



Inequality

The IFS Deaton Review

Place-based policies and geographical inequalities

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Geographical inequalities

In most countries around the world, there are large disparities in wages, earnings and income between cities and regions. The chapter by Overman and Xu (2022) in the IFS Deaton Review of Inequalities offers an excellent overview of the geographical inequalities in the United Kingdom. Overman and Xu uncover vast differences in employment rates, education, earnings, incomes, gross value added per capita, and even self-reported happiness across UK regions. While they convincingly show that geographical inequality in the UK is relatively high by international standards, it is clear that the UK is not the only country with large geographical inequalities.

In the United States, geographical economic differences are at least as large. For example, the average hourly wage of a worker in Stamford, CT, is twice that of a worker with the same education and demographics in Flint, MI – a difference significantly larger today than in 1980. European countries also have significant geographical differences, although typically smaller than the ones observed in the UK and the US. In Germany, after conditioning on the same variables, the 2014 average wage in Munich was 43% higher than in Uelzen, a small city at the bottom of the wage distribution. This difference is significantly larger today than it was in 1985. Similar differences have been documented in France (Combes, Duranton and Gobillon, 2008), Spain (De La Roca and Puga, 2017), Italy (Boeri et al., 2021) and Japan (Keisuke, 2017). Geographical wage disparities appear to be associated, at least in part, with city size. In most countries, larger cities tend to enjoy higher wages than medium-sized cities, and medium-sized cities have higher wages than small cities (Glaeser and Maré, 2001; Rice et al., 2006; Combes et al., 2008; De La Roca and Puga, 2017; Keisuke, 2017; Dauth et al., 2022).

Unemployment and non-employment rates also vary enormously across cities and regions. Overman and Xu (2022) show that this is the case in the UK, with a clear north–south divide. In the US, variation in unemployment rates across labour markets at a moment in time is even larger and it rivals that of variation over the business cycle. The unemployment rate in Flint in 2008 was almost 15%, while the unemployment rate in Iowa City – located less than 500 miles from Flint – was only 2.6%. The 12 percentage point difference between these two cities is more than double the change in national unemployment rates observed over the course of the Great Recession (Kline and Moretti, 2013). Spatial differences in unemployment rates are not simply an artefact of differences in the average characteristics of residents but remain large even after controlling for an area's demographics and average schooling.

These geographical differences in labour market outcomes are persistent across decades (Blanchard and Katz, 1992) and, strikingly, even across generations (Chetty et al., 2013). A regression of 2008 unemployment rates on 1990 rates across 239 metropolitan areas in the US shows a remarkable degree of persistence, with a coefficient of 0.509 (0.045) and R^2 of 0.35 (Kline and Moretti, 2013). European labour markets also exhibit marked and long-lasting differences in regional unemployment rates (Elhorst, 2003). For example, the unemployment rate in Southern Italy has been three to four times higher than the unemployment rate in Northern Italy for the past three decades. Similar regional differences, albeit somewhat smaller, are observed in Spain, France and Germany.

Place-based policies

These disparities between communities and regions have become an important source of policy concern. Given the persistence of these vast differences in wages, earnings, incomes and non-employment rates, many countries have adopted place-based policies designed to transfer resources towards areas with weak demand for labour and to stimulate local economic and employment growth.

Europe has a long-standing tradition of using capital subsidies, enterprise zones, transport investments and other place-based policies to address geographical disparities (Ehrlich and Overman, 2020). The European Union Regional Development Fund, for example, uses taxpayer money to fund generous business subsidies and public investments in regions with low nominal income and high unemployment. For the period 2007–13, the fund amounts to 49 billion euros per year.

National governments in Europe have also eagerly embraced place-based policies. Since the 1970s, the main business support scheme in the UK – Regional Selective Assistance – has provided discretionary grants to firms in disadvantaged regions, defined as regions with low levels of per capita GDP and high unemployment (Crisculo et al., 2019). The current 'levelling up' initiative seeks to foster economic growth and labour demand in disadvantaged parts of the UK, especially in the northern regions of England. Italy has long provided regional transfers that single out 'distressed' regions, especially in the south, for special infrastructure investments and, more recently, for hiring incentives and other labour market subsidies (see, for example, Deidda et al., 2015). Sweden, France and Germany have similar programmes (Marx, 2001). Interestingly, while the European Union legislation generally prohibits state aid, it makes explicit exceptions for place-based policies that target 'deprived' regions.

