The Closing of America's Urban Frontier

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Abstract

For most of America's history, migrants have moved in large numbers from less productive places to more productive places. For the past 150 years, the movement to the urban frontier has been distinctly more economically important than movement to areas with little human settlement. Over the past 50 years, migration to America's most productive cities has been increasingly checked by the regulation of new construction. The closing of the urban frontier is associated with unaffordable housing, widening gaps in housing wealth, a spatial mismatch between local productivity, population growth, and the end of regional income convergence. One policy response to the change is to encourage state legislatures to take more regulatory power over construction or to provide localities with stronger financial incentives to build. Federal highway funding could be tied to the level of construction in high-demand areas. A second response is to accept the closed urban frontier and to embrace place-based policies that reduce joblessness in depressed areas through employment subsidies, social insurance reform, and experimental vocational training programs.

I. Introduction

In 1893, Frederick Jackson Turner presented his essay, "The Significance of the Frontier in American History," to the American Historical Association in Chicago. Turner claimed that "up to our own day, American history has been in a large degree the history of the colonization of the Great West," and that, "[t]he existence of an area of free land, its continuous recession, and the advance of American settlement westward, explain American development." Even in Turner's day and certainly afterward, however, American development was tied more closely to the country's urbanization than to the exploitation of empty land.

Turner was correct that "so long as free land exists, the opportunity for a competency exists." The free land that mattered most was not ranchland in the Dakotas; it was the land on the edge of Chicago or Los Angeles or New York City. In Turner's own day, less than one-fifth of aggregate national payments were produced by agriculture and mining (U.S. Census Department, 1975). By

1930, agriculture and mining would produce only 8.1 percent of the national income. Between 1890 and 1930, America's urban population increased by 212 percent, from 22 million to 69 million, while America's rural population rose by only 32 percent.

As Section II of this article discusses, the most significant trend during Turner's lifetime was the open urban frontier, by which I mean the space to build up and out within already developed urban areas.[1] Between 1861 when Turner was born, to 1932 when he died, America reorganized itself into an urban nation. Certainly, as Cronon (1991) amply documents, the history of America's western cities was closely linked to the natural resources that surrounded them. Those resources, however, were only transformed into national prosperity because tens of millions of Americans were able to urbanize. In a sense, America's urban frontier became more open during Turner's lifetime because the traditional downsides of urban crowding, such as contagious disease, became less problematic.

The urban frontier remained largely open during the dynamic 25 years that followed World War II. African-Americans migrated north by the millions to flee the Jim Crow South and take advantage of urban industrial jobs. Americans built new car-oriented cities in Sun Belt states like Arizona and Texas. The movement of people and firms diminished the vast income differences that once existed between locations.

Sometime around 1970, the urban frontier began to close. Community groups mobilized and opposed new housing and infrastructure. Highway revolts slowed urban expansion in car-oriented suburbs. Historic preservation made it more difficult to add new density in older cities (Been et al., 2016). Suburbs crafted land-use restrictions that stopped new construction (Glaeser and Ward, 2009). While some productive Sun Belt cities still permitted significant amounts of new housing, even those one-time refuges of affordable urbanism had begun to be more restrictive.

In Section III, I discuss the closing of the urban frontier and its consequences. Migration has fallen dramatically over the past 20 years, and poorer migrants no longer move disproportionately to richer places (Ganong and Shoag, 2017). Housing costs have risen sharply in more productive places, which has generated a wealth shift from the young to the old (Glaeser and Gyourko, 2018). Income convergence across regions has stalled (Berry and Glaeser, 2005). Hsieh and Moretti (2019) estimate that U.S. gross domestic product is substantially smaller than it would be if people could more easily move to wealthier areas. America's growing geographic sclerosis makes it increasingly difficult for out-migration to solve the problems of local joblessness. Consequently, targeted spatial policies may be worth reconsidering (Austin, Glaeser, and Summers, 2018).

The closing of America's urban frontier seems to be a far more significant event in American economic history than Turner's motivating fact that "the unsettled area has been so broken into by isolated bodies of settlement that there can hardly be said to be a frontier line." Vast amounts of the American West were unpopulated in Turner's time and remain so today. Cheap land could still be had for homesteading in 1893, and there remains plenty of inexpensive ranchland today for

[1] Wade (1959) uses the phrase "urban frontier" to specifically define the cities on America's western border. Those cities would be included in my definition, but I would also include tenements in Philadelphia and high rise apartment buildings in New York City's Central Park West as part of the urban frontier.

anyone who wants the rugged life of a mid-19th century frontiersman. By contrast, the high price of accessing America's most productive urban areas today is an important fact of life for tens of millions of Americans.

