacent to Urban Areas **(546)**		5.8
Remote to Urban Areas **(1,400)**		6.4
Not Farm Dependent **(1,508)**		6.2
Farm Dependent **(443)**		4.5
Not Mining Dependent **(1,739)**		6.1
Mining Dependent **(212)**		5.2
Not Manufacturing Dependent **(1,600)**		5.5
Manufacturing Dependent **(351)**		8.0
Not Government Dependent **(1,670)**		6.3
Government Dependent **(281)**		5.0
Not Recreation Dependent **(1,646)**		5.1
Recreation Dependent **(305)**		10.6
Nonspecialized **(1,374)**		7.4
Specialized **(577)**		3.7
Not Low Education **(1,585)**		6.5
Low Education **(366)**		3.4
Not Low Employment Rate **(1,236)**		7.3
Low Employment **(715)**		3.2
Non-Population Loss **(1,485)**		7.3
Population Loss **(466)**		–1.8
Not Persistent Poverty **(1,652)**		6.7
Persistent Poverty **(299)**		1.3

Note: Inside the parentheses in bold are the number of counties for that group, 3,157 total.
Source: The county classifications come from the US Department of Agriculture, Economics Research Service, and the employment growth data are from the US Department of Labor, Quarterly Census of Employment and Wages.

Table A2. Percentage of Employment Growth, First-Quarter 2017 Through First-Quarter 2019

	Growth	Growth of Remaining Nonmetropolitan
Metro (1973 Census Definition) **(662)**	3.2	N/A
Nonmetro to Metro (1973 and 2013 Census Definitions) **(544)**	3.1	N/A
Remaining Nonmetropolitan (2013 Census Definition) **(1,951)**		1.3
High Amenity **(269)**		3.4
Medium Amenity **(1,379)**		1.0
Low Amenity **(303)**		0.4
Adjacent to Urban Areas **(546)**		1.1
Remote to Urban Areas **(1,400)**		1.4
Not Farm Dependent **(1,508)**		1.3
Farm Dependent **(443)**		0.3
Not Mining Dependent **(1,739)**		1.0
Mining Dependent **(212)**		4.1
Not Manufacturing Dependent **(1,600)**		1.3
Manufacturing Dependent **(351)**		1.2
Not Government Dependent **(1,670)**		1.3
Government Dependent **(281)**		1.3
Not Recreation Dependent **(1,646)**		1.1
Recreation Dependent **(305)**		2.2
Nonspecialized **(1,374)**		1.7
Specialized **(577)**		0.5
Not Low Education **(1,585)**		1.2
Low Education **(366)**		1.5
Not Low Employment Rate **(1,236)**		1.4
Low Employment **(715)**		1.1
Non-Population Loss **(1,485)**		1.5
Population Loss **(466)**		–0.2
Not Persistent Poverty **(1,652)**		1.4
Persistent Poverty **(299)**		0.5

Note: Inside the parentheses in bold are the number of counties for that group, 3,157 total.
Source: The county classifications come from the US Department of Agriculture, Economics Research Service, and the employment growth data are from the US Department of Labor, Quarterly Census of Employment and Wages.