Overall, the existing evidence on the effects of place-based policies in Europe in general, and the UK in particular, is still limited. The evidence that exists tends to suggest that these policies may have partially offset increasing disparities within European countries but are far from sufficient to offset the economic forces that push toward increasing agglomeration of economic activity. This is an area where more research would be particularly useful. See Ehrlich and Overman (2020) for a recent overview of the evidence.

In the US, initiatives subsidising declining cities and neighbourhoods have grown popular. It is estimated that federal and local governments spend roughly \$95 billion a year on such programmes, significantly more than unemployment insurance in a typical year (Kline and Moretti, 2014a). The federal urban Empowerment Zone programme was designed to benefit neighbourhoods with high unemployment rates. One of the most studied is state 'Enterprise Zones'. These programmes originated in the UK during the Thatcher administration as a way of revitalising declining urban industrial neighbourhoods through tax abatements and reductions in regulation (Rubin and Richards, 1992). Shortly afterward, many US states adopted similar programmes offering investment and wage subsidies for firms located within Zone boundaries. California, for instance, has 42 Enterprise Zones, covering most major cities in the state along with a few rural areas. Similar neighbourhood-level programmes are operated by the federal government.

The 'Empowerment Zone' and 'Renewal Community' programmes, for example, offer subsidies to firms with the goal of revitalising distressed neighbourhoods. Federal neighbourhood-based programmes have expanded over time: by 2003, more than 60 urban communities had federal zones of some sort (Busso et al., 2013).¹ Bartik (2020d) has proposed expanding current policies by creating a new federal block grant that would target distressed local labour markets defined as groups of counties linked by commuting. With funding from the block grant, these distressed areas could create jobs through more funding for improving infrastructure and business services (e.g., small business development centres); in addition, funds could be used to help workers get better access to jobs (e.g., job training services). Areas eligible to receive the block grant, which would initially have an annual federal cost of \$11 billion, include local labour markets with the lowest

¹ The influential book by Bartik (1991) on place-based economic policies offers a comprehensive taxonomy and discussion of the different types of policies in the US.

employment rates, encompassing about 15% of the US population. He estimates that after ten years the block grant could significantly narrow the employment rate gap between distressed areas and the US average, cutting the gap by about half (Bartik, 2020b).

Although the lack of a systematic national database makes it difficult to know exactly how much is spent annually on spatially targeted economic development programmes at the state and local level, the sums are clearly substantial. State and local governments offer a growing set of incentives designed to attract outside investment and to reshape the location of activity within their jurisdiction.²

Place-based development policies are also popular in Asia. A well-known example is the Chinese system of Special Economic Zones, which provides strengthened property rights and incentivises foreign direct investment in selected areas (Wang, 2013). Other examples include programmes adopted by the governments of Japan, Korea and Taiwan to subsidise investment in computers, semiconductors and biotechnology.

Equity and efficiency

Most government programmes have the goal of providing income or services to particular groups of individuals. Welfare programmes, for instance, transfer resources from taxpayers to a population of eligible low-income households. Such programmes can be said to be 'person-based' in that government treatment of entities depends upon their individual (or household) characteristics, such as income or employment status. Place-based policies, by contrast, explicitly target geographic areas for some form of special treatment, be it tax subsidies, public investments, or special rules and regulations.

These programmes have become an important form of government intervention with the potential to profoundly affect the location of economic activity, along with the wages, employment, and industry mix of communities and regions. The enormous social costs of concentrated poverty and unemployment suggest that forms of policy intervention that can reduce concentrated poverty and unemployment have enormous upside (Bartik, 1991, 2002). At the same time, place-based policies involve important trade-offs. Setting socially optimal place-based policies crucially depends on understanding the sources of geographical disparities and the trade-offs involved.

As with any government intervention, place-based policies can pursue two possible broad potential objectives: equity and efficiency. In most cases, place-based policies are designed to foster employment and income growth in neighbourhoods, cities or regions that are economically disadvantaged – an equity rationale. As is often the case with government interventions, equity–efficiency trade-offs can be important. Fundamentally, the main source of the trade-offs stems from the fact that place-based policies seek to shift investments, jobs and incomes from the most productive areas of a country toward the least productive areas. This can result in economically meaningful efficiency losses.

In addition, economists have been sceptical of the equity motivation for place-based policies because location is being used to serve a fundamentally person-based motive: subsidising poor households. In the absence of perfect residential segregation by income, targeting transfers based upon income or demographic characteristics remains a more direct, and potentially more efficient, way to help those in need. Such a goal could be achieved more directly by making the tax system more progressive or by strengthening means-tested transfer programmes.

