

Place-Based Economic Development

MARYANN FELDMAN

The CHIPS and Science Act marks an abrupt pivot in the nation's innovation policy: from one reliant on the free market to achieve optimal outcomes in key strategic industries to one recognizing government investment as a necessary step to regain international competitiveness in critical technologies such as semiconductors.

The place-based focus of a significant portion of the public investment called for by the act (at least \$15 billion) marks a second departure from the past, reflecting a widespread recognition of the need to distribute investment more evenly across the American landscape. For example, in the past, although the National Science Foundation (NSF) has made important geographically targeted investments in a range of scientific topics, many have not translated into commercial activity and manufacturing. Under the CHIPS Act, NSF's new Directorate for Technology, Innovation, and Partnerships will support the Regional Innovation Engines program. Designed specifically to focus on bolstering commercial activity, the program is hosting a competition that will provide selected US regions with up to \$160 million over 10 years.

Overall, this shift is a welcome change. For too long, the conventional policy approach has been for the government to invest in projects and training rather than in places, operating under the assumption that once trained, people will move to places with more jobs. The reality, however, is that many people have personal and social attachments to places, limiting their geographic mobility.

Meanwhile, as geographic income disparities have risen, half of the nation's high-paying jobs are in just 1% of US counties, with substantial wealth concentrated in a small number of cities. Well-paying jobs in the former industrial heartland have been depleted both by international trade—the focus of much recent policy—and lack of public and private investment. Incentives to relocate firms, factories, and warehouses back to these regions have not yielded the desired benefits. The result is a landscape where there are few, if any, opportunities for advancement in many parts of the United States, leaving residents unable to realize their potential. To address this, the United States needs a bold strategic effort to create prosperity.

The place-based approach taken by the CHIPS Act may mark a turning point toward such an effort, but the bill only partially recognizes what is needed to make such an approach work. Place-based policy recognizes that when firms conducting related activities are located near each other, proximity to suppliers and customers and access to workers and ideas yield dynamic efficiency gains. These clusters may become self-reinforcing, leading to greater productivity and enhanced innovation, ultimately making US industries increasingly internationally competitive while supporting the growth of vibrant local economies. Harnessing the power of place, if done effectively, can magnify the impact of the relatively small amount of US federal investment in strategic industries relative to competitors such as Taiwan, South Korea, and China.

However, making the most of this place-based approach requires balancing greater coordination at the federal level with more flexible and autonomous models at the regional and local level than are currently contained in the CHIPS Act. The Act's investments and initiatives for place-based development are scattered across agencies, including NSF and the Departments of Energy and Commerce. Without proper coordination between programs, there is a risk of duplication, redundancy, and diminished effectiveness.

Moreover, if these federal programs utilize strong top-down approaches based on outdated preconceptions, their implementation will contradict both the scholarly understanding of successful tech-focused ecosystems and the on-the-ground experiences of places such as Pittsburgh or North Carolina's Research Triangle. After decades of research and experience, a new logic of place-based economic development has emerged, building on lessons from Silicon Valley, San Diego, and Boston, as well as smaller places such as Boise, Idaho, and Greenwood, Mississippi.

Researchers have learned that successful place-based economic development is a messy, grassroots process of building consensus around common goals and aligning different interests toward a shared objective. Although universities are necessary for technology-based economic development, it has become clear that research and education alone are not sufficient to create thriving innovation zones. Place-based investments are successful only with the engagement of multiple local stakeholders within local ecosystems. Such systems have a bottom-up quality, so that local citizens—including entrepreneurs, innovators, and skilled workers—contribute creative ideas. They are supported by large companies that care about more than shareholder value, as well as by local philanthropy and other patient investors—all with a shared understanding of the opportunities, and the limiting factors, in their locale.

If CHIPS Act programs rely on outmoded models instead, they may fail to reach their potential. One example is the long-standing hub and spoke model, which was first