In Section IV, I turn to policy approaches of the closed frontier. One approach tries to reopen the frontier by inducing productive places to build more housing. The fundamental challenge facing this task is that communities have stopped building because residents do not want more construction. Opposition to new construction could perhaps be reduced if the financial benefits from new construction were higher; opposition could be further reduced if individual states can provide stronger incentives to encourage new development. Alternatively, states can reduce local sovereignty over land-use decisions. I outline a federal policy proposal linking highway funding to new construction that could nudge state legislatures toward action of this kind.

The second approach gives up on encouraging new construction and focuses on aiding the depressed parts of America. While I have long been skeptical about significant redistribution from rich places to poor places, there is a case for targeting policies toward the needs of specific areas. For example, social insurance could be restructured to encourage work in areas with higher levels of long-term joblessness. Employment subsidies could be directed to places with persistent nonemployment. Section V concludes.

II. The Urban Frontier and Frederick Jackson Turner

Frederick Jackson Turner presented his thesis in 1893 in the building that would become Chicago's Art Institute but was then occupied by the World Congress Auxiliary of the city's great Columbian Exposition. The exposition symbolized both Chicago's economic muscle and abundant space. Chicago beat out New York City for the privilege of hosting the exposition both because the city's merchants offered more money and because Chicago had "ample space," whereas, in New York, there was "not a house to buy and not a rock to blast," at least according to Chicago's boosters (Lederer, 1972).

The most iconic images of the exposition show its "White City" either gleaming during the day or lit up at night by Westinghouse's then-novel alternating current electrification. The city contained 14 great buildings organized around a central pool that demonstrated Chicago's reservoir of architectural talent. Louis Sullivan designed the Transportation Building, which was a pioneering early modernist structure. Daniel Burnham was the director of works for the entire exposition.

Early in their careers, Burnham and Sullivan had both worked in the Chicago office of William LeBaron Jenney, who would later build Chicago's Home Insurance Building. The Home Insurance Building is sometimes credited as being the first skyscraper due to two of its walls were held up by a steel frame. Burnham and Sullivan would both play central roles establishing the steel-framed skyscraper as the central tool for opening cities upward and enabling far more usable space to be built on modestly sized lots of urban land.

The Opening of the Urban Frontier

With the benefit of hindsight, the opening of the urban frontier was a more important economic event than the closing of America's wilderness frontier in 1890. The 10 states and territories that made up America's post-Civil War frontier together had only 1.6 million inhabitants or 2.5 percent of America's total population. The U.S. Census count of Manhattan's population in 1890 was 1.5 million, and the New York Police Census count of the island's inhabitants was 1.7 million. Perhaps Turner was correct, and the closing of the actual frontier was a cultural event of the first magnitude. There certainly were not that many people interacting with the frontier throughout Turner's life.

By contrast, Turner lived from 1861 to 1932, during an age of stupendous urban growth. In 1860, America had a mere 6.2 million urbanites. By 1890, in the census before Turner presented his frontier thesis, the urban population had grown to 22 million. By 1930, right before his death, America's urban population had expanded to 69 million. Despite the dramatic urban growth that was happening right before Turner's eyes, the word "city" appears only four times in his famous essay. Arthur M. Schlesinger, Sr. (1940) correctly responded to Turner's essay by noting that, "[h]istorians in their preoccupation with the dispersion of settlers over the wide expanse of the public domain have given little attention to this countermovement which even more profoundly altered the tissue of American life." By "this countermovement," Schlesinger meant urbanization. Fred Shannon (1945) also responded to Turner's essay by writing, "it is in fact too apparent to require much argument that the population movement, from 1860 to the end of the century, was preponderatingly from the farm to the city, rather than the reverse."

America's late 19th-century urban growth, like urban growth throughout most of history, reflected rising agricultural productivity that enabled more of humanity to do something other than provide food. America's late 19th-century urbanization was also a more localized event that can be called the opening or expansion of the urban frontier. Large cities had historically been limited by the downsides of urban density. These downsides were diminished by technological revolutions that spread during Turner's lifetime.

In the early 19th century, the horizontal spread of cities had been checked by the slow speeds of pedestrian travel. Over the century, cities added horse-drawn omnibuses, streetcars, railways, and subways that enabled their spread. Walking the length of the island of Manhattan to get to work is practically impossible. By 1879, however, a commuter could take the Ninth Avenue elevated railway (el) from 155th Street to downtown Manhattan. The city could expand because so much more land became functionally connected to the core business districts.