Furthermore, spatial targeting might bring with it a number of unintended consequences owing to worker and firm mobility. Indeed, the simplest version of the Roback (1982) spatial equilibrium model – which is the framework often used by economists to think about geographical differences

² See the article by Louise Story, 'As Companies Seek Tax Deals, Governments Pay High Price', published in the *New York Times*, 1 December 2012, <https://www.nytimes.com/2012/12/02/us/how-local-taxpayers-bankroll-corporations.html>. See also L. Story, T. Fehr, and D. Watkins, United States of Subsidies Searchable Database 2013, available at <http://www.nytimes.com/interactive/2012/12/01/us/government-incentives.html>.

and possible policy interventions – predicts that in a world where workers are highly mobile and housing supply is completely inelastic, the benefit of location-based subsidies is fully capitalised into land rents. In such a scenario, location-based programmes intended to help poor communities have limited effect on the well-being of local residents, simply amounting to a transfer of wealth to landowners in the targeted areas. In more realistic frameworks – where workers are less than infinitely mobile and housing supply is not fixed – place-based redistributive policies can of course affect the utility of infra-marginal workers.

Place-based programmes with an efficiency rationale seek to remedy important localised market failures. In its simplest version, the Roback (1982) model does not include any market failures. It assumes no frictions in the labour market, unemployment, agglomeration economies, crowding effects, and the absence of prior distortions due to taxes. In this context, unsurprisingly, place-based policies generate deadweight losses by creating incentives to invest, work and live in less productive or hospitable areas. However, in practice, market failures appear to be important. Kline and Moretti (2014a) identify five broad families of market imperfections that can potentially justify place-based development policies. Arguably, the three most important ones are the following.

- Agglomeration economies. Spatial proximity among firms and workers may generate productivity spillovers. Agglomeration economies have been shown to be pervasive and economically important. If attracting new firms to an area tends to generate productivity spillovers that benefit incumbent firms (e.g. as in Greenstone, Hornbeck, and Moretti, 2010) then subsidies for new firms can, in principle, raise welfare by internalising the productive externality.
- Public goods. These include, for example, public amenities (e.g. public safety) and productive public goods (e.g. roads), which are under-provided by the private sector.
- Labour market frictions/unemployment.³ To the extent that these market failures are localised, spatially targeted government intervention has the potential to improve efficiency.

Two additional, although probably less important, forms of market failures are: missing insurance/credit constraints – whereby residents cannot insure themselves against local shocks, which may prevent them from smoothing consumption – and pre-existing distortions in the form of government interventions, such as income taxation or the minimum wage that may generate spatially biased distortions. For instance, the UK system of Enterprise Zones was originally intended to offset the regulatory and tax burdens associated with urban development (Rubin and Richards, 1992).

In what follows, I discuss some of the evidence of specific examples of place-based policies and the trade-offs involved.

'Big-push' policies for manufacturing

One of the most ambitious place-based economic development policies in the history of the US is the Tennessee Valley Authority (TVA). It provides a good case study to discuss the trade-offs involved with big-push policies that seek to foster manufacturing employment in an economically depressed region. The TVA was a federal programme conceived as part of the New Deal that consisted of massive public infrastructure investments in roads and electricity designed to

³ In practice, the existence of high unemployment rates is a key motivation for many place-based policies, given the large geographical differences in the prevalence of unemployment observed in the real world. One key question is how mobile are workers and why they do not move from high unemployment areas to low unemployment areas. A related question is: in the absence of significant mobility frictions, what is the proper role of place-based policies? Kline and Moretti (2013) argue that when workers are perfectly mobile but face search frictions, place-based policies can be beneficial. If the productivity of a worker-firm match varies across metropolitan areas, areas with higher local productivity enjoy higher nominal wages, higher housing costs and lower unemployment rates. Although workers can move freely to arbitrage away differences in expected utility across metropolitan areas, equilibrium unemployment rates are not equalised across space. They find that if hiring costs are excessive, firms may post too few vacancies. This problem may be offset via hiring subsidies of the sort found in many place-based policies. The optimal hiring subsidy is city-specific in the sense that it depends upon the local productivity level.

modernise a region that, at the time, was one of the most underdeveloped in the country. The TVA funded a series of large investments in transportation infrastructure that substantially raised regional productivity and would have been difficult for the private sector to provide on its own.