Table A3. Variable Description

Variable	Description
Employment Growth	The number of jobs are sourced from Quarterly Census of Employment and Wages, Bureau of Labor Statistics (first-quarter 2010, 2017, and 2019).
Nonmetro and Metropolitan Areas	The delineation of nonmetro and metropoltian counties are based on 1973, 1974, and 2013 as noted in text, table, or figure.
Amenity	Classification of high-, medium-, and low-amenity counties is based on US Department of Agriculture (USDA) Natural Amenities Scale.
Urban-Rural Continuum Code	Data are from 1974 USDA.
Farming Dependent	Farm-dependent county indicator, 0 = no and 1 = yes. Farming accounts for 25 percent or more of the county's earnings or 16 percent or more of its employment averaged over 2010–12. See US Department of Agriculture, "Documentation," October 23, 2019, http://www.ers.usda.gov/data-products/county-typology-codes/documentation.aspx.
Mining Dependent	Mining-dependent county indicator, 0 = no and 1 = yes. Mining accounts for 13 percent or more of the county's earnings or 8 percent or more of its employment averaged over 2010–12. See US Department of Agriculture, "Documentation."
Manufacturing Dependent	Manufacturing-dependent county indicator, 0 = no and 1 = yes. Manufacturing accounts for 23 percent or more of the county's earnings or 16 percent or more of employment averaged over 2010–12. See US Department of Agriculture, "Documentation."
Government Dependent	Federal and state government–dependent county indicator, 0 = no and 1 = yes. Federal and state government accounted for 14 percent or more of the county's earnings or 9 percent or more of employment averaged over 2010–12. See US Department of Agriculture, "Documentation."
Recreation Dependent	Recreation county indicator, 0 = no and 1 = yes. See US Department of Agriculture, "Documentation."
Nonspecialized	Nonspecialized indicator, 0 = no and 1 = yes. The county was not a farming, mining, manufacturing, government-dependent, or recreation county.
Low Education	Low-education county indicator, 0 = no and 1 = yes. At least 20 percent or more of the residents age 25–64 did not have a high school diploma or equivalent between 2008 and 2012.
Low Employment	Low-employment county indicator, 0 = no and 1 = yes. Less than 65 percent of residents age 25–64 were employed in 2008–12. See US Department of Agriculture, "Documentation."
Population Loss	Population-loss county indicator, 0 = no and 1 = yes. Number of residents declined between the 1990 and 2000 censuses and between the 2000 and 2010 censuses. See US Department of Agriculture, "Documentation."
Persistent Poverty	Classification of counties by poverty level over three decades, where 1 = persistent poverty county and 0 = all other counties. A county is classified as persistent poverty if 20 percent or more of its residents were poor, as measured by the 1980, 1990, and 2000 decennial censuses and the American Community Survey five-year estimates for 2007–11. See US Department of Agriculture, "Documentation."

Source: See sources in each variable's description.

Notes

1. Federal Reserve Bank of St. Louis, Economic Research, "Employed Full Time: Median Usual Weekly Real Earnings: Wage and Salary Workers: 16 Years and Over: Men," January 17, 2020, https://fred.stlouisfed.org/series/LEU0252881900A.

2. Economic Policy Institute, "The Productivity-Pay Gap," July 2019, https://www.epi.org/productivity-pay-gap/.

3. US Census Bureau, "CPS Income Inequality Data Tables," https://www.census.gov/topics/income-poverty/income-inequality/data/data-tables/cps-data-tables.html.

4. Economic Policy Institute, "The Productivity-Pay Gap."

5. Raven Molloy et al., "Understanding Declining Fluidity in the U.S. Labor Market," Brookings Institution, Spring 2016, https://www.brookings.edu/bpea-articles/understanding-declining-fluidity-in-the-u-s-labor-market/; and Maury Gittleman, "Declining Labor Turnover in the United States: Evidence and Implications from the Panel Study of Income and Dynamics," US Bureau of Labor Statistics, Monthly Labor Review, January 2019, https://www.bls.gov/opub/mlr/2019/article/declining-labor-turnover-in-the-united-states-evidence-and-implications-from-the-panel-study-of-income-dynamics.htm.

6. David Neumark, Brandon Wall, and Junfu Zhang, "Do Small Businesses Create More Jobs? New Evidence from the Establishment Times Series" (working paper, National Bureau of Economic Research, Cambridge, MA, 2008); and John C. Haltiwanger, Ron S. Jarmin, and Javier Miranda, "Who Creates Jobs? Small vs. Large vs. Young" (working paper, National Bureau of Economic Research, Cambridge, MA, 2012), https://www.nber.org/papers/w16300.

7. Stephan J. Goetz, David A. Fleming, and Anil Rupasingha, "The Economic Impacts of Self-Employment," *Journal of Agricultural and Applied Economics* 44, no. 3 (August 2012): 315–21, https://www.cambridge.org/core/journals/journal-of-agricultural-and-applied-economics/article/economic-impacts-of-selfemployment/499310DD4A11026C214F2DE0900D743D#; and Alexandra Tsvetkova, Mark Partridge, and Michael Betz, "Self-Employment Effects on Regional Growth: A Bigger Bang for a Buck?," *Small Business Economics* 52, no. 1 (January 2020): 27–45, https://ideas.repec.org/a/kap/sbusec/v52y2019i1d10.1007_s11187-018-9988-5.html.