When Turner was born, buildings essentially topped out at five or six stories, which was generally the upper limit on people's willingness to climb stairs. Elevators first started appearing in buildings as a novelty and then became the crucial last leg of the city's transport network. Architects, like Jenney, Sullivan, and Burnham, then combined elevators with steel frames to create skyscrapers that enabled cities to expand vertically. The commuters who got on the el at 155th Street may have lived in short houses, but many of them worked in tall, steel-framed office buildings with elevators.

Americans who chose to live in a city in 1861 reduced their chances of a long life or healthy children. When Turner was born, New York City still experienced water-born cholera epidemics that killed thousands. By 1893, those epidemics had largely ceased, and by 1932, New York City was as healthy as the country as a whole. The improvements in America's urban health occurred due to massive public investment in water and sewerage (Cutler and Miller, 2005) and because public health authorities imposed penalties on tenement owners who did not connect to the system (Ashraf, Glaeser, and Ponzetto, 2016). Improvements in sanitary conditions eliminated a third major barrier to urban growth.

As cities became healthier, more connected, and taller, people came by the millions. As cities grew, agglomeration economies meant that they became more productive as well. America in 1920 was a predominantly urban nation, and by 1926, per capita gross national product exceeded $14,000 in 2019 dollars (Romer, 1989). The opening of the urban frontier had enormously positive consequences for American prosperity.

The Urban Frontier After Turner

When Turner died in 1932, America's urban growth was checked first by the Great Depression and then by World War II. Even during the Depression, however, inter-city migrants could substantially better their lot by moving to the right urban area (Feigenbaum, 2015). After the war, Americans continued their process of moving to new cities for opportunities. From 1952 to 1990, more than 6 percent of Americans moved across counties every year. In some cases, this movement represented the standard path from farm to factory. In other cases, migration moved from urban area to urban area as people sought higher-paying jobs, shorter commutes, or warmer winters.

The most dramatic of the post-war urban movements was the "Great Migration" of African Americans from the rural South to the urban North. They fled both extreme poverty and terrible legal discrimination. Much of the reduction in the African-American-White earnings gap since 1945 occurred because of this migration to urban centers (Smith and Welch, 1989). The urban frontier provided an escape from the stultifying life of an African-American sharecropper.

Moving across cities also continued to provide better wages for White Americans. Ganong and Shoag (2017) showed that poorer migrants moved disproportionately to richer areas between 1960 and 1980. The migration from poor places to rich places helps to explain the mean reversion of income levels across space that was documented by Barro and Sala-i-Martin (1992). From 1860 to 1980, richer places experienced slower income growth than poorer places. Meanwhile, from 1950 to 1970, income differences across areas narrowed.

Americans, however, had grown so rich after World War II that migrants increasingly moved for amenities rather than just higher incomes. Los Angeles attracted residents initially not because of its job opportunities, but rather because its weather is so much more moderate than the American Midwest. Glaeser, Kolko, and Saiz (2001) found that measures of amenities strongly predict urban area growth from 1980 to 1990.

Finally, populations left cities that were built around walking and rail lines and moved to areas that were built around the car. Baum-Snow (2007) showed that interstate highways predicted patterns of suburbanization. Duranton and Turner (2012) found that highways predicted urban area growth in post-war America. Cities like New York and Boston tried to retrofit themselves for the automobile, but for a short, car-based commute, it was easier to move to Atlanta or Dallas.

All of this movement was possible until the 1960s because communities made it easy to build. Land-use regulations were modest, and infrastructure could be easily added, at least in the newer urban areas. As a consequence, housing price differences across space remained modest, and even California was only slightly more expensive than the nation as a whole in 1970 (Glaeser, Gyourko, and Saks, 2005a).

III. The Closing of the Urban Frontier

During the 1950s, activists began to protest again the Jim Crow system that had pushed millions of African Americans to the North. Their methods were then borrowed by other groups who influenced public policy, and some of those groups wanted to block urban change. As community groups increasingly blocked new construction, prices rose, and migration rates fell. As a result, we now live in a far more geographically static nation.

Activists Against Change

As a young woman, Shirley Hayes acted on Broadway with Leslie Howard. She married one of her fellow actors, had four sons, and lived in Greenwich Village. Hayes was a natural activist who unsuccessfully fought against the large public housing projects that New York's master builder, Robert Moses, was building near Washington Square Park. She took her children regularly to play in that park, and when Moses announced his plan to run a 48-foot road through the park, she sprang into action. As the *New York Times* wrote in her 2002 obituary, "She collected 16,000 signatures and the endorsements of politicians, newspapers, 12 parent-teacher associations, and the Lions Club" (Martin, 2002). Eleanor Roosevelt was one of the residents who supported Hayes' fight.