The TVA programme is perhaps the best example of a big-push development strategy in US history (Kline and Moretti, 2014a). Such strategies are predicated on the notion that economic development exhibits poverty traps and threshold effects, so that large enough public investments in a severely underdeveloped region may generate huge increases in productivity and welfare (Rosenstein-Rodan, 1943; Murphy, Shleifer and Vishny, 1989; Azariadis and Stachurski, 2005). Essentially, big-push policies are designed to move a city or a region stuck in a poverty trap from a 'bad equilibrium' – low productivity, low labour demand, low income – to a 'good equilibrium' – high productivity, high labour demand, high income. An important channel through which this process might occur when output is traded on national markets involves agglomeration forces, particularly productive spillovers between workers and firms, which have received a growing amount of theoretical and empirical attention in the literature (Ellison and Glaeser, 1997; Rosenthal and Strange, 2004; Greenstone et al., 2010).

At the time of the TVA's inception in 1933, its region was among the poorest, least-developed areas in the nation. If the programme's large localised investments in public infrastructure failed to yield a sustained boost in local productivity, it is hard to imagine what programmes might have succeeded. Kline and Moretti (2014a) show that the TVA significantly sped the industrialisation of the Tennessee Valley and provided lasting benefits to the region in the form of high-paying manufacturing jobs. Notably, the effect on manufacturing employment persisted well beyond the lapsing of the regional subsidies, suggesting the presence of powerful agglomeration economies. By contrast, the agricultural sector, which is unlikely to exhibit substantial agglomeration forces, retracted dramatically once subsidies were terminated. Because manufacturing paid higher wages than agriculture, this shift raised aggregate income in the TVA region for an extended period of time.

Can the TVA be a good blueprint for modern regional economic development policies designed to help areas that are struggling economically? On the one hand, the evidence indicates that the TVA lifted household income in one of the poorest regions in the US and it did not cost taxpayers money in the long run. In fact, the stream of economic benefits associated with the programme exceeded its costs: the net present value of the TVA programme's long-run benefits and costs is estimated to be \$23.8 billion and \$17.3 billion, respectively. This positive rate of return to the TVA's federal investments is entirely explained by the direct productivity effects of the programme's infrastructure investments.

On the other hand, it is important to keep in mind that the cost-benefit analysis of the TVA depends on conditions that are probably specific to the programme, the region, and the period when it took place. The experience of the TVA does not necessarily apply to all contexts, as the strength and shape of agglomeration economies may well vary across industries, periods and levels of aggregation. The results of Kline and Moretti (2014a) are likely to be specific to the manufacturing sector and a period of US history when manufacturing employment was expanding and earnings were relatively high. It is unclear whether similar qualitative results hold for modern development efforts, such as those centred on building high-tech clusters.

An important trade-off to keep in mind in assessing place-based policies has to do with the indirect effects that place-based policies can have on regions of the country that are not directly targeted. Economists have long cautioned that local policies aimed at addressing localised market imperfections may have unintended consequences of their own. In particular, a fundamental concern often raised by economists is that spatially targeted policies may simply shift economic activity from one locality to another, with little impact on the aggregate level of output. In such a case, the benefits enjoyed by the target locality may come at the expense of other (possibly quite distant) areas. Thus, programmes such as the TVA could be a 'zero-sum game' among US communities if, by subsidising agglomeration economies in the target region, the policy diverts resources from other areas, leading to a net loss in aggregate productivity.

In the specific case of the TVA, Kline and Moretti (2014a) develop a structured approach to assessing the TVA's aggregate consequences that is applicable to other place-based policies. In their model, the TVA affects the national economy both directly through infrastructure improvements and indirectly through agglomeration economies. They find that agglomeration gains in the TVA region were offset by losses in the rest of the country. Most of the national impact of the TVA on worker welfare is accounted for by the direct effects of the programme's vast investments in public infrastructure. The programme's indirect effects were minimal.

Thus, spillovers in manufacturing appear to be a rare example of a localised market failure that cancels out in the aggregate. A noteworthy implication is that although agglomeration economies represent an important market failure at the local level, this failure does not provide a rationale for federal intervention in the spatial distribution of manufacturing activity.⁴

Place-based policies for high-tech and life-science employment

Today's good jobs tend to come not from manufacturing, as they did during the TVA era, but from human capital-intensive industries. In many countries, human capital is increasingly spatially concentrated. Overman and Xi (2022) show that, in the UK, high-skilled jobs – defined as jobs that require a degree – have become significantly more concentrated between 1998 and 2019. They compute the location quotient, which compares the local share of graduate jobs to the national share of graduate jobs. The use of the location quotient allows controlling for the fact that the national share of graduate jobs grows considerably between the two time periods. Their findings are clear: compared with 1998, high-skilled jobs have become much less evenly distributed across the country, falling in the north of England, Wales and Lincolnshire. In the same period, the London region has gained skilled jobs. The same patterns are evident in the US, where, starting in the 1980s, workers with college degrees have increasingly concentrated in some cities and deserted other cities.