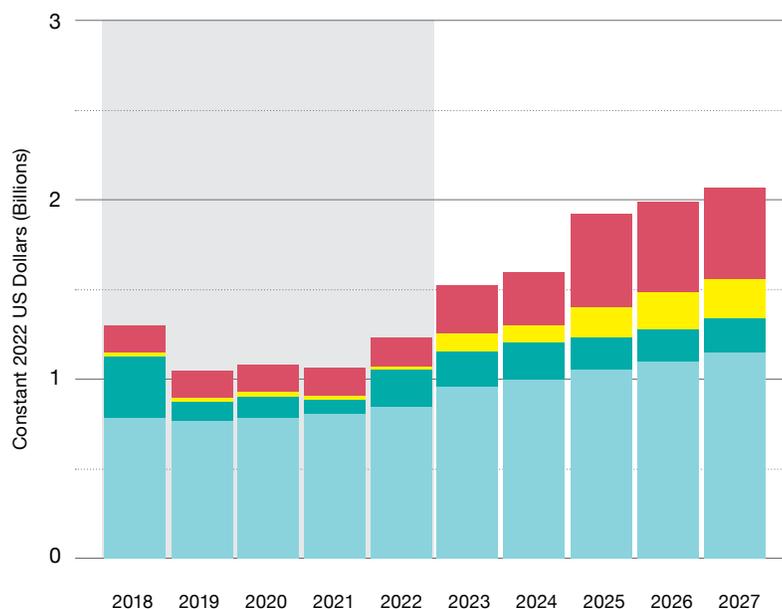
proposed by French economist François Perroux in the 1950s. Using this concept and statistical models, economists Jonathan Gruber and Simon Johnson have suggested that 102 locations with large research universities serve as hubs, while other research universities function as regional spokes. However, the model has proved disappointing in addressing regional imbalances in the spokes, and such top-down designation could further solidify the hierarchy among American institutions of higher education, as well as the disparities between public and private institutions. Under this scheme, there would be little autonomy for historically Black colleges and universities and regional institutions that are more connected to their local communities. And places without major research universities to act as hubs might be overlooked. For example, there are already centers of expertise in diverse and often underappreciated technologies located in areas without major hubs, such as polymers at the University of Akron, optics at Montana State University, and logistics at the University of Arkansas. These institutions and places do not lack high quality, cutting-edge technology; in fact, many have the preconditions for successful tech-based economic development but lack the investment and commitment necessary to take advantage of them.

There are existing models for how the government can seed place-based economic development successfully. The Economic Development Administration (EDA), for instance, has supported competitively awarded geographic cluster-based programs for over a decade, with notable successes including Milwaukee’s water cluster and agricultural technology initiatives in St. Louis. Building on lessons learned, the 2021 American Rescue Plan, enacted to provide relief for people

and the economy during the pandemic, created EDA’s Build Back Better Regional Challenge, which recently funded 21 emerging regional industry clusters and encouraged bottom-up problem-solving in diverse locations. The CHIPS Act would increase funding to these or other sites. And the highly competitive Small Business Innovation Research (SBIR) program, though focused on individual companies, has funded a broad range of promising technologies in more diverse and underserved communities—especially when compared to venture capital. While venture capital seeks high rates of return and focuses on only a few locations and technology sectors, evidence from the SBIR program, by contrast, suggests that investments in companies in “flyover states” outperform when compared to similar firms in other states.

Perhaps the CHIPS Act’s agnosticism around the proper extent of the government’s role in promoting innovation and addressing regional inequalities was a deliberate legislative strategy to garner needed votes. But now that the bill has passed, it is time to reopen that debate and recognize that the market, left to its own devices, does not yield optimal outcomes for much of the population—nor does it lead to equitable regional distribution of economic activity. Many of the place-based initiatives in the act are authorized rather than funded, and Congress can still influence the implementation plan through the appropriation process. Indeed, unless Congress appropriates funding to distribute the benefits of the investments in the other parts of the act, the law will essentially amount to a subsidy for certain businesses, rather than a transformative investment. As they oversee and implement the CHIPS Act, Congress and federal agencies should reevaluate and strengthen the role of agencies in

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY: PREVIOUS FUNDING AND NEW AUTHORIZATIONS



Expanding the National Institute of Standards and Technology

If fully funded, the CHIPS and Science Act would expand the core research activities of the National Institute of Standards and Technology (NIST), as well as the Manufacturing USA and Manufacturing Extension Partnership programs—setting NIST on a path to double in funding by 2027 relative to 2021.

- Manufacturing Extension Partnership
- Manufacturing USA
- Facility Construction and Maintenance
- S&T Research and Lab Activities

fostering place-based economic development. Instead of taking a scattershot approach, an interagency working group should coordinate federal efforts.

But for the CHIPS Act to fully meet its potential, coordination must extend beyond the federal government to include state and local officials as well as industry and university partners. The stakes are high. If the act ultimately disappoints, many communities that could have thrived will be no better off, Congress will be loath to support more place-based development efforts in the future, and the bill will be remembered as little more than corporate welfare.

Maryann Feldman is the Watts Professor of Public Policy and Management at the Watts College of Public Service and Community Solutions at Arizona State University, and a senior fellow at Heartland Forward.