

# Who Benefits from Place-Based Policies? Evidence from Matched Employer-Employee Data \*

Philipp Grunau, Institute for Employment Research

Florian Hoffmann, University of British Columbia

Thomas Lemieux, University of British Columbia

Mirko Titze, Halle Institute for Economic Research and Martin-Luther-University Halle-Wittenberg

This version, January 2024

## Extended Abstract

In most countries, governments grant subsidies or tax advantages to attract and financially support private firms in particular geographical areas. The typical motivation behind these “place-based” policies is to create jobs in economically disadvantaged regions. Despite the significant resources invested in place-based policies, their economic benefits remain controversial since they may create distortions or help finance investments that firms would have undertaken anyway.<sup>1</sup> These are significant concerns in light of the vast sums of money invested in these programs. Bartik (2020) estimates that the United States spends \$60 billion annually on place-based policies. Since reunification in 1990, the German government has spent over a trillion Euros supporting firms, individuals, and local governments in economically disadvantaged Eastern Germany.

While many empirical studies suggest that place-based policies help increase employment in targeted areas, it remains largely unknown how they translate into firm-level labor-market decisions. Who precisely benefits from these policy interventions therefore remains an open question.<sup>2</sup> Do subsidized firms hire unemployed workers living in disadvantaged areas or recruit more skilled workers living elsewhere? Do other local firms hire more workers thanks to positive spillover effects – e.g., if they are

---

<sup>1</sup> See Glaeser and Gottlieb (2008) for a review of the arguments in favor and against place-based policies.

<sup>2</sup> See the reviews by Kline and Moretti (2014b) and Neumark and Simpson (2015).

suppliers of the subsidized firms –, or cut back employment in response to increased competition for a limited set of workers? Estimating the incidence of place-based policies on different groups of individuals is essential for evaluating their overall welfare impact but represents a major empirical challenge for two key reasons. First, place-based policies are often implemented in response to the declining economic fortunes of the targeted areas, making it challenging to estimate their causal impact on employment outcomes. Second, highly detailed data on workers and their employers are required for evaluating how subsidies to targeted firms affect the employment outcomes of different groups of individuals. Still, these types of data are rarely available.

We tackle these issues by studying the effect of a large place-based policy in Germany called the *Joint Federal Task for the Improvement of Regional Economic Structures* (henceforth GRW).<sup>3</sup> A first important feature of GRW is that local disbursement of the funds is highly constrained by pro-competition laws of the European Union. As in Criscuolo et al. (2019) and Siegloch, Wehrhöfer, and Etzel (2022), we leverage specific program rules set by the EU to estimate the causal impact of GRW on local outcomes. The scoring model used by the program generates spatial discontinuities in policy parameters, most notably in the subsidy rate on the amount of investment establishments of a certain region are eligible for. Furthermore, since the EU operates and periodically negotiates the program's design with its member states, local governments are limited in their ability to manipulate how the subsidy borders are drawn or how generous the program parameters are. This sharply contrasts with the situation in other countries like the United States, where different levels of government have limited constraints on subsidizing firms in different local areas.

Another significant advantage of studying the GRW is the richness of the data available for estimating the wage- and employment effects of the program at the establishment-level and its incidence on different groups of individuals. Unlike existing studies that typically rely on measures of employment and related outcomes aggregated at the local level, we use the universe of German administrative data on employees liable to social security contributions and marginal employees, aggregated to the establishment-level, to measure establishment-level outcomes, including the employment dynamics in stocks and flows, wages, and the skill structure. An important feature of these data is that, starting in 1999, they record both the place of residence and the place of work for each employee. This information is used to identify whether workers hired by subsidized establishments come from the local community or elsewhere. Note that we

---

<sup>3</sup> GRW is the acronym for “**G**emeinschaftsaufgabe **V**erbesserung der **R**egionalen **W**irtschaftsstruktur”

refer to “establishments” instead of “firms” from now on since our data are defined at the establishment level and do not provide firm identifiers.

Using record linkage on establishment names, postal addresses, and administrative establishment identifiers, we match establishment-level information on program participation, funding period, and the amount of subsidies received to the administrative employment data. These data are further matched to the complete set of parameters describing the GRW program on the regional level, including eligibility, subsidy rates for small, medium, and large establishments, and scores from the EU-approved GRW scoring models for the period 1999-2020. To the best of our knowledge, the resulting data set is the first in the literature on place-based policies to contain the universe of establishments and their employees, establishment-level panel data on program participation, and regional scores that generate spatial discontinuities in program eligibility.

In the case of the municipality-level analysis we can directly implement a research design that leverages the spatial variation in GRW subsidy rates induced by EU policy rules. We present reduced-form (intent-to-treat) estimates of the effects of the subsidy rate on employment outcomes and instrumental variables (IV) estimates that show the impact of an extra euro of funding. In the latter case, the subsidy rate is used as an IV for total funding.

The main findings of the paper are as follows. Consistent with existing studies like Criscuolo et al. (2019), our municipality-level estimates indicate that GRW subsidies increase employment. The IV estimates suggest it costs approximately EUR 20,000 in GRW investment subsidies to create one more job in a municipality. Establishment-level estimates of the cost per job are slightly larger (EUR 25,000), indicating that nearly all municipality-level employment gains come from subsidized establishments. Employment in non-subsidized establishments in the same municipality grows at about the same rate as control establishments in neighboring municipalities, indicating no large positive or negative spillover effects within the municipality. Quantitatively, the effect on treated establishments is large. Starting from an average of about 20 employees, treated establishments funded at the average subsidy rate add about seven jobs more over the post-event period relative to control establishments.