Hayes battled Robert Moses for 7 years until Tammany Hall kingpin, Carmine DeSapio, stopped the road. Washington Square Park remains the way that it is today largely through Shirley Hayes' efforts. She proved the power of community activists to stop even the most entrenched builders. Her fight was the training ground for the next generation of activists against urban change, like Jane Jacobs. Jacobs would later lead the successful fight to stop Robert Moses' Lower Manhattan Expressway.

Jacobs also became a prime mover in the campaign to turn Greenwich Village into a historic district. Penn Central's destruction of the old Beaux-Arts Penn Station became a rallying cry for preservationists throughout the city. Their movement gathered steam in the 1960s, and in response to its political pressure, New York enacted its Landmarks Law in 1965. The resulting Landmarks Commission became an institution that would respond to citizen demands for preservation by creating historic districts where large change was impossible. While Jacobs had argued that preserving old structures would ensure affordability, prices rose as the city restricted housing supply.

On the opposite side of the continent, other extremely capable women were organizing against change outside of San Francisco. Catherine "Kay" Kerr, the wife of the president of the University of California system, was one of a trio of women who founded the Save the Bay Association in 1961. That group successfully used environmental arguments to stop new construction. In 1973, the Supreme Court ruled in *Friends of Mammoth v. Board of Supervisors of Mono County* that all major new construction in California needed to undertake an environmental impact review. While greater San Francisco was affordable in 1961, just like Greenwich Village, robust demand combined with limited supply to make both areas expensive today.

Berkeley, California, was also the site of early organized opposition to highway construction. In 1952, the Berkeley Department of Public Works proposed building an Ashby Freeway that would connect Interstate 80 and California Highway 24. Thousands objected, and the Berkeley City Council eventually shelved the idea in 1961. Throughout the 1960s and 1970s, communities staged highway revolts against new road construction. Fewer highways meant less ability to access urban cores from more far-flung suburbs.

Throughout America, communities found big and small ways to limit growth. Cities, like New York, made their zoning codes increasingly onerous. In Massachusetts suburbs, Glaeser and Ward (2009) detailed the rise of special wetlands protections, minimum lot sizes, and septic provisions that make building more difficult. These regulatory hurdles appear to both limit construction and raise prices.

While limits on density do raise prices, Massachusetts communities do not seem to value lower density enough to offset the social value that is lost when construction is prevented. The Henry George Theorem is a standard result in urban economics that posits that local policies increase welfare if and only if they increase total land value (Arnott and Stiglitz, 1979). Yet it seems that Massachusetts' towns are being too restrictive, and that total land value would increase if they allowed additional building.

Total land value is defined as the value of housing minus total construction costs. Permitting an extra home increases total land value directly by adding a new home that is valued more than its construction cost, and it indirectly decreases the total land value by increasing crowding, which lowers the value of all the other homes. The value of building that maximizes total land value exactly balances those two effects so that the difference between price and construction cost divided by the price equals the percentage decrease in price associated with a 1 percent increase in crowding, which is referred to as the elasticity of price concerning density.[2] Glaeser and Ward (2009) found that the elasticity of housing prices, concerning density, is less than 0.15, and land's share of value is over 0.5, suggesting that communities' regulations are overshooting and destroying land value.

In the 1950s, builders of highways, suburbs, and skyscrapers enjoyed a relatively free hand. In some cases, their construction damaged older neighborhoods and the environment. Motivated by these ills, communities limited growth, but these new rules were not surgical strikes that eliminated only the worst excesses. Instead, throughout the United States, higher demand urban areas became far less elastic, and the urban frontier began to close.

[2] Formally, the elasticity is the derivative of the logarithm of price with respect to the logarithm of density.

The Consequences of the Closed Frontier

In this section, I discuss seven events that are potentially linked to the reduced new supply of housing in America's most productive cities. Two of these events concern the price of housing: the increasing cost of living in America's most productive places and the changing distribution of housing wealth that favors the old and the rich. Five of these events reflect changing migration patterns and the consequences of the reduced growth of productive places: declining levels of migration in general and directed migration in particular, increasing segregation of the skilled, persistent pockets of joblessness, the end of regional income convergence, and the spatial misallocation of people and employers. These events have causes that go far beyond the regulation of new growth, but the regulation of housing is a policy choice that is intertwined with all of these outcomes.