8. Ryan Niladri Banerjee and Boris Hoffman, "The Rise of Zombie Firms: Causes and Consequences," *BIS Quarterly Review* (September 2018): 67–78, https://www.bis.org/publ/qtrpdf/r_qt1809g.pdf; and Edward Chancellor, "Breakingview—Chancellor: Zombies Are Lehman's Dangerous Spawn," Reuters, September 11, 2018, https://www.reuters.com/article/us-financial-crisis2008-rates-breakingvi/breakingviews-chancellor-zombies-are-lehmans-dangerous-spawn-idUSKCN1LR2H9.

9. Mark D. Partridge et al., "Dwindling U.S. Internal Migration: Evidence of Spatial Equilibrium or Structural Shifts in Local Labor Markets?," *Regional Science and Urban Economics* 42, no. 1–2 (January 2012): 375–88, https://www.sciencedirect.com/science/article/abs/pii/S0166046211001281.

10. Janna E. Johnson and Morris M. Kleiner, "Is Occupational Licensing a Barrier to Interstate Migration?" (working paper, National Bureau of Economic Research, Cambridge, MA, 2017), https://www.nber.org/papers/w24107.

11. Molloy et al., "Understanding Declining Fluidity in the U.S. Labor Market."

12. Jan De Loecker and Jan Eeckhout, "The Rise of Market Power and the Macroeconomic Implications" (working paper, National Bureau of Economic Research, Cambridge, MA, 2017), https://www.nber.org/papers/w23687; and Thomas Philippon, *The Great Reversal: How America Gave Up on Free Markets* (Cambridge, MA: Harvard University Press, 2019).

13. Stephan J. Goetz, Mark D. Partridge, and Heather M. Stephens, "The Economic Status of Rural America in the President Trump Era and Beyond," *Applied Economic Perspectives and Policy* 40, no. 1 (March 2018): 97–118, https://academic.oup.com/aepp/article-abstract/40/1/97/4863702?redirectedFrom=fulltext.

14. The official definition for metropolitan statistical areas (MSA) is that the principal city or urban cluster for the broader urban area are at least 50,000 in population, with the commuting threshold equaling 25 percent. There are reasons to quibble with that definition. For example, the 50,000 core city definition dates back to 1950. Yet, such a small city seems quite small to assume that it takes on core functions of a 21st-century city. Likewise, the 25 percent commuting threshold seems to be on the low side to fully incorporate tight labor market linkages. For example, Canada defines a metropolitan area as having a minimum 100,000 population in the core city

and a commuting threshold of 50 percent. Another possible concern is that an MSA may include an outlying county, but only a subset of the county is actually linked through commuting. For now, such issues are ignored, though given our purposes, the official MSA definition is conceptually correct, meaning that *nonmetropolitan counties* are a reasonable definition of rural going forward. For smaller cities, there are also micropolitan areas that are defined exactly the same as MSAs but with the core urban area having a population between 10,000 and 49,999. Given their relatively small size, we will not examine these areas in detail and will consider them as any other nonmetropolitan or rural areas. See US Census Bureau, "Metropolitan and Micropolitan," https://www.census.gov/programs-surveys/metro-micro.html; and Statistics Canada, "CMA and CA: Detailed Definition," September 17, 2018, https://www150.statcan.gc.ca/n1/pub/92-195-x/2011001/geo/cma-rmr/def-eng.htm.

15. The first quarter for 2019 is the latest available employment data using the Bureau of Labor Statistics Quarterly Census of Employment and Wages.

16. Using Bureau of Economic Analysis data (BEA), the nonmetropolitan manufacturing employment share is nearly twice as large as in metro America. Unlike the decades-long steady decline in the MSA manufacturing employment share, rural America's manufacturing employment share has actually slightly increased since the Great Recession.

17. The US Department of Agriculture created an index running from one (lowest natural amenities) to seven (highest natural amenities). US Department of Agriculture, "Natural Amenities Scale," September 30, 1999, https://www.ers.usda.gov/data-products/natural-amenities-scale/. The index uses multiple factors for climate, lakes and oceans, and topography (i.e., coastal plains and marshlands to highest mountains). In our case, we use index values of one to three as "low" natural amenities, four and five as "medium" natural amenities, and six and seven as "high" natural amenities. The highest natural amenity locations are mainly in the western US and Florida. The lowest natural amenities are mainly in the upper Midwest and upstate New York.

18. Table A1, by contrast, uses BEA employment data, in which the difference is BEA data include both wage and salary workers and self-employed (i.e., proprietors, partnerships, and pass-through Schedule C LLCs).