Turning to the incidence of the GRW program, we find that most of the employment increase is attributable to commuters living in other municipalities. Close to half of new hires also come from non-employment. These proportions are relatively similar to their baseline levels, indicating that commuters and previously non-employed workers do not disproportionately benefit from the GRW program. In

contrast, GRW-induced employment expansion disproportionately benefits younger and less-educated workers. In terms of outcomes besides the level and composition of employment, labor churn slightly increases in subsidized establishments as both hiring and separations grow in the years after establishments receive their funding. Importantly, incumbent workers in funded establishments experience significant wage growth relative to workers in control firms in the medium run (up to five years after the funding event).

Our paper contributes to several important literatures. First, we contribute to the large empirical literature on the effect of place-based policies by providing causal estimates of the impact of these policies. Generally speaking, the empirical literature distinguishes two types of programs: The first one encompasses large groups of different interventions designated to larger geographical areas (e.g., Structural Policy in the EU or the *Zonenrandgebiet* program in West Germany [40km-band adjacent to the Iron Curtain during the Cold War]). The second type of program is targeted at relatively smaller geographical areas. It includes a narrower set of interventions such as Enterprise Zones (e.g., Tennessee Valley Authority and California Enterprise Zone) in the US, Enterprise Zone Policy in the UK, Zones Franches Urbaines in France), Empowerment Zones (e.g., Federal Empowerment Zone Program or Federal Enterprise Community Program in the US), and other discretionary programs (e.g., Regional Selective Assistance in the UK, Law 488 in Italy, Joint Task for the Improvement of Regional Economic Structures in Germany). This literature is broadly discussed by Neumark and Simpson (2015) and What Works Centre (2016a,b).<sup>4</sup>

A significant limitation of many of these studies is that interventions are endogenously targeted to depressed areas, making it challenging to find a good comparison group. This is particularly an issue in the United States, where different levels of government have a lot of freedom in picking subsidized firms. Greenstone, Hornbeck, and Moretti (2010) use a creative “runner-up” design to tackle this issue, though their approach is only applicable to large “million dollar” plants. As in some of the above-cited European

---

<sup>4</sup> Recent papers include Becker, Egger and von Ehrlich (2010, 2012, 2013) for the EU Cohesion Policy, von Ehrlich and Seidel (2018) for the West-German *Zonenrandgebiet* program, Kline and Moretti (2014a) for the Tennessee Valley Authority program, Neumark and Kolko (2010) for the California Enterprise Zone program, Busso, Gregory and Kline (2013), Hanson and Rohlin (2013), Reynolds and Rohlin (2014) for US Empowerment Zones, Givord, Rathelot and Sillard (2013), Briant, Lafourcade and Schmutz (2015), Mayer, Mayneris and Py (2017) for the Zones Franches Urbaines program in France, Devereux, Griffith, Simpson (2007), Criscuolo, Martin, Overman, van Reenen (2019) for the Regional Selective Assistance Program in the UK, Bronzini and de Blasio (2006), Bernini and Pellegrini (2011), de Castris and Pellegrini (2012), Cerqua and Pellegrini (2014) for the Law 488 in Italy, Brachert, Dettmann and Titze (2018, 2019) and Siegloch, Wehrhöfer, and Etzel (2022) for the GRW program in Germany.

studies (e.g., Bronzini and de Blasio, 2006; Becker, Egger, and von Ehrlich, 2010; Criscuolo et al., 2019; Brachert, Dettmann, and Titze, 2018 & 2019; and Siegloch, Wehrhöfer, and Etzel, 2022), we can use a compelling research design that leverages program variation induced by EU-approved GRW scores. An important advantage of our paper is that we directly observe these GRW scores, while others, such as Criscuolo et al. (2019), have to infer the corresponding UK program scores indirectly.

Our paper also contributes to the growing literature looking at the impact of firm-level demand shocks on wage and employment outcomes. For example, Kline et al. (2019) estimate the effect of successful patents among small innovative firms, Garin and Silverio (2023) study the impact of export shocks, and Kroft et al. (2022) look at what happens to winning and losing construction firms that are bidding for procurement auctions. A key focus of these papers is to estimate whether firms need to pay higher wages to attract more workers in response to positive shocks. Such firm-specific labor supply curves are consistent with monopsony power in the labor market. In our case, the GRW subsidy is the source of the shock, though our wage estimates suggest that funded establishments do not have much market power.

At a broader level, our findings on the incidence of place-based policies for different groups of individuals help illustrate where these policies fit relative to other redistribution policies (income assistance for poor households, earned income tax credits, etc.) used by governments around the world. In a recent theoretical contribution, Gaubert, Kline, and Yagan (2021) argue that since poor households are geographically concentrated, place-based policies redistributing income from one place to another can yield equity gains despite generating some economic distortions. Critical to this argument is who precisely benefits from place-based policies in economically depressed areas, an issue we can tackle thanks to the richness of our data.<sup>5</sup>

---

<sup>5</sup> Bartik (1996) uses longitudinal data to study who benefits from local demand shocks, though he does not explicitly focus on demand shocks induced by place-based policies.