The concentration of human capital matters because it leads to the concentration of employment and investment in the high-tech and the life-science sectors – two sectors that generate an increasingly large number of local high-paying jobs in the communities where they are located, both directly and indirectly through increased demand for local services. The presence of high-tech and life-science sectors is a key driver of local economic growth as innovation-oriented industries have taken on larger roles (Glaeser and Saiz, 2004; Buera and Kaboski, 2012). Cities that have come to dominate the information technology and biotech sectors are cities where wages and incomes have grown the fastest. In the period 1980–2010, mean wages and mean income in cities with large high-tech clusters have increased significantly more than in cities without high-tech clusters (Moretti, 2012). In terms of employment and investment in innovation-sector activities, these cities have increasingly pulled away from the rest of the country, including other large urban areas. Such so-called superstar cities have become the predominant locus of innovation in the UK and US, to a degree not previously experienced (Atkinson, Muro, and Whiton, 2019).

Quantitatively, the amount of spatial concentration observed in high tech and life science is remarkable. The ten largest clusters in computer science, semiconductors and biology account for 69%, 77% and 59% of all US inventors, respectively (Moretti, 2021). For example, the distribution of the biotechnology industry in the US is heavily clustered spatially, with the lion's share of the industry employment concentrated in Boston/Cambridge, the San Francisco Bay area, San Diego, New Jersey, Raleigh-Durham and the Washington, DC area. In the UK, the industry is heavily concentrated in the regions of Oxford, Cambridge and London. This concentration is consistent with the existence of strong localised agglomeration externalities.

The economy of one of these successful cities is based on a remarkable equilibrium between labour supply and demand: firms want to be there because they know they will find skilled workers with the skills they need, and skilled workers want to be there because they know they will find the jobs they are looking for. The economy of a struggling city is the opposite. Even if real estate is cheap,

⁴ See Bartik (2002, 2009, 2020a, 2020c) for further discussion of place-based policies that target manufacturing employment.

skilled workers do not want to be there, because they know there are no jobs; innovative companies do not want to be there either, because they know there are no skilled workers. It would be in the interest of one group to move if the other did, but neither wants to go first. Place-based policies designed to spur high-tech or life-science clusters are an attempt to shift a local economy from a 'bad equilibrium' to a 'good equilibrium'.

At the federal level, these trends have inspired a new set of place-based initiatives at boosting federal spending on science and innovation while also spreading this effort more broadly around the US (i.e., returning to a version of the strategy that prevailed immediately after World War II). For example, Gruber and Johnson (2019) and Atkinson et al. (2019) lay out ambitious agendas for 'place-based science', with the aim of creating new technology hubs around the country that can complement the existing coastal superstar cities. They identify more than 100 cities across 36 states that are plausible next-generation tech development hubs, including seven potential locations each in Florida, Michigan and Ohio, six each in Alabama and Indiana, five each in New York, Pennsylvania, Tennessee and Texas, four in Georgia, and three each in Iowa, South Carolina and Wisconsin. They offer several important suggestions for federally funded place-based policies intended to shift investment and employment in the high-tech and life-science sectors to areas that traditionally do not have a strong presence in these sectors. Their ideas are currently reflected in multiple current (early 2021) legislative proposals, including the bipartisan Endless Frontiers Act,⁵ which would commit \$10 billion over the next five years for grants to create 10–12 new technology hubs (along with \$100 billion in new public R&D funding), the Innovation Centers Acceleration Act,⁶ which would provide \$80 billion over ten years for a competition for cities to become technology centres, and the Federal Institute of Technology Act,⁷ which would invest nearly \$1 trillion in public R&D over ten years and would target a significant share of those funds to new technology centres.

An additional economic motivation for this type of place-based policy is the idea that some areas are being inefficiently left behind due because of the concentration of science in particular cities. For example, Bell et al. (2019) find that the 20 highest-earning cities in the US have a rate of patenting that is six times that of other large cities, suggesting there is a potential generation of 'lost Einsteins' – people who grow up in locations that lack current innovation and therefore constrain opportunities for their ideas to develop and be discovered.

At the same time, state governments have taken a very active role in creating place-based incentive for high-tech and life-science industries, with the objective of creating and fostering self-sustaining clusters of R&D. Given the significant agglomeration of firms and workers in the innovation sector, it is not surprising that it has become very common for state and local governments to subsidise firms in these industries.