19. Mark D. Partridge et al., "Lost in Space: Population Dynamics in the American Hinterlands and Small Cities" (working paper, Oklahoma State University, Department of Economics and Legal Studies in Business, Stillwater, OK, 2008), https://ideas.repec.org/p/okl/wpaper/0707.html.

20. Mining refers to activities from hard-rock mining, coal mining, gravel pits, and oil and natural gas extraction.

21. US Census Bureau, "CPS Historical Migration/Geographic Mobility Tables," November 2019, https://www.census.gov/data/tables/time-series/demo/geographic-mobility/historic.html.

22. US Census Bureau, "Geographical Mobility: March 1975 to March 1976," January 1, 1977, https://www.census.gov/data/tables/1976/demo/geographic-mobility/p20-305.html; US Census Bureau, "Geographical Mobility: March 1987 to March 1990," December 1, 1991, https://www.census.gov/data/tables/1990/demo/geographic-mobility/p20-456.html; US Census Bureau, "Table 22. Immigration, Outmigration, and Net Migration by Metro Status and Selected Characteristics," https://www2.census.gov/programs-surveys/demo/tables/p20/531/tab22.txt; US Census Bureau, "Geographical Mobility: 2006 to 2007," September 1, 2008, https://www.census.gov/data/tables/2007/demo/geographic-mobility/cps-2007.html; and US Census Bureau, "Geographic Mobility: 2018 to 2019," November 2019, https://www.census.gov/data/tables/2019/demo/geographic-mobility/cps-2019.html.

23. I focus on the relative employment effects to account for differing firm sizes that occur in firm births and deaths.

24. Tsvetkova, Partridge, and Betz, "Self-Employment Effects on Regional Growth"; and Goetz, Fleming, and Rupasingha, "The Ecnomic Impacts of Self-Employment."

25. Mark D. Partridge et al., "The Effects of State and Local Economic Incentives on Business Start-Ups in the U.S.: County-Level Evidence," Andrew Young School of Policy Studies Research Paper Series, April 23, 2019, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3376166.

26. Minghao Li et al., "Location Determinants of High-Growth Firms," *Entrepreneurship & Regional Development* 28, no. 2 (2016): 97–125, https://www.tandfonline.com/doi/abs/10.1080/08985626.2015.1109003.

27. Mark D. Partridge and Dan S. Rickman, *The Geography of American Poverty: Is There a Need for Place-Based Policies?* (Kalamazoo, MI: W. E. Upjohn Institute for Employment Research, 2006); and Benjamin Austin, Edward Glaeser, and Lawrence Summers, "Saving the Heartland: Place-Based Policies in 21st Century America," Brookings Institution, March 8, 2018, https://www.brookings.edu/

bpea-articles/saving-the-heartland-place-based-policies-in-21st-century-america/.

28. Timothy J. Bartik, *Jobs for the Poor: Can Labor Demand Policies Help?* (New York: Russell Sage Foundation, 2001).

29. Bartik, *Jobs for the Poor*; and US General Accounting Office, *CETA Programs for Disadvantaged Adults—What Do We Know About Their Enrollees, Services, and Effectiveness*, June 14, 1982, https://www.gao.gov/assets/140/137908.pdf. For perspective, Comprehensive Employment Training Act (CETA) paid about $3.25 an hour in the first half of 1975, or about $16 an hour in December 2019 dollars. Robert Cook et al. report that CETA public service employment was 750,000 at its peak in December 1977 or, adjusting for share of total employment, about 1.26 million in late 2019. Robert F. Cook, Charles F. Adams Jr., and V. Lane Rawlins, "The Public Service Employment Program," in *Public Service Employment: The Experience of a Decade* (Kalamazoo, MI: W. E. Upjohn Institute for Employment Research), 1–25.

30. Michael Lipsitz and Evan Starr, "Low-Wage Workers and the Enforceability of Non-Compete Agreements," SSRN, December 9, 2019, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3452240; and Matthew S. Johnson and Michael Lipsitz, "Why Are Low-Wage Workers Signing Noncompete Agreements?" (conference paper presented at the American Economic Association Annual Meeting, Chicago, IL, 2017).

31. Partridge et al., "The Effects of State and Local Economic Incentives on Business Start-Ups in the U.S."