High prices are the most commonly cited woe that occurs when supply is artificially constrained. In 1970, price differences across the United States were modest, and even the most expensive areas were only 30 percent more expensive than the national average (Glaeser, Gyourko, and Saks, 2005a). In the third quarter of 2019, according to the National Association of Realtors®, the median sales price across the entire United States was $280,000. The median sales price in San Jose, California, was $1.24 million. The median sales price in San Francisco was $964,000.

The extraordinary cost of California's coastal real estate reflects demand as much as supply. If the region's economy was not red hot, then it would not be so expensive. The desultory 8,744 housing units permitted in the San Jose urban area, however, is unlikely to do much to slack that demand. By contrast, New York City permitted over 100,000 units annually in the early 1920s when the city's expansion was at its peak.

The first wave of studies that looked for a link between land-use controls and high prices looked at specific policies, like California's growth controls (Glaeser and Ward, 2009; Katz and Rosen, 1987). While many of these studies found positive effects, this approach is challenged by the endogeneity of these policies and their correlation with other policies, the difficulty of capturing the full range of local anti-growth policies, and the spillover of prices across jurisdictions. A second approach focuses on variation at the urban area level (Saiz, 2010). Across urban areas, the expensive places do not build much, and the places that build are not expensive. There are also strong correlations between urban area measures of land use and higher prices, just as there is a correlation between natural limits on construction—such as hilliness—and higher prices.

The third approach compares the value of housing with the cost of construction. The logic of this approach is that when prices exceed construction costs, then builders should want to build, and there must be some regulatory hurdle that prevents adding new housing. This approach is easiest to implement in dense cities, where the marginal cost of new space is just the cost of another floor. In suburban areas, new construction typically also involves more land, and there must be some means of valuing land, such as estimating the value of extra acreage in a hedonic regression. A hedonic regression statistically estimates the impact of housing attributes on sales prices holding all other housing attributes constant. These studies find dramatic "zoning taxes" that can exceed one-half of the price of a house (Glaeser, Gyourko, and Saks, 2005b).

The rising price of housing, especially in coastal markets, has created vast disparities in housing wealth and a shift in wealth from the young to the old. Glaeser and Gyourko (2018) use the Survey of Consumer Finances in 1983 and 2013 to look at housing wealth net of mortgage debt. The downward shift in housing supply and the associated shift in housing prices has both increased wealth inequality within age groups and generated a shift in housing wealth from the young to the old.

In 1983, the median 55-to-64-year-old had $94,000 in housing wealth (in 2013 dollars). In 2013, the median 55-to-64-year-old had only $60,000 in housing wealth. The 95th percentile 55-to-64-year-old owned $353,000 in housing wealth in 1983 and $543,000 in 2013. The 99th percentile 55-to-64-year-old household had $760,000 in 1983 and $1.5 million in 2013. The upper tail of owners has much more housing wealth than they did in the past, while the median owner has less wealth.

There has also been a shift between young and old. In 1983, the median 35-to-44-year-old had $56,000 in housing wealth, but in 2013, the median 35-to-44-year-old's housing wealth was only $6,000. The median 65-to-74-year-old owned $82,000 in housing wealth in 1983 and $100,000 in 2013. The 75th percentile 35-to-44-year-old's wealth fell from $119,000 to $58,000. The 75th percentile 65-to-74-year-old's wealth increased from $150,000 to $225,000. The disaffection of younger Americans for capitalism may partially reflect the fact that they cannot buy the same decent housing in high-wage areas that their parents could afford.[3]

For every year from 1952 to 1992, intercounty migration rates never fall below 6 percent per year. For the past decade, intercounty migration rates have never risen above 4 percent per year. This shift represents a one-third drop in the spatial mobility of Americans. While there are many possible causes of this shift, the inability to buy homes in the most attractive parts of America must remain a possible cause of America's reduced mobility (Molloy, Smith, and Wozniak, 2011).

Ganong and Shoag (2017) also show that the migration of poorer people to richer places that occurred between 1960 and 1980 has largely disappeared since that time. A higher wage for a plumber in San Francisco cannot cover the high cost of housing. Consequently, our richer cities are turning into boutique towns for the highly educated.

The migrants who do come to San Jose or Boston are more likely to be highly skilled since they are the only ones who can afford the housing. Over the past 80 years, there has been a strong tendency for skilled places to become more skilled. The increased segregation of the skilled has many possible causes, but one explanation is the dearth of new housing in skilled, successful cities (Berry and Glaeser, 2005).