For example, a growing number of states have introduced incentives that specifically target the biotech industry. Currently, 18 states provide some type of incentive for biotech firms, and their generosity appears to be growing. In addition, over the past two decades, general R&D tax credits offered by US states have become increasingly important. 34 states provide a broad-based tax credit on R&D, and the average effective credit rate has grown approximately four-fold over this period to equal half the value of the federal effective credit rate. In many states, the state tax credit is considerably more generous than the federal credit (Wilson, 2009). Moretti and Wilson (2013) investigate the effects of state-provided biotech incentives on the local biotech industry and the broader state economy and find that these policies have large effects. They estimate that the adoption of subsidies for biotech employers by a state raises the amount of private sector biotech employment in that state by about 15%. They also uncover large effects on employment in the non-traded sector due to a sizeable multiplier effect, with the largest impact on employment in construction and retail.

⁵ See <https://www.young.senate.gov/newsroom/press-releases/young-schumer-unveil-endless-frontier-act-to-bolster-us-tech-leadership-and-combat-china>.

⁶ See <https://www.coons.senate.gov/news/press-releases/sens-coons-durbin-announce-legislation-to-expand-federal-randd-extend-tech-economy-to-more-cities-across-america>.

⁷ See <https://khanna.house.gov/media/in-the-news/lawmaker-proposes-federal-institute-technology-and-new-contracting-set-aside>.

Properly evaluating the efficiency of such place-based policies requires measuring both costs and benefits. Shifting R&D activity – or diverting future dollars that may become available – from established technology clusters towards other places likely creates efficiency trade-offs. Large technology clusters have been shown to increase individual and firm productivity, in the sense that working in large clusters tends to make scientists and engineers more creative and innovative – thanks to localised agglomeration economies. For example, Moretti (2021) estimates the productivity advantages of large clusters relative to small clusters and finds that scientists located in areas with a 10% larger stock of scientists in their specific research field produce 0.5%–0.9% more patents per year. This effect appears to be causal, rather than driven by the selection of the best scientists into the largest clusters.

This implies that federal place-based policies aimed at shifting additional R&D jobs toward new technology hubs could be costly in terms of overall innovation produced in the US. Indeed, Moretti (2021) estimates that in an extreme scenario where the quality of US inventors is held constant and their geographical locations are changed so that all cities have the same number of inventors in each field, the overall number of patents produced in the US in a year would drop by 12% – a significant loss in the aggregate amount of innovation produced in the US.

A related concern is raised by Dauth et al. (2022) who study the reasons why firms in large labour markets tend to be more productive and offer better jobs and higher salaries. They argue that place-based policies aimed at transferring resources from the most productive areas to the least productive areas in order to offset some of the economic disparities can have important aggregate costs. Large labour markets have long been hypothesised to produce more productive matches between workers and firms than small markets. In many urban economics models, labour pooling is an important advantage of large cities. Consistent with this possibility, Dauth et al. (2022) find that assortative matching plays an important and growing role in explaining differences in wages across German cities. In particular, they show that large cities allow for a more efficient matching between workers and firms, and this has important consequences for geographical inequality. The match between high-quality workers and high-quality plants is significantly tighter in large cities relative to small cities. Wages in large cities are higher not only because of the higher worker quality but also because of a stronger assortative matching. Strong assortative matching in large cities magnifies wage differences caused by worker sorting and is a key factor in explaining the growth of geographical wage disparities over the last three decades. While stronger assortative matching in large cities increases geographical inequalities, it also has a positive effect on aggregate earnings in Germany and its growth over time. They estimate that the increase in within-city assortative matching observed between 1985 and 2014 increased aggregate labour earnings in Germany by roughly 31 billion euros. Thus, redistributing economic resources and population from large productive cities to smaller cities might help reduce earning differences, but it also has aggregate costs, creating a classic case of an equity–efficiency trade-off.

Nominal versus real income

In practice, the main rationale for place-based policies typically employed by policymakers in most countries is not efficiency, but equity. By subsidising disadvantaged areas, governments hope to help the disadvantaged residents of those areas. In the face of large and persistent differences in labour market outcomes across cities and regions, such arguments increasingly resonate with the public.⁸

Above, I have mentioned some of the concerns raised by economists in assessing the potential equity benefits of place-based policies. There are two additional concerns to keep in mind, one that has received much attention in the literature and one that is relatively newer.

The first concern is that mobility responses may lead the local cost of living to change in response to place-based subsidies. In turn, this can lead incumbent landlords, as opposed to workers, to capture some of the benefits associated with a policy. More concretely, when place-based policies

⁸ There may also be political reasons not to write off regions or states, because national elections may be affected by geographically concentrated voter dissatisfaction, as the Brexit vote in the UK and the 2016 Presidential election in the US have shown.

raise labour demand in the tradable sector of a city, they may also induce in-migration from other cities. In turn, in-migration may increase housing costs, which benefits incumbent landowners and reduces economic gains for workers who rent their homes. Because housing and other non-tradable goods account for the majority of worker consumption (Diamond and Moretti, 2021), changes in these local costs can potentially have potentially large consequences for workers' standard of living. In the extreme case where workers are highly mobile but the housing supply is completely inelastic, the benefit of location-based subsidies will be fully captured by the owner of land, while worker utility is unaffected.⁹

In practice, the concern appears to be founded. Increases in labour demand in a city have been shown to result in increases in both nominal wages and housing costs. For example, using data on US cities, Hornbeck and Moretti (2021), estimate that a 1% increase in labour demand in the local manufacturing sector is associated with an average long-run increase of 1.5% in annual earnings. Local employment also increases by 4%, driven by in-migration. As a consequence of this in-migration, demand for housing increases. They estimate that a 1% increase in city-level labour demand ultimately causes a 1.5% increase in housing rents and a 2.5% increase in home values.¹⁰ In this case, who benefits from the expansion of the local manufacturing sector depends in large part on the residents' position in the housing market. For workers who rent their home, much of the increase in earnings is in large part offset by increases in the local cost of living. They estimate that the impact on worker 'purchasing power', which reflects earnings adjusted for cost of living, is only 0.6% for renters in the long run. By contrast, for workers who had owned their home, the gains are much larger, as they come in the form of both higher wages and higher housing values: 1.1%–1.6%.

For this reason, it may be advisable for place-based policies designed to increase local labour demand to target areas with depressed housing markets and high vacancy rates that have enough slack to absorb a demand increase without a large increase in the cost of living.

The second concern has to do with the identity of the communities that should be targeted for place-based policies. In a world in which local prices vary across space, defining which areas are 'rich' and which areas are 'poor' is less obvious than it may initially seem. The targeting cannot be based on nominal incomes alone, as local prices can have important effects on residents' standard of living and their utility. As discussed above, economically vibrant cities, such as London, New York, San Francisco and Boston, have experienced fast increases in nominal wages and incomes over the past 30 years. At the same time, less dynamic local labour markets have experienced more limited increases in wages and incomes and, in some cases, even declines.

What is less clear is how the standard of living of residents varies across communities. The standard of living of residents of a city – which here I will define as the amount of market-based consumption residents can afford – depends both on the income level that residents can expect there and the local cost of living. While we know that large, expensive cities tend to have jobs that offer higher nominal earnings, and that small, affordable cities tend to have jobs that offer lower nominal earnings, we know much less about where market-based consumption is the highest. Are residents of dynamic metro areas better or worse off in terms of consumption compared with residents of smaller, economically struggling communities?

This question matters for place-based policies. Ideally, when targeting areas for place-based transfers or subsidies, one would want to know the utility levels of each community and target those with the lowest level of utility. Of course, in practice, utility is unobserved. At the very least, when targeting areas for place-based transfers or subsidies, policymakers should take into account not only nominal salaries and incomes, but also the local standard of living.

In this respect, one striking finding in the study by Overman and Xu (2022) is that 'places where people have better labour market outcomes are not generally places where people are happier'.

⁹ This can generate rent-seeking behaviour on the part of incumbent landowners who have an incentive in reducing housing supply expansions through land use regulations. Hsieh and Moretti (2019) identify large aggregate costs of this behaviour.

¹⁰ The variation used to estimate these parameters does not come from place-based policies, but there is no reason to think that place-based policies that increase labour demand by a similar amount would have very different effects.

From their figure 23, it is clear that there is a limited correlation between nominal wages and self-reported happiness. This likely reflects the fact that places with high nominal wages also have a high cost of living. Recent work by Diamond and Moretti (2021) appears consistent with the finding by Overman and Xu (2022). They provide the first estimates of the standard of living by city for households in a given income or education group in the US, and study how they relate to the local cost of living. Standard of living is measured in term of real market consumption. To measure local prices, they build income-specific consumer price indices that vary by city. To measure real consumption they deflate consumption expenditures by a given household in a given city by the cost of living index for the relevant city and income group.