The segregation of the skilled in places like Seattle and San Francisco means that the unskilled create their own pockets of poverty. Austin, Glaeser, and Summers (2018) show that the joblessness rate among 25-to-54-year-old men in 1980 is closely correlated with that rate in 2015 across Census Public Use Microsample Areas. As the skilled leave these areas, their local problems

[3] For example, a 2018 Gallup poll reported that among 18-to-29-year-old respondents 45 percent had a positive view of capitalism and 51 percent had a positive view of socialism (Newport, 2018).

become worse. This process of hollowing out lies behind the local dysfunction that is painfully common in America's Eastern Heartland.[4]

America's increasing geographic sclerosis, which has been abetted by limited housing supply, may also explain the decline in regional income convergence. Barro and Sala-i-Martin (1992) documented the strong tendency of the poor regions of America to see their incomes catch up in the years before 1990. That income convergence process seems to have ended since then (Berry and Glaeser, 2005). One explanation for why income convergence has stopped is that housing supply limitations stop people from coming to high wage areas and pushing wages downward.

A final consequence of limitations on urban growth is that there is a spatial mismatch between people and productivity that has significant implications for overall national productivity. As productivity is much higher in Silicon Valley than in the Eastern Heartland, the overall gross domestic product would increase in people who could move from the Eastern Heartland to Silicon Valley. Hsieh and Moretti (2019) estimate that an efficient spatial reallocation would have a noticeable impact on America's overall level of output.

The closing of America's urban frontier is a major change for America. Housing never used to be a barrier to urban growth. It is now, and the policy question is whether anything can be done about it. I now turn to policy options for the future.

IV. Two Policy Approaches to the Closed Frontier

In this section, I discuss two policy responses to the closing of the urban frontier. The first path refuses to accept that the urban frontier is permanently closed. It imagines federal and state policies that could potentially generate more permitting in high demand areas. The second path accepts that the reduction in permitting will be permanent. If out-migration will not provide an escape valve from local poverty in the future, then there is a stronger case for targeting policies to reduce the suffering of depressed areas.

Reopening the Frontier

What would it take to induce significantly more permitting in high demand localities? The opposition to new construction is based on real, local costs. More housing supply will depress the value of local housing, and most Americans are homeowners. A greater population density will create more congestion on the streets and crowding in the schools. Communities have shown little willingness to overlook those costs. Consequently, more permitting will require either compensating the communities or eliminating their ability to veto new building or some combination of both.

Massachusetts laws illustrate these two options. Massachusetts Chapter 40B, which was enacted in 1969, decreases local sovereignty over new construction. If less than one-tenth of a community's housing is deemed affordable, then builders of affordable housing have access to a state permitting

[4] We define the Eastern Heartland to mean those non-coastal states that were admitted to the Union prior to 1840 and West Virginia.

process that largely bypasses local control. The full impact of the law is difficult to assess because even when it is not explicitly used, it improves bargaining power to builders. Massachusetts Chapters 40R and 40S were enacted in 2004 and 2005; they provide modest financial incentives to encourage communities to build.

Massachusetts tried to use state dollars to encourage local building, but another model is to make developers directly compensate localities for adding density, as they sometimes already do through impact fees. These fees could be shared between the community as a whole, to compensate for lower prices and increased costs of public services, and the new construction's nearest neighbors, to compensate for local crowding. In theory, a system where developers pay for speedy permits is attractive. Ideally, such a system would ensure that building only occurs where enough surplus is generated to compensate localities for the costs of new construction.

There are reasons, however, to think a pure compensation model will not be enough to achieve optimal amounts of new construction. Inevitably, the compensation will be imperfect so that some owners are hurt more than their allotted compensation. Those owners will still have incentives to use the permitting process and the courts to block new building. Our political system is not well suited to produce neat bargains in which winners from policy changes nicely compensate those who lose from the change. Moreover, it is at least possible that existing owners overestimate the actual costs of new building and will oppose new building even if they are fairly compensated.

By contrast, reducing local sovereignty is a surer path toward new construction. Simply moving to a larger jurisdiction is likely to promote more permitting since local jurisdictions internalize more of the benefits of building. If the polity includes business owners, then they typically have incentives to support new building, since lower housing costs translate into lower wages. If bankers and builders are at the table, then the voices for more permissive permitting become even louder. Tricaud (2019) shows that when small bedroom communities are incorporated into larger governmental units in France, then the amount of permitting increases.

Only state governments, however, have the power to redefine the permitting authority of localities and states have shown limited willingness to take power away from local homeowners. California has the worst housing affordability problem in the nation, but its legislature failed to pass Senate Bill 50 and Senate Bill 827, which would have preempted the local ability to block high-density building near transit stops. California's legislatures will never represent the interest of non-Californians who might someday want to live in Silicon Valley or Los Angeles.

Only the federal government has the geographic scope to consider the benefits of building to all Americans, and yet, the federal government cannot directly overrule local zoning power. One possible path for federal action is to create incentives that would nudge state governments to act. Federal highway funding is the most natural and appropriate tool to create those incentives.

There is a history of using federal highway funding to push states to take action. In 1984, the U.S. Congress enacted the National Minimum Drinking Age Act, which required states to raise their drinking age to 21 or lose one-tenth of their highway funding. A higher drinking age was seen as a tool for reducing traffic fatalities on the highways. By 1988, every state but Louisiana had raised their drinking age to 21.

The case for tying transportation funding to new construction is that new highway spending is particularly necessary when communities are expanding. If populations are static, then there is less need to provide new infrastructure. Federal financial incentives can be seen as a way to induce states to internalize the benefits that new building creates for out-of-state residents who might like to move in-state sometime in the future.

The act could mimic the Drinking Age Act by having a flat reduction, such as 10 or 20 percent, in the level of highway funding if the state is unaffordable or fails to build. Alternatively, the act could specify a sliding scale so that the percentage of funding lost could start at 30 percent, but then the losses could be mitigated if there was more building in expensive areas.

The initial definition of affordability might be based on the share of the population that lives in counties (or census tracts) where less than 10 percent of homes are deemed to be affordable. The building threshold would then specify a minimum number of new homes built in these unaffordable areas. A state in which 50 percent (or more) of its population lived in unaffordable communities that are adding fewer than 3 percent of the current annual housing stock could be deemed to be in non-compliance and lose one-fifth of its transportation spending.

Alternatively, a sliding scale act could start with the share of the population that lives in counties that are unaffordable and that have little building. This share would then be multiplied by a factor, and the resulting product would reduce total highway aid. For added incentives, the money could then be shared among states with robust housing demand that are permitting more building.

One important detail is that the population weights used to determine the share of population living in unaffordable counties should be held fixed. Otherwise, states would have an incentive to prevent growth in expensive counties because that would make the level of unaffordability seem worse. A simpler design that would avoid these issues would be to define unaffordability based on a statewide share of affordable housing, but it would still be necessary to base the building requirements on permitting in the state's more desirable counties. More permitting in Buffalo, New York, does little to ease New York City's affordable housing problem.

The exact details of the scheme are less important than the message it sends. Some federal push for new building would aid the advocates of permitting in state legislatures throughout the country. The fear of losing highway funds is a potent bargaining tool. Senate Bill 50 might have passed if more legislators feared losing their steady stream of federal highway funds.

While the advocates of affordable housing have every reason to support national policies that would push state legislators to promote more permissive permitting, it is hard to be too optimistic. Congress may not be willing to pass such an act. Even if highway funds were tied to state-level building, homeowner activists may still be able to block state action. Consequently, it is also appropriate to consider efficient policies if the urban frontier remains closed. I turn to those policies next.

Spatial Policies in an Age of Reduced Geographic Mobility

America has always had striking geographic disparities of income, but those differences seemed like less of a problem if people could easily move from poor areas to rich areas. When high housing costs prevent migration from poor to rich places, then it becomes more reasonable to consider place-based policies that can potentially aid people who remain in depressed regions. Europeans have embraced place-based policies since the formation of the European Union, partially because European migration rates were so low relative to the United States. As U.S. geographic mobility becomes more European, the case for European-style, place-based policies becomes somewhat stronger.

Austin, Glaeser, and Summers (2018) divide America into three regions: the coasts, the Eastern Heartland, and the Western Heartland. The coasts are wealthy and have restrictive housing policies. The Eastern Heartland is the epicenter of American joblessness and social dysfunction. Incomes in the Western Heartland, which includes all non-coastal states that joined the union after 1840, are lower than on the coasts, but joblessness is low, and housing is affordable. If America was divided evenly between rich restrictive areas and poor areas, then it would be easier to simply embrace policies that aid the poor areas. Since the residents of Detroit and eastern Kentucky can still readily move to places in the Western Heartland, like Texas or the Dakotas, subsidies to the Eastern Heartland may still end up inefficiently deterring migration to more functional local economies.

Austin, Glaeser, and Summers (2018) also present evidence suggesting that joblessness for prime-aged[5] males is far more problematic than low incomes. The jobless are far less satisfied with their lives than the working poor. They have higher suicide and divorce rates. Moreover, joblessness generates a fiscal externality because when people do not work, they use social programs that impose costs on other taxpayers and do not pay taxes themselves.