They find that the effect of local prices on the standard of living varies depending on the education and income level of a household. For college graduates, they find no significant relationship between real consumption and the local cost of living. A regression of real consumption on the local price index across all cities yields a coefficient of -0.032 (0.047), suggesting that college graduates located in cities with a high cost of living enjoy an expected standard of living similar to college graduates with the same observable characteristics located in cities with a low cost of living. This appears to be true for the entire range of values observed for the cost of living index, including the most expensive coastal cities on one side of the spectrum and the least expensive Rust Belt cities on the other side. The reason is that, for skilled households, expensive cities offer pre-tax incomes high enough to exactly offset the higher cost of living and personal taxes.

However, for less-skilled households, the picture that emerges is markedly different. San Francisco, New York and Boston do offer high pre-tax incomes to high school graduates but not high enough to offset the cost of living and taxes. On net, the standard of living of middle-skill households in these three cities are in the bottom third of the distribution. A regression of real consumption by high school graduates on the local price index yields a coefficient of -0.237 (0.026), confirming that expensive cities offer a standard of living that is systematically below that of affordable cities. The estimated coefficient implies that a middle-skill household moving from the median city to the city with the highest price index would experience a 7.7% decline in their standard of living. Moving from the city with the lowest cost of living index to the city with the highest index would imply a decline in the standard of living by 12.7%. Notably, the negative relationship between real consumption and cost of living is even steeper for high school dropouts. The slope is -0.391 (0.032), suggesting that for this group the standard of living in expensive cities is quantitatively much lower than in cheaper cities. For households in this group, moving from the most affordable to the most expensive city implies a 26.9% decline in the standard of living.

Thus, based on market consumption alone, one would conclude that place-based policies designed to help low-income households should not target affordable cities in the Rust Belt or rural communities of the South. Rather, they should target expensive cities with high costs of housing.¹¹

Conclusions

In the UK, US and many other countries, there are growing economic disparities not just across individuals, but also across communities and regions. This has generated growing demand for place-based policies designed to address these economic disparities. These programmes have become an important form of government intervention with the potential to profoundly affect the location of economic activity, along with the wages, employment, and industry mix of communities and regions.

The enormous social costs of concentrated poverty and unemployment suggest that forms of policy intervention that can reduce concentrated poverty and unemployment have an enormous upside. But, as the discussion above makes clear, place-based policies also involve potentially important equity–efficiency trade-offs – some obvious, some more subtle. Setting socially optimal place-based policies crucially depends on understanding the sources of geographical disparities and the trade-

¹¹ Of course, market consumption is not a direct measure of utility. There are many non-market amenities that affect the well-being of a city's residents. Self-reported measures of utility, such as life satisfaction or happiness, are in principle more comprehensive, but are also much more difficult to interpret and compare across respondents.

offs involved. Economists have just begun to empirically assess the practical magnitude of these trade-offs, and how they depend upon programme design features and the characteristics of the communities being targeted. Much more research is needed to obtain a full picture of the welfare effects of place-based policies.

Nevertheless, a few clear lessons emerge. First, policymakers should be careful to consider the unintended consequences that can arise from worker (and firm) mobility. Subsidising poor or unproductive places is an imperfect way of transferring resources to poor people. Whether it is more, or less, imperfect than transfers based on personal or household characteristics is an open question, but a first-order consideration of any place-based policy should be the mobility response it will generate and the likely consequences of that mobility (Kline and Moretti, 2014b).

Second, a potentially compelling case for place-based policies can be made based upon the remediation of localised market imperfections. When private and social returns diverge, local governments may be able to raise the welfare of their residents by re-aligning private incentives through taxes or subsidies, or the provision of local public goods. However, the presence of localised market imperfections does not, in itself, imply that spatial targeting is necessarily socially desirable. While place-based policies may be welfare-enhancing for the target community, they may be welfare-reducing for the nation as a whole (Kline and Moretti, 2014b). Before devoting resources to such programmes, national policymakers should compare the welfare benefits enjoyed by the target locality to the cost of welfare losses in the localities from which economic activity is diverted.

More concretely, the presence of agglomeration economies does not imply that every country should attempt to generate a Silicon Valley equivalent from scratch via spatially targeted subsidies. In the case of manufacturing, the productive advantages of concentration appear to be rival (Kline and Moretti, 2014b), meaning that little is to be gained from redistributing economic activity from areas with dense manufacturing bases towards less-developed areas (or vice versa). In the case of high tech and life science, the productive advantages of concentration appear so large that place-based policies that reduce that concentration of the high-tech and life-science sectors generate economically important aggregate losses.

Third, nominal income and salary cannot be the only criteria to define the beneficiaries of place-based policies. In the presence of large differences in cost of living across communities, real consumption or real income are better proxies of need.

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