These considerations suggest a more nuanced spatial policy than simply taxing California to subsidize Ohio. Spatially targeted pro-employment and pro-education policies can directly attack the high levels of joblessness. These policies can be designed so that they only modestly distort the decision on whether to remain in a declining region. Pro-employment policies can either take the form of new tax credits, like the earned income tax credit, that promote working in the Eastern Heartland or reform of existing social insurance policies in these regions that would make work more appealing.

Uniform labor policies across the United States seem just as problematic as our one-size-fits-all housing policies. When housing supply is perfectly elastic, then supply subsidies, like the low-income housing tax credit, will have little impact on the overall quantity of housing and, therefore, little impact on the equilibrium price. When housing supply is perfectly inelastic, then demand subsidies like Section 8 housing vouchers will push up prices and, under extreme conditions, do nothing to promote affordability. This logic suggests that housing policy should promote supply in inelastic San Francisco but not in elastic Houston and should provide demand-side vouchers in Houston but not in San Francisco.

[5] "Prime aged" is defined as being from 25 to 54 years old.

Austin, Glaeser, and Summers (2018) present evidence suggesting that employment rates are far more sensitive to changes in wages in places where joblessness is high. Consequently, subsidizing employment will reduce joblessness more if the subsidies are targeted toward areas with high levels of joblessness. If America is willing to expand the earned income tax credit so that this policy becomes more relevant to prime-aged men, then that spending will have more impact if the subsidies are more generous in high joblessness regions of the country.

When designing social insurance policies, like disability insurance, there are two key policy elements: the maximum level of social insurance (the intercept) and the degree to which benefits decline with earnings (the slope). Social insurance deters employment more when the slope is steeper, but a steeper slope also reduces the cost of the program. If the program costs are held constant, then a flatter slope must be offset by a lower intercept, or equivalently, the maximum benefit level must be lower if benefits fall less with earnings.

When employment is more elastic, as it appears to be in states with high joblessness levels, then a steep slope does more to deter working. A reasonable response to differential employment elasticities across space is for the maximum benefit to be lower in high joblessness areas, but people receiving benefits can keep more of their earnings. In that way, the program will do less to deter working at the same overall cost. This twist would imply that the maximum payment for workers with disabilities would be lower in Kentucky than in Massachusetts, but workers with disabilities in Kentucky would be able to earn more without risking their benefits.

An added employment subsidy in the Eastern Heartland might deter migration, but it would discourage emigration among those who are employed. A policy twist that reallocates money within a social program should have little or no impact on out-migration. If anything, workers who know that they will not work under any circumstances have a stronger incentive to move out, while workers who anticipate some employment will stay. If one hope is to reduce the concentration of the long-term jobless, then these modest migration distortions can even be benign.

Education significantly determines both regional success and local employment rates. Targeted education policies can complement targeted pro-employment policies. A particularly natural area to innovate is vocational training. Competitively sourced vocational programs structured with pay-for-performance could provide the skills needed to take advantage of the employment subsidies. One attractive aspect of vocational training is that typically it is possible to measure skills at the point of graduation. Payment for running a program that trains plumbers can be made contingent upon graduating a fully licensed plumber.

For example, vouchers could be issued for taking vocational training courses for teenagers on weekends, after school, and during summers; vouchers could also be given to selected adults. These courses can be offered by an accredited source, including labor unions, private companies, and community colleges. The courses could be given in public school spaces that are underutilized off-hours or in local community colleges. The vouchers can only be redeemed by the educators when the graduating students have been independently tested or licensed.

As we have a limited track record with successful training programs, it makes sense to experiment and evaluate, ideally with randomized control trials. More skills would help poorer places catch up to richer places, but it is less clear how to deliver those added skills. Experimentation, therefore, is vital.

V. Conclusion

This article has argued that the fluidity of America's economic geography has radically changed over the last 50 years. For most of the period from 1870 to 1970, the urban frontier was a great escape valve from local poverty. High levels of geographic mobility helped people find better jobs and helped regions transform themselves. Since 1970, successful urban areas have made building increasingly difficult, and the urban frontier has begun to close.

This article suggested two policy responses to this change. The first response ties federal highway funding to local construction levels in an attempt to reverse the downward trend in building across wealthier coastal cities. The second response accepts that migration to successful cities will be permanently limited and tries instead to improve conditions in less successful cities. Possible place-making policies include targeted employment subsidies, social insurance reforms that deter working less, and experimental vocational training that encourages competition among skills providers and pay-for-performance